Levy Economics Institute of Bard College

Summary

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DIMITRI B. PAPADIMITRIOU, President and Program Director
JAMES K. GALBRAITH, Senior Scholar
JAN KREGEL, Senior Scholar
L. RANDALL WRAY, Senior Scholar
GREG HANNSGEN, Research Scholar
MICHALIS NIKIFOROS, Research Scholar
GENNARO ZEZZA, Research Scholar
GIORGOS ARGITIS, Research Associate
MARSHALL AUERBACK, Research Associate
CLAUDIO H. DOS SANTOS, Research Associate
JESUS FELIPE, Research Associate
ECKHARD HEIN, Research Associate
MICHAEL HUDSON, Research Associate
ROBERT W. PARENTEAU, Research Associate
C. J. POLYCHRONIOU, Research Associate and Policy Fellow
ANDREA TERZI, Research Associate

Monetary Policy and Financial Structure

JAN KREGEL, Senior Scholar and Program Director
DIMITRI B. PAPADIMITRIOU, President
L. RANDALL WRAY, Senior Scholar
LEONARDO BURLAMAQUI, Research Scholar
MARSHALL AUERBACK, Research Associate
JÖRG BIBOW, Research Associate
STEVEN M. FAZZARI, Research Associate
JESUS FELIPE, Research Associate
ECKHARD HEIN, Research Associate
MICHAEL HUDSON, Research Associate
THORVALD GRUNG MOE, Research Associate
ROBERT W. PARENTEAU, Research Associate
SUNANDA SEN, Research Associate
ANDREA TERZI, Research Associate
WILLEM THORBECKE, Research Associate
ÉRIC TYMOIGNE, Research Associate

The Distribution of Income and Wealth

JAMES K. GALBRAITH, Senior Scholar
EDWARD N. WOLFF, Senior Scholar
DIMITRI B. PAPADIMITRIOU, President
AJIT ZACHARIAS, Senior Scholar and Program Director
THOMAS MASTERSON, Research Scholar and Director of Applied Micromodeling
FERNANDO RIOS-AVILA, Research Scholar
ROBERT HAVEMAN, Research Associate
CHRISTOPHER JENCKS, Research Associate
SUSAN E. MAYER, Research Associate
BRANKO MILANOVIC, Research Associate
JACQUES SILBER, Research Associate
BARBARA WOLFE, Research Associate

Gender Equality and the Economy

RANIA ANTONOPOULOS, Senior Scholar and Program Director (on leave)
DIMITRI B. PAPADIMITRIOU, President
TAMAR KHITARISHVILI, Research Scholar
KIJONG KIM, Research Scholar
NILÜFER ÇAĞATAY, Research Associate
LEKHA S. CHAKRABORTY, Research Associate
PINAKI CHAKRABORTY, Research Associate
VALERIA ESQUIVEL, Research Associate
INDIRA HIRWAY, Research Associate
İPEK İLKKARACAN, Research Associate
EBRU KONGAR, Research Associate
EMEL MEMIŞ, Research Associate
IMRAAN VALODIA, Research Associate
TAUN TOAY, Research Analyst

Employment Policy and Labor Markets

DIMITRI B. PAPADIMITRIOU, President
RANIA ANTONOPOULOS, Senior Scholar (on leave)
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JAN KREGEL, Senior Scholar
L. RANDALL WRAY, Senior Scholar
GIORGOS ARGITIS, Research Associate
MARSHALL AUERBACK, Research Associate
VALERIA ESQUIVEL, Research Associate
MATHEW FORSTATER, Research Associate
FADHEL KABOUB, Research Associate
PAVLINA R. TCHERNEVA, Research Associate

Immigration, Ethnicity, and Social Structure

JOEL PERLMANN, Senior Scholar and Program Director
YUVAL ELMELECH, Research Associate
YINON COHEN, Research Associate
SERGIO DELLAPERGOLA, Research Associate
SANJAYA DESILVA, Research Associate
BARBARA S. OKUN, Research Associate
SEYMOUR SPILERMAN, Research Associate

Economic Policy for the 21st Century

DIMITRI B. PAPADIMITRIOU, President
JAMES K. GALBRAITH, Senior Scholar
RANIA ANTONOPOULOS, Senior Scholar (on leave)
LEONARDO BURLAMAQUI, Research Scholar
TAMAR KHITARISHVILI, Research Scholar
PHILIP ARESTIS, Research Associate
GIORGOS ARGITIS, Research Associate
MARSHALL AUERBACK, Research Associate
WILLIAM J. BAUMOL, Research Associate
JÖRG BIBOW, Research Associate
MARTIN BINDER, Research Associate
LEKHA S. CHAKRABORTY, Research Associate
PINAKI CHAKRABORTY, Research Associate
SANJAYA DESILVA, Research Associate
STEVEN M. FAZZARI, Research Associate
JESUS FELIPE, Research Associate
GIUSEPPE FONTANA, Research Associate
MATHEW FORSTATER, Research Associate
GREG HANNSGEN, Research Scholar
MICHAEL HUDSON, Research Associate
THOMAS KARIER, Research Associate
STEPHANIE A. KELTON, Research Associate
WILLIAM H. LAZONICK, Research Associate
MARY O'SULLIVAN, Research Associate
ROBERT W. PARENTEAU, Research Associate
C. J. POLYCHRONIOU, Research Associate and Policy Fellow
JAMES B. REBITZER, Research Associate
MALCOLM SAWYER, Research Associate
MARTIN SHUBIK, Research Associate
MICHAEL STEPHENS, Senior Editor and Policy Fellow
WILLEM THORBECKE, Research Associate
ÉRIC TYMOIGNE, Research Associate
L. RANDALL WRAY, Senior Scholar
AJIT ZACHARIAS, Senior Scholar

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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.

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Inquiries regarding contributions could be sent to Dimitri B. Papadimitriou, President, 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.levyinstitute.org

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LETTER FROM THE PRESIDENT

To our readers:

This issue opens with our most recent strategic analysis for Greece. Research Scholars Michalis Nikiforos and Gennaro Zezza and I argue that despite recent, and modest, improvements in the Greek economy, the path to economic recovery remains one of debt relief, fiscal stimulus, and the implementation of a direct job guarantee program. Continued austerity will not return Greece to economic growth or end the social crisis it has wrought. Also under the State of the US and World Economies program, Dimitris P. Sotiropoulos, John Milios, and Spyros Lapatsioras present their arguments for resolving the euro-area sovereign debt overhang in a manner that benefits the vast majority of Europeans, rather than the privileged few.

Under the Monetary Policy and Financial Structure program, Senior Scholar and program director Jan Kregel contributes two policy notes. The first explores why raising rates may speed the recovery rather than hamper it. The second offers a nuanced analysis of how a common misunderstanding of liquidity preference suggests that many of the concerns surrounding the zero interest rate policy and quantitative easing may be equally ill founded.

Eight working papers are included under this program. Srinivas Yanamandra offers a paper on the challenges faced by emerging economies in crafting and implementing monetary policy, drawing on the experience of the Reserve Bank of India. Senior Scholar L. Randall Wray examines the advantages that accrue to sovereign currency–issuing states when understood from the standpoint of Modern Money Theory. In a second paper, Wray examines the work of Distinguished Scholar Hyman P. Minsky on endogenous money and the role of the prudent banker. This paper draws from Minsky's unpublished work, which is housed in the Minsky Archive at the Levy Institute. Riccardo Bellofiore offers a close reading of Minsky's work on the socialization of investment and his departure from what Minsky regarded as some of the conservative choices of John Maynard Keynes. Felipe Rezende discusses the need for public banks and the vital role they have to play in the Brazilian economy. Sunanda Sen and Zico DasGupta analyze recent trends in corporate investments in India, finding disturbing trends in the allocation of investment between the real and financial economies. Yeva Nersisyan looks back at the repeal of the Glass-Stegall Act and the extraordinary actions taken by the Federal Reserve during the global financial crisis. In the last paper under this program, Mariana Mazzucato and Caetano C. R. Penna examine the potential of state investment banks to create and shape markets.

In a working paper under the Distribution of Income and Wealth Program, Markus P. A. Schneider and Daniele Tavani shed new light on income inequality in the United States during the post–World War II era. They find that the rising trend in income inequality during this period, as measured by the Gini index, is composed of two distinct periods of income inequality. In a second paper, Research Scholar Fernando Rios-Avila reviews quality of statistical matches using the Consumer Expenditure Survey 2011 and Annual Social Economic Supplement 2011.

In the first of two working papers under the Economic Policy for the 21st Century program, Giovanna Vertova reviews and critiques the literature on state and national systems of innovation. In the second, Mazzucato argues for an entrepreneurial state, and envisions public institutions both creating and shaping markets, rather than being relegated to the role of "fixing" market failures.

As always, I welcome your comments.

Dimitri B. Papadimitriou, *President*

Program: The State of the US and World Economies

Strategic Analysis

Is Greece Heading For a Recovery?

DIMITRI B. PAPADIMITRIOU, MICHALIS NIKIFOROS, and GENNARO ZEZZA
Strategic Analysis, December 2014

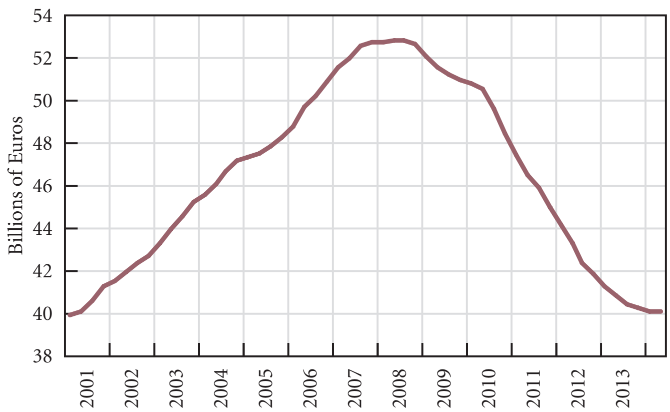
Levy Institute President Dimitri B. Papadimitriou and Research Scholars Michalis Nikiforos and Gennaro Zezza examine the prospects for a market-driven recovery in Greece under the current policy regime of austerity. Consistent with previous strategic analyses, the authors find that the policies required by the European Central Bank, the European Union (EU), and the International Monetary Fund—the troika—continue to depress growth, increase unemployment, and lower the standard of living for Greeks. While there has been a slight improvement in the current account balance, due primarily to increases in tourism and a temporary increase in the value of oil products, the Greek economy continues to languish.

The authors review the current conditions in Greece, provide a baseline simulation of the Greek economy for the medium term, and offer three policy alternatives to the status quo. Citing precedents in European history, notably the reconstruction of Germany under the Marshall Plan, the authors call for a swift end to the troika's destructive and punitive policies. They present policy alternatives for the new ruling party, Syriza, including a Marshall-style plan for Greece, a debt freeze, and a public employment program.

Following more than six years of declining real GDP, Greece posted modest signs of recovery in 2014. Much of the evidence of this nascent recovery was centered in the tourism sector. During this same period, the Greek government reported a primary surplus of €1.9 billion over the previous four quarters. However, these figures are dwarfed by the loss of more than a decade's worth of real GDP growth, with 23 consecutive quarters of negative growth (Figure 1); record unemployment, with more than one million jobs lost to date (Figure 2); high levels of outmigration; and the threat posed by billions of euros in nonperforming loans. Despite these recent modest improvements in the Greek economy, the damage done by the crisis and the troika's austerity policies continue to impose profound hardship on the Greek people.

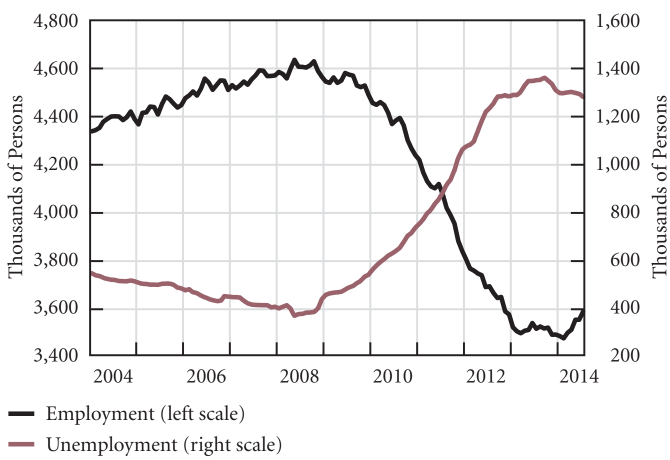
Turning to the components of GDP growth, the authors note that exports were the largest contributor to an increase in output. Using the monthly balance of payments data from the Bank of Greece, the authors identify oil, non-oil goods, and

Figure 1 **Greece: Real GDP (Four-quarter Moving Averages)**



Source: ElStat

Figure 2 **Greece: Employment and Unemployment**



Source: ElStat

tourism as the main contributors to the rise in exports. However, investment continued to fall as of 2014Q2, with two of the most important components of private investment and industrial production (construction and manufacturing) continuing to slide.

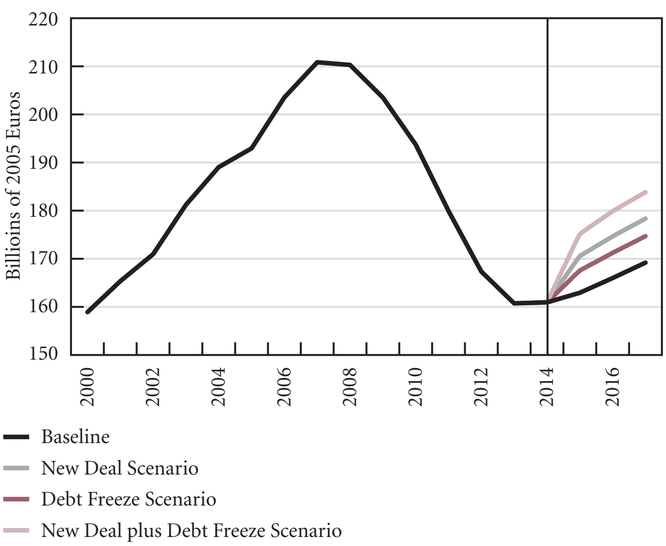
The authors next review the evolution of the three sectoral balances (private, government, and rest of the world, with and without net capital transfers) up to 2014Q3. It is clear that fiscal austerity reduced the government deficit but at the price of a severe and prolonged economic recession. The recession led to a fall in imports, which reduced the external deficit. The precrisis excess of private investment over saving also declined, with saving falling more than investment. Huge transfers were made to bail out the banking sector, but with scant discernible benefit for output or employment (it is open to speculation what would have occurred without the bailouts). Despite the bailouts, the financial system remains fragile; credit is tight, and nonperforming loans are estimated at over 50 percent of total outstanding private debt. Taxes on income and wealth remain stable, but they have grown as a share of falling disposable income. Under austerity, the cuts in government expenditures mean far less countercyclical spending for social protection, pensions, and health care. Thus, the authors conclude that the Greek economy remains in a state of profound distress, despite the isolated improvements reported.

Using the Levy Institute Model for Greece, the authors first present a benchmark scenario based on the continuation of current policies. The simulation produces weak real GDP growth of 2.05 percent, 1.93 percent, and 2.01 percent for the years 2015, 2016, and 2017, respectively. It is clear from these results that current policies will not increase output to a level sufficient to restore income or employment to precrisis levels. The authors present simulations of three alternative policy paths: a New Deal, a debt freeze, and a combination of the two.

The New Deal scenario relies on an EU-funded quarterly transfer of €1.65 billion beginning in 2015Q1 and continuing for three years, for a total transfer of €19.8 billion. These funds would be dedicated to investments to increase production of goods and services or to finance a direct job creation program of no less than 300,000 jobs. The impact of this proposal increases output and employment above the levels estimated for the baseline scenario (Figures 3 and 4).

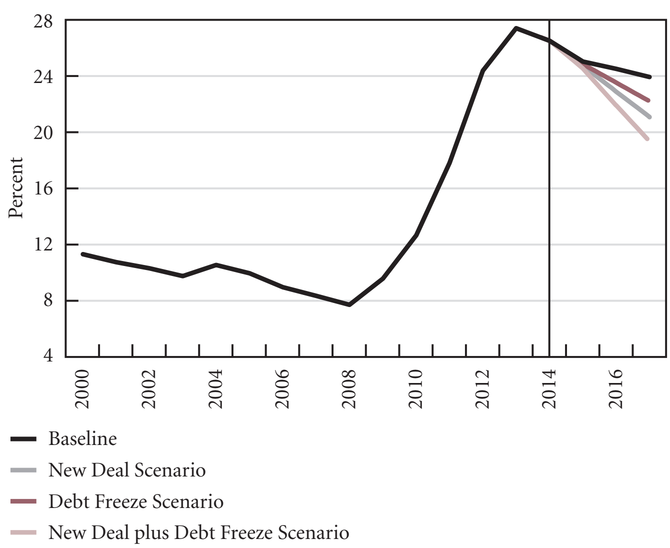
The second alternative scenario envisions freezing Greece's public debt and suspending interest payments on the national debt. Under this scenario, Greece would continue to service its debt to private investors but the suspended interest payments would be used for targeted investment or a job guarantee program. This alternative yields smaller increases in GDP and employment than the New Deal scenario. However,

Figure 3 **Greece: Projected Real GDP**



Source: Authors' calculations

Figure 4 **Greece: Projected Unemployment Rate**



Source: Authors' calculations

the government surplus is somewhat higher and the current account surplus is slightly lower.

Combining these two scenarios produces the strongest results in terms of GDP and employment growth. The authors note that all three scenarios deliver stronger employment gains if a direct job creation program of 300,000 jobs is included. The authors remind us that the policies they recommend are not new. They are similar in many ways to the support Germany received following World War II: the Marshall Plan loan (which was never repaid), suspension of interest payments on the country's sovereign debt, and a significant write-down of its public debt. Given the failure of austerity, the risk of recession in the eurozone, and the need to restore the Greek economy to a position where it can both repay its debts and end the humanitarian crisis, the authors argue that these policy alternatives represent a prudent and humane course forward.
www.levyinstitute.org/pubs/sa_gr_dec_14.pdf

An Outline of a Progressive Resolution to the Euro-area Sovereign Debt Overhang: How a Five-year Suspension of the Debt Burden Could Overthrow Austerity

DIMITRIS P. SOTIROPOULOS, JOHN MILIOS, and SPYROS LAPATSIORAS
Working Paper No. 819, November 2014

Dimitris P. Sotiropoulos, The Open University Business School, John Milios, National Technical University of Athens, and Spyros Lapatsioras, University of Crete, offer a plan to resolve the sovereign debt crisis in the euro area (EA) in a manner that reflects the interests of the working majority. The authors argue that austerity policies have used debt as a means to deepen neoliberal reforms in Europe. In place of the current policy strategy, they recommend that the European Central Bank (ECB) acquire the outstanding sovereign debt of EA countries and convert it to zero-coupon bonds. Under their proposal, there would be no transfer, no national tax liability for extranational debts, and no debt forgiveness. Each country would buy back its own debt once its national debt-to-GDP ratio fell to 20 percent. This would provide the means for national governments to expand prosocial spending and engage in social and economic reconstruction. Under this plan, the elites would pay for the crisis, not the working majority.

The authors view the resolution of the debt overhang of EA countries as primarily a political issue, and the technical choices facing policymakers as not politically neutral. The mobilization of labor, not the merits of abstract technical solutions, is the critical dimension. Predictably, mainstream analyses downplay the role of politics and favor solutions that reinforce the interests of financialized capitalism and those who benefit from it. The authors argue that the monetary union promotes a conservative economic agenda, and elaborate on this point with a review and critique of the mainstream approach to the sovereign debt market. Key among their observations is that making fiscal cuts during a crisis constitutes an attack on labor. They argue that debt cannot be rendered sustainable by fiscal cuts; rather, it can only cause deterioration in the ability to repay the debt. Greece provides a clear example of the effects of austerity on debt, say the authors. They suggest that austerity was never intended to solve the debt problem but to impose a neoliberal policy regime and increase inequality.

In place of deflationary fiscal adjustment policies, the authors offer an alternative that includes reductions in the nominal value of debt and recognizes the key role of sovereign debt as a raw material for complex financial products (e.g., those created and traded by shadow banks). Their proposal does not assume fiscal transfers, uses traditional open market operations, and calls for a major shift in the operations of the ECB. Under their plan, the ECB would take on the role of a true central bank and intervene in the sovereign debt market on behalf of EA countries. EA countries with debt ratios above 50 percent of GDP would sell their debt to the ECB and then buy back the debt when their debt ratio fell below 20 percent. This represents an initial purchase of sovereign debt from the 18 EA countries by the ECB of approximately €4.5 trillion. The debt relief following this action is expected to spur inflation and growth, and guarantee the success of the plan. The authors identify one important weakness in the plan: its proportionality and the lack of fiscal transfers among EA countries. As a result, the most indebted countries would still be left with large debt overhangs. The authors explore alternative policies to address this problem in the balance of the paper.

Sotiropoulos, Milios, and Lapatsioras extend their basic proposal to create the flexibility needed to accommodate individual (i.e., highly indebted) countries. This is possible because of the ECB's broad discretion in how it manages its balance sheet. The time structure of debt servicing is, for example, one area where a technical accommodation could be made for such countries. The authors present three scenarios in which the time required to eliminate EA sovereign debt is reduced and the fiscal space available to participating EA countries increased, all while lowering the cost to the ECB to accomplish this goal. There is no need, the authors conclude, to sacrifice the European social contract. Europe's sovereign debt crisis can be resolved without austerity.
www.levyinstitute.org/pubs/wp_819.pdf

Program: Monetary Policy and Financial Structure

Why Raising Rates May Speed the Recovery

JAN KREGEL

Policy Note 2014/6, December 2014

The Federal Reserve has received two types of criticism for its unconventional monetary policy response to the Great Recession: fear of inflation, resulting from spending the excess reserves accumulated on its balance sheet; and the belief that its zero interest rate policy (ZIRP) and measures to flatten the yield curve will lead to another asset price bubble. The solution, many critics argue, is to return to more conventional policy. Yet most of these same critics believe that such a move will hurt the economy in the short run. Senior Scholar Jan Kregel finds that both of these criticisms of the Fed's actions are mistaken, and suggests that it is also quite likely that the fears associated with a return to a more conventional monetary policy stance are misplaced.

The inflation criticism, Kregel notes, is based on fears that the Fed's money creation powers will lead to inflation. Despite the efforts of the Fed and other actors, the money supply has not increased and the money multiplier seems to be all but broken. Deflation, not inflation, is a more pressing concern. The problem, the author observes, is that actions by the Fed have not been matched by a willingness on the part of the private sector to transform the reserve base into money financing. Banks create money (liabilities) to fund new productive investments or to acquire existing assets. Businesses and households are paying down their loans, not seeking to fund new commitments. Thus far, the Fed's actions have resulted in a swap of assets held on bank balance sheets for reserves held on its own balance sheet. The Fed is powerless, Kregel reminds us, to directly affect the decisions of banks to finance more private sector expenditures.

Concerns that the size of the Fed's balance sheet will create negative distortions in capital markets and interest rates (despite the fact that there is no empirical evidence showing this to be the case) runs contrary to the experience of countries such as Japan, with its long-standing position of rising debt and near-zero interest rates. Some fear that a return to higher interest rates will cause capital losses for debt holders. But this fails to account for how an increase in interest rates affects the yield to maturity of fixed-interest securities, or the impact of rising rates on the interest income on the reinvestment of a bond's periodic coupons. The author notes that higher rates, in the absence of price or wage pressure, will increase incomes, improve pension funding, and may represent a positive contribution to aggregate demand.

In terms of creating an asset bubble, Kregel points out that this is precisely the Fed's policy goal: to drive investors away from riskless Treasury securities toward higher-risk assets that are more likely to fund production and investment. Unfortunately, the Fed's actions have done more to quicken the pace of corporate buybacks, thus increasing equity prices, without creating new, profitable investment opportunities. So long as corporations continue to deleverage and see no need to create new productive capacity, bank lending and the money supply will not increase. Kregel argues that the expectation of rising earnings from higher sales and profits in the future (i.e., raising the marginal efficiency of capital) is more important than the impact of the interest rate in discounting future earnings. Thus, the current high level of equity prices is only a bubble if there is no recovery in expected future demand. The easiest way to create such positive expectations, suggests the author, is through household debt reductions or direct expenditures by the government.

With quantitative easing purchases at an end, the size of the Fed's balance sheet will be driven by the private sector's expectations for recovery. Higher rates may in fact support the recovery by sending a positive signal to investors. When private sector expectations are once again strong enough to create private liabilities that banks agree to hold by creating deposits, excess reserves (and thus the Fed's balance sheet) will begin to shrink. Rising rates, the author concludes, may in fact be something to welcome rather than fear.
www.levyinstitute.org/pubs/pn_14_6.pdf

Liquidity Preference and the Entry and Exit to ZIRP and QE

JAN KREGEL
Policy Note 2014/5, November 2014

Senior Scholar Jan Kregel examines the Federal Reserve's unconventional monetary policy responses to the financial crisis of 2008, specifically its zero interest rate policy (ZIRP) and quantitative easing (QE). He observes that support for these policies may be a result of their broad similarity to the policy prescriptions of both Milton Friedman and John Maynard Keynes. ZIRP and QE were clearly efforts to increase the money supply in the face of an economic crisis, a path not taken at the onset of the Great Depression and a mistake that Fed Chairman Ben Bernanke vowed not to repeat. The Fed's responses can also be seen, Kregel notes, as consistent with the "extra-ordinary" actions Keynes called for in his *Treatise on Money*. In this policy note, the author reviews the rationale and performance of these two policies, drawing on Keynes's *Treatise* and *General Theory*.

Kregel notes that both Bernanke and Keynes argued for similar intermediate-term objectives: Keynes sought to induce more financing for investment, while Bernanke sought to spur lending to increase the money supply. Unfortunately, Bernanke's policy produced little more than a swap of bank assets for central bank liabilities, with little or no impact on the money supply. Kregel observes that this failure is often incorrectly linked to the limits of conventional monetary policy as described by Keynes's liquidity trap and presented in the horizontal LM curve in the standard IS-LM models. This connection is mistaken because it did not play a part in Keynes's unconventional proposals of the 1930s, and, more important, the presentation of the liquidity trap in the standard IS-LM model has little, if anything, to do with Keynes's ideas in the *General Theory*.

The liquidity trap is often used to explain the failure of ZIRP. A zero-lower-bound theory tells us that policy rates below zero may be required for the successful operation of monetary policy; but, when nominal rates are at zero, this lower bound prevents monetary policy from increasing the money supply. Thus, the justification for an unconventional policy of purchasing longer-term assets to drive interest rates down further is found for QE. By reducing the yield advantage on term securities, QE should drive investors to seek higher yields and higher risk, and to shift to real expenditures. In practice, QE led to lower mortgage rates and a brief round of refinancing that benefited mortgage holders, equity portfolios, and corporate and investment managers with compensation linked to stock options. But, again, there was no appreciable increase in the money supply.

Some have criticized these policies as creating the conditions for the next bubble, leading to calls for two contradictory policy responses (i.e., higher interest rates, or interest rates below zero), both of which, Kregel observes, fail to understand Keynes's idea of liquidity preference. Keynes dropped the real rate of interest in favor of the concepts of liquidity preference and the marginal efficiency of capital. In this vein, Kregel explains that Keynes saw the role of expectations for the future powerfully affects the decisions we make today. It is thus our expectations for the future and not some static, "real" rate that set the bounds on current rates, and this can occur at any policy rate level, not just at or near zero. When interest rates intersect this expectations boundary, liquidity preferences may become in effect immovable, with the result that the monetary authority loses control over the rate of interest. Therefore, the Fed's guidance policy is, Kregel infers, precisely the kind of expectations management approach Keynes would have advocated. However, the author suggests that Keynes would have implemented QE quite differently (i.e., by setting the bid-and-ask rate and letting markets determine the volume of transactions). Further, Keynes might have offset the effects of a liquidity trap by setting a negative interest rate at a level that was greater than the loss of the capital value associated with holding securities, thus eliminating the protections afforded by holding money.

Kregel observes that it is not the zero lower bound that is the main obstacle to using monetary policy to cure the Great Recession but rather the absence of policies to raise the marginal efficiency of capital. He concludes that when a new rate structure, accompanied by market guidance, is accepted, the public and the banking system will return to holding longer-term assets, and profit seekers will purchase the assets currently on the central bank's balance sheets.
www.levyinstitute.org/pubs/pn_14_5.pdf

Minsky, Monetary Policy, and Mint Street: Challenges for the Art of Monetary Policymaking in Emerging Economies

SRINIVAS YANAMANDRA
Working Paper No. 820, November 2014

Srinivas Yanamandra, Manchester Business School, examines the experience of the Reserve Bank of India (RBI) between 2003 and 2014, and draws a number of challenges and lessons for the practice of monetary policy in emerging economies. His analysis is informed by the work of Distinguished Scholar Hyman P. Minsky, specifically in Minsky's financial instability hypothesis (FIH) and his work on financial regulation. The RBI, the author recalls, was one of the few central banks that insulated its domestic banks from the worst effects of the global financial crisis. However, following the crisis, the RBI faced a number of obstacles to its monetary policies, including developments in the global economy, structural issues in the domestic economy, and exchange rate volatility. Yanamandra begins his analysis with a discussion of Minsky's FIH as well as Distinguished Scholar Wynne Godley and Marc Lavoie's work on stock-flow consistent (SFC) models; he then provides an overview of the Indian economy and analyzes the RBI's monetary policy between 2003 and 2008. A discussion of the RBI's actions following the crisis, between 2008 and 2013, is paired with a discussion of monetary policy post 2013. The paper concludes with a discussion of the main insights drawn from his analysis.

Central to Minsky's perspective is the idea that financial instability is an endogenous phenomenon, and, if left unchecked by vigilant regulators, initially stable financial systems will innovate their way to a stage of Ponzi finance and crisis. Yanamandra observes that central banks can hinder this process, provided they understand the need to regulate an evolving, not static, financial system. The author explores three extensions to this perspective: the use of stock-flow consistent models to better understand the relationship between government deficits and financial instability, the role of cross-border flows, and the role of the global financial institutional infrastructure and its impacts on financial stability.

The author next analyzes the RBI's monetary policies between 2003 and 2008. He begins with an overview of the Indian economy prior to the financial crisis of 2007–08. He notes that the Indian economy weathered the crisis as well as it did largely as a result of the RBI's synergistic use of monetary and regulatory policy. Prior to the crisis, India experienced strong economic growth, moderate inflation, low real interest rates, and rising private sector investment. During this period of stability and growth, the RBI undertook a number of decidedly Minskyan regulatory policies to reduce risk and prepare the Indian banking sector should instability arise. These measures included promoting effective credit administration, raising asset and capital adequacy ratios, extending regulations to cover risk-transfer instruments, monitoring interbank linkages, regulating nonbank financial institutions, and ensuring that regulatory authorities' skills and sophistication matched those of the financial sector. The RBI thus avoided the "regulatory relaxation" that Minsky warned could creep in during stable or euphoric periods. As a result, the Indian banking system was initially spared many of the worst effects of the global financial crisis. However, as with many emerging markets, India was impacted in terms of such things as trade, financial flows, and market confidence in the aftermath of the crisis.

The RBI responded to the crisis with a variety of monetary and regulatory actions (e.g., reduction in policy rates, lower bank reserves, stress testing, opening a swap window, forex management, etc.). As a result, fiscal policy did not have to support the banking system with bailouts and was thus relatively free to engage in countercyclical spending in the form of increased public spending, tax cuts, and the like—a thoroughly Minskyan stabilization response. The author next reviews the challenges and steps taken by the RBI and the Indian government in the years following the crisis, examining the linkages between fiscal and monetary policy as well as the impacts of the United States' announcement that it would begin to "taper" its quantitative easing program.

Yanamandra observes that India's experience validates many of Minsky's central lessons. He concludes that there is a clear need for countercyclical regulatory policy to reinforce monetary policy; that monetary policy can be constrained in periods of fiscal dominance; and that exchange rate management, or the "impossible trinity" problem, can undermine the effectiveness of monetary policy. The effective transmission of monetary policy, including regulatory policy, requires a well-defined financial sector infrastructure. And, finally, policy coordination to promote macroeconomic stability (i.e., in the areas of price, financial, fiscal, and exchange rate stability) is a necessary and ongoing challenge to promoting effective monetary policy.
www.levyinstitute.org/pubs/wp_820.pdf

Outside Money: The Advantages of Owning the Magic Porridge Pot

L. RANDALL WRAY
Working Paper No. 821, December 2014

Senior Scholar L. Randall Wray discusses "outside" money (i.e., the currency issued by the sovereign) and the advantages it provides. He begins with a brief survey of the history of the idea of money, beginning with the work of Georg Friedrich Knapp and Alfred Mitchell-Innes, debunking the view of money as "representative" of some underlying commodity or that it draws its value from some source other than the currency-issuing authority or state. This understanding of money as "a creature of the state," as Abba Lerner described it, becomes the logical foundation for his "functional finance" view of state budgeting.

Wray suggests that the fundamental nature of money was perhaps easier to see when money was represented by tally sticks and not issued through complex institutional procedures. As Modern Money Theory (MMT) makes clear, sovereign states choose the unit of account, and impose taxes and accept payment in the same unit. States spend or lend their money into existence and then receive it back in the form of taxes or other obligatory payments. The fear that states might engage in imprudent money creation led to the operational requirements to constrain such activity. In fact, Wray argues, these "constraints" do little to change the fundamental powers of the sovereign, and only succeed in placing the exercise of their money-creation powers behind a veil of complexity.

In the United States, for example, three kinds of constraints were devised to prevent the Treasury from simply "printing" money: (1) the Treasury can only spend by drawing down its account at the Federal Reserve; (2) it cannot borrow funds directly from the Fed; and (3) it is subject to a debt limit. Treasury spending is thus limited to what it receives in tax revenues and sales of Treasury debt, and by the will of Congress. MMT scholars argue that the first two constraints are more apparent than real, affecting the sequence of monetary and fiscal operations but not the final outcome. The author then provides a brief overview of the six operations associated with the Treasury's debt operations, the complexity of which, he explains, could be avoided by financing Treasury spending through an issue of currency or debt to the central bank against notes to finance spending. Overall, this complexity obscures how money functions, disguises how the sovereign operates, and leads to a misunderstanding of the policy space that is available to a sovereign.

A currency-issuing government is not limited to being a "user" of its currency, Wray explains, and thus does not face a government budget constraint. This is not to say, by any means, that a currency issuer can engage in imprudent or reckless actions, but it is equally false to equate the fiscal policy space available to a sovereign with that of a private household, as some economists would have policymakers and the public believe. However, there are three constraints that a sovereign currency–issuing government may face: real resources, inflation, and exchange rates. There is also the concern that a government could be pushed into an "unsustainable" interest rate–debt spiral. However, interest rates and debt management are both policy variables that can be used to manage these constraints. Further, it is not reasonable to assume that GDP growth remains below the interest rate in the presence of a rapidly growing deficit ratio.

In the case of the Fed, for example, it is correct to describe its operations as insulated from the short-term concerns of the federal government, but to describe it as wholly independent is not an accurate legal or historical description of its relationship to the government. Thus, it is reasonable to expect that it will exercise its powers on behalf of public purposes. A central bank, unlike a private bank, has a monopoly position and can always

make payments as they come due, affording it considerable latitude for action. A sovereign currency issuer ensures demand for its currency by imposing obligations. So long as its money is not pegged to some outside currency, something like gold, its policy choices are relatively unconstrained—a fact, the author concludes, not fully appreciated by the European Monetary Union until relatively recently.
www.levyinstitute.org/pubs/wp_821.pdf

The Socialization of Investment, from Keynes to Minsky and Beyond

RICCARDO BELLOFIORE
Working Paper No. 822, December 2014

Drawing on the contributions of such economists as Karl Marx, Joseph Schumpeter, John Maynard Keynes, Michał Kalecki, Joan Robinson, Distinguished Scholar Hyman P. Minsky, and Senior Scholar L. Randall Wray, Riccardo Bellofiore, University of Bergamo, offers his analysis of long-term changes in capitalism. He traces the evolution of capitalism, combining a Schumpeterian-like long-waves approach with Minsky's financial Keynesianism and Marx's focus on the capitalist relations of production. The author employs what Wray aptly describes as Minsky's "stages approach" to capitalism. Today, Bellofiore explains, we find ourselves in a version of Minsky's money manager capitalism, and Minsky's central lesson of the need for structural reform remains as relevant as ever.

Taking as his point of departure Joan Robinson's 1971 assessment of a crisis in economic theory (the first resulting from the "Great Slump" and the second an insufficient theory to account for the content or purpose of employment), Bellofiore moves to an analysis of Minsky's 1975 book *John Maynard Keynes*, arguing that Minsky's intention was to "radicalize Keynes's radical project." Bellofiore argues that Minsky found Keynes's proposal for the socialization of investment, as presented in *The General Theory*, inadequate. Significantly, Keynes, as Minsky observed, allowed that capitalism employs the factors of production and sets the direction of employment correctly. The author argues that Minsky's political project was to connect his reading of Keynes with the history of the New Deal. While Minsky supported the idea of work relief (jobs) over transfer payments in the New Deal, the important question of the purposes of employment and production were not taken up fully by Keynes.

The author suggests that Minsky's views were a result of his returning to the questions of the early 1930s, questions that were inadequately answered by Keynes and, later, by the standard Keynesianism of the postwar period. Bellofiore notes that Minsky's focus was primarily on the United States. He reviews each of Minsky's now well-known stages of capitalism: commercial, industrial, financial, managerial, and money manager. Bellofiore explains how the policies during the postwar period, a corrupted version of Keynesian economic policy, led to a high-profit, high-investment economy that drove up employment through waste and military spending. This policy prescription succeeded for a time, but ended, as Minsky predicted, in stagflation. The author observes that the 1980s, and particularly the policies of Ronald Reagan and Margaret Thatcher, had an important influence on Minsky's later work. This latter period of money manager capitalism saw what Bellofiore has referred to as the "real subsumption of labor to finance" and, for Minsky, the effective separation of the financial markets and capital development. The most recent financial crisis, fed by such forces as capital asset inflation, wage deflation, and highly leveraged households and financial companies—all fueled by toxic finance—confirmed some of Minsky's central insights.

Bellofiore refers to Minsky's alternative as "a Keynesian New Deal"—in other words, the state should manage markets and create institutions so that all receive income from work. Minsky argued that to reach full employment and end poverty, innovative employment and production schemes must exist outside the market and private enterprise. He called for the socialization of investment; a larger, not smaller, role for government; lower private investment; strong controls on capital movement and financial regulation; and policies to prevent the creation of giant financial institutions. This does not amount to an end to capitalism but rather a prescription for what it requires to make it work successfully.

Bellofiore suggests that rather than experiencing a "Minsky moment" in 2007–08, it is perhaps more accurate to say that we have been living in a Minsky half century. He argues that the question of what kind of intervention is desirable today in the presence of a "Lesser Depression" and Fisherian debt deflation remains relevant, and, further, that Minsky's

approach remains perceptive and relevant following the crash of money manager capitalism. The author concludes that Minsky's ultimate lesson is the need for structural reforms, not simply expansionary demand policies.
www.levyinstitute.org/pubs/wp_822.pdf

Why Does Brazil's Banking Sector Need Public Banks? What Should BNDES Do?

FELIPE REZENDE
Working Paper No. 825, January 2015

The need for public banks lies not in market failures but in a clear understanding of the nature of financial instability. Felipe Rezende, Hobart and William Smith Colleges, takes up this proposition, focusing on the case of the Brazilian National Economic and Social Development Bank (BNDES)—the public bank that is the primary source of long-term investment in Brazil. He observes that prior to the global financial crisis, the financial regulatory systems of developed countries were regarded as "best practices," and set the pattern for emerging economies. However, the crisis made it clear that financial institutions were not only unlikely to self-supervise in a manner that prevented financial instability, but also failed to adequately allocate capital to finance investment in the real economy. The financial crisis called into question the mainstream approach to financial investment priorities and the prevailing approach to financial regulation.

In this context, Rezende suggests that the work of Distinguished Scholar Hyman P. Minsky provides a framework within which to understand changes in the domestic financial architecture and to design regulatory systems to limit the development of financial fragility. Further, the author argues, given that the Brazilian financial system, one that arose from the US model, failed to support the capital development of the economy or raise the standard of living, developing countries would do well to create alternatives better suited to their development needs. Rezende notes that Brazil's financial system navigated the financial crisis and the collapse of the shadow banking system relatively well, and thus may offer useful insights.

The author observes that short-termism in the Brazilian financial system has limited the amount of long-term financing available for growing infrastructure needs and public investment projects. As a result, BNDES is the main source of public funding to meet these long-term development priorities. As the global financial crisis began to unfold in 2007-08, Brazil's national treasury made massive loans that enabled BNDES to address long-term investment goals while simultaneously countering financial instability. The expansion of the public banks' balance sheets at precisely the moment when private banks were cutting back on lending supported the Brazilian economy at a time when many governments were pursuing austerity policies.

Rezende notes that BNDES has been the subject of the usual criticisms of public banks (e.g., crowds out private investment, has unfair competitive advantages over private banks, increases public debt, etc.). He suggests that these criticisms tend to neglect the fact that a national bank is not vulnerable to external risks such as exchange rate volatility and sudden changes in foreign investment, as it loans in its own currency. In addition, BNDES, unlike private banks, operates with low loan spreads because it does not have to support high returns on equity. The persistent problem in developing private sources of long-term funding from Brazilian banks is that short-term investments are more profitable. Public banks are needed to create competition and to serve the needs of the real economy that "efficient markets" neglect. In terms of fiscal risk, or increased debt, Rezende points out that BNDES is funded by a sovereign currency issuer, which spends by crediting bank accounts and reclaims these funds through tax collection.

The author next reviews a number of funding options for BNDES, including loans from the national treasury and the Banco Central do Brasil. In all cases, the final balance sheet position is the same, reflecting an endogenous money approach that is consistent with Minsky's views on banking. Drawing on the work of John Maynard Keynes, the author also provides a discussion of how the monetary authority could increase the availability of long-term financing from the private sector, by managing the yield curve and keeping interest rates at low and stable levels. BNDES, and other public finance entities, he concludes, are effective vehicles to promote capital development in the real economy, dampen market instability, and, in coordination with other macro policies, increase output and employment.
www.levyinstitute.org/pubs/wp_825.pdf

Minsky on Banking: Early Work on Endogenous Money and the Prudent Banker

L. RANDALL WRAY

Working Paper No. 827, January 2015

Senior Scholar L. Randall Wray examines the question of whether Distinguished Scholar Hyman P. Minsky adopted an endogenous money approach in his early work, specifically during the same period he was first developing his financial instability hypothesis (FIH). This paper builds on Wray's earlier work on Minsky's endogenous money approach, drawing extensively from his unpublished manuscripts housed in the Levy Institute's Minsky Archive.

Minsky left a wealth of unpublished work that demonstrates that from a very early stage in his career he had a deep understanding of the nature of banking. It is clear, Wray argues, that Minsky's approach stood apart from the mainstream, textbook "Keynesian" and "monetarist" perspectives, both of which started from the standpoint of a "deposit multiplier." The author further argues that Minsky's understanding of banking, as extant in his early work, was more advanced than much of the post-Keynesian endogenous money literature that would follow three or four decades later. Too often, current descriptions of the nature and role of banks rely on an understanding of the banking sector that dates from the 1960s—a perspective Minsky rejected decades ago. Wray begins by contrasting the views held by Paul Krugman with those of Minsky to draw out some of the more persistent misconceptions about banking (e.g., the deposit multiplier and the bank creation of money).

Minsky's early writings also provide insights into "prudent banker" practices, which can serve as a standard against which to measure the activities leading up to the crisis in 2007. Drawing on a paper from 1959, Wray discusses Minsky's proposal for a financial model based on prudent banking practices. Minsky understood that financial innovation "stretches" liquidity, and that as loans increase, bank liabilities increase, and thus the money supply grows with lending and spending. This is very much at the core of the theory of endogenous money. Minsky also discussed the relationship between interest rates and financial innovation (i.e., rising interest rates tend to spur financial innovation). These innovations stretch liquidity, and the central bank, as lender of last resort, can find its policy generated endogenously as it tries to protect the integrity of an ever-changing financial system.

Banks occupy a special position in the financial system, and as such should, Minsky argued, operate on prudent principles. These principles include accepting liquidity and solvency constraints that are more restrictive than other money-making firms, not being swept up in temporary pessimism or optimism about the economy, anticipating that some decisions (e.g., loans) will be incorrect and applying insurance principles to compensate for potential losses, and requiring secure collateral to minimize losses from default or depreciation. The prudent banker's relationship to the borrower is characterized by a close relationship of mutual trust and confidence, the banker's judgment of the borrower's creditworthiness, confidentiality, loans for production and trade rather than household consumption, and a reluctance on the part of the banker to sell the borrower's loans to raise liquidity. These prudent practices stand in sharp contrast to the originate-to-distribute model of banking that has arisen in recent decades. Minsky also discussed the reasons prudent bankers diversify their portfolios (so as to spread out their risk and gain quick access to high-powered money).

Wray next turns to Minsky's understanding of the nature of money and banking. If, as Minsky said, "anyone can create money," what makes a bank different? The answer lies in the liquidity constraints and small amount of equity relative to the potential losses it must cover. Banks do not want to operate with 100 percent reserves because they want to reduce liquidity in order to increase their profitability. Turning to Minsky's views of money creation by banks and government (a special kind of bank, in Minsky's view), Wray next discusses the role of government in Modern Money Theory.

The policy implications of Minsky's work, Wray argues, are evident in the distance between the prudent banker and the state of affairs in the current financial system. Today, banks engage in such a wide variety of activities previously outside the realm of and at odds with the practices of the prudent banking business Minsky described that it hardly bears comparison. In fact, Minsky saw many of these changes, and before his death in 1996 was working on a book to bring his views up to date. He warned of "casino capitalism," decried the "Volcker experiment" of 1979–82, and generally viewed the movement of the financial system away from banking and toward managed money as being driven by endogenous factors. Minsky's work in the 1990s was intended to return finance to the task of the "capital development of the economy," as he put it. Such a return would require reforms such as restoring proper underwriting; a restoration of the prudent, skeptical banker; direct credit controls rather than high capital ratios; improved oversight on the asset side of bank balance sheets; financial activities that promote the capital development of the economy; and expanded access to the Federal Reserve's discount window. The crisis did not bring the fundamental reforms the financial system so badly needs, and the capital development of the economy remains ill served. Today, Wray concludes, the system continues to operate well outside the orbit of Minsky's prudent banker.

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Financialization and Corporate Investments: The Indian Case

SUNANDA SEN and ZICO DASGUPTA

Working Paper No. 828, January 2015

Research Associate Sunanda Sen and Zico DasGupta, Jamia Millia Islamia, examine investment trends in the real and financial economy with an emphasis on the Indian economy. They note that within the context of an increasingly financialized economy, enabled by deregulation, investment incentives favor holding financial assets rather than tangible assets. This pattern presents two clear problems for public limited companies (or "corporates"): failure to generate asset growth in the real economy, and the emergence of Ponzi finance dynamics to meet current liabilities. The authors begin with an overview of investment trends in advanced economies, address the rise of financialization in the Indian economy, and close with a discussion of the impact and implications of their findings for India.

Sen and DasGupta observe that the tension between manager and shareholder goals for corporate investment decisions has diminished with the rise of the "shareholder revolution," which emphasizes near-term profits over long-term growth. Under employee stock-ownership plans and other performance-based compensation schemes, senior managers' goals for short-term gains are frequently aligned with those of shareholders. This trend has accompanied a decline in investment and accumulation in firms, and a rise in the profitability of firms pursuing financial investments. These same well-documented trends in the advanced economies are also visible in developing economies, where corporates play a major role in shaping industrial performance. However, the authors note that it is unclear where profits are invested and how uncertainty is shaping investment decisions. It appears that these investments tend to be in short-term financial assets offering high returns and capital appreciation, a pattern they describe as consistent with the Minskyan tradition in the post-Keynesian literature.

Financialization has been an active force in the Indian economy for several decades, in many ways replicating the conditions found in the advanced economies. Examining data from the Reserve Bank of India (RBI), the authors show that the share of investment in the real economy by corporates dropped from 40 percent in 2002–03 to 15 percent in 2011–12, while the share of financial investments held by corporates rose from below 60 percent to over 70 percent during the same period. They show that investment by corporates in fixed assets and the trend in capital formation have clearly declined over the last decade. In addition, corporates have been drawing on external sources to fund their financial investments and borrowing less from domestic banks. Overall, investments reflect corporates' reduced interest in the real economy. However, during this same period the growth rates of assets held by corporates have declined, as have their contribution to real investment and their own profitability. Given the large investments in financial assets, why have these investments not translated into higher growth rates and profits on assets?

To answer this question, Sen and DasGupta analyze the composition of the assets and liabilities held by corporates. Until 2004, mutual funds were the dominant type of investment. After 2004, equities accounted for the lion's share of the increase in financial investments. By 2013, these two types of investment accounted for 82 percent of all corporate financial investments, with a rising share of short-term financial assets noted in recent years. Turning to outstanding liabilities, the authors note that investment in reserves and funds rose between 2004 and 2011, and then stalled in 2012. They find that, overall, equities failed to provide resources during the past decade and that corporates appear to have added to their assets through increased borrowing.

A large share of corporate funds has been used to meet current liabilities, including interest and dividends. This was supported by rising external borrowing, perhaps driven by rate increases by the RBI. This trend in borrowing suggests a pattern of Ponzi finance, with fresh borrowing used to pay current commitments. This reflects a global trend toward short-termism in a context of greater uncertainty in a deregulated market. The authors suggest that the pattern of Ponzi finance in India is compounded by exchange rate risk and investment incentives that undermine long-term growth in the real economy and add to the risk of economic instability. India, the authors conclude, requires an overhaul in its public policies that emphasizes investment in the real economy.
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The Repeal of the Glass-Steagall Act and the Federal Reserve's Extraordinary Intervention during the Global Financial Crisis

YEVA NERSISYAN
Working Paper No. 829, January 2015

Yeva Nersisyan, Franklin and Marshall College, examines the forces that have made it increasingly difficult for the Federal Reserve to limit the protections traditionally reserved for the regulated banking industry, and not, as was seen during the most recent crisis, extend these same protections to a wide range of financial institutions and actors. She argues that revisions to the Glass-Steagall Act (GSA) played a key role in the expansion of public protections to nonbank financial institutions. The GSA helped to create a specialized financial system within which the safety net afforded by the central bank's lender-of-last-resort (LOLR) function was limited to commercial banks. In a financial system where institutions engage in a variety of financial activities, Nersisyan observes, applying this protection is fraught with complexity.

Nersisyan next discusses the emergence of the shadow banking system and how repeal of the GSA supported this process. Proponents of the repeal argued that the holding company structure would insulate bank subsidiaries from any losses incurred by nonbank subsidiaries—a claim that was not borne out in the most recent financial crisis. Shadow banks comprise a wide range of financial intermediaries (e.g., hedge funds, mortgage brokers, special purpose vehicles, and so on) that participate in the creation of liquidity through their access to financial markets. The rise of securitization created an explosion in shadow banking activity. By 2007Q2, shadow banking assets stood at $16 trillion, or 1.2 times the assets held by depository institutions.

Managed money was largely responsible for driving the demand for the shorter-term liabilities produced by the shadow banking system. However, these short-term positions required constant refinancing, and thus increased the need for access to short-term funding to create liquidity. Traditional banks support the shadow banking system by providing the liquidity lines and credit guarantees used by the shadow liquidity-creation process. Today, shadow banking activities are, either directly or indirectly, supported by regulated banks, which makes it impossible in practice to limit LOLR protections to the regulated banking system. The Fed's support for shadow banks during the crisis reflects the realities of the post-GSA financial system. The Dodd-Frank Act affirmed the Federal Reserve's "extraordinary actions" during the crisis by allowing the Fed to lend to nonbank financial institutions, with the approval of the Treasury. Understandably, the Fed's actions were controversial.

In the past, the US financial sector operated under a two-tier system of LOLR protection. The Fed provided support for commercial banks and commercial banks provided emergency lending to nonbank entities, both financial and nonfinancial. Overall, Nersisyan notes that this system worked well during the 1970s and '80s. Post GSA, however, banks often compete with nonbanks and may thus withhold credit from their competitors. Further, many of the banks that provide lines of credit are owned by financial holding companies and are themselves engaged in the same kinds of activities as nonbanks, and may not be willing or able to make loans because of their own internal liquidity needs. These regulatory changes have removed the ability of commercial banks to serve as impartial judges of creditworthiness during a crisis.

Nersisyan suggests that limiting public subsidies to entities that serve a public purpose is a useful point of departure for discussing reforms. She then provides a brief description of what makes banks different from nonbank financial institutions. Drawing on Distinguished Scholar Hyman P. Minsky's work, Nersisyan argues that the difference lies in the manner in

which banks create liquidity by accepting the liabilities of other economic agents and guaranteeing that these agents are creditworthy. Banks thus create the liquidity for investment and consumption—a socially useful function. However, this role requires that risk remain on the bank's balance sheet—the bank must remain a partner of the borrower, not merely a lender. Thus, only depository institutions should qualify for LOLR support. This would not, however, solve all of the problems of the current system, Nersisyan observes. Regulations limiting transfers among affiliated institutions are also needed.
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Beyond Market Failures: The Market Creating and Shaping Roles of State Investment Banks

MARIANA MAZZUCATO and CAETANO C. R. PENNA
Working Paper No. 831, January 2015

Mariana Mazzucato, University of Sussex, and Caetano C. R. Penna, University of Sussex, examine the role state investment banks (SIBs) play in capital development, technological change, and innovation. The authors present a framework for understanding the various roles played by SIBs in creating and shaping markets. This stands in contrast to standard market theories, which cast SIBs in the role of merely "fixing" markets. The authors examine four types of investments supported by SIBs: countercyclical, developmental, venture capitalist, and challenge led. Their analysis of SIBs draws on the evolutionary economics tradition, and the insights of John Maynard Keynes, Joseph Schumpeter, Karl Polyani, and Distinguished Scholar Hyman P. Minsky. Mazzucato and Penna present an overview of the emergence of SIBs and the role they play as described by market failure theory, offer a heterodox framework for the role of SIBs, and provide conclusions and recommendations for future research.

The authors begin by pointing out that the characterization of SIBs as limited to "fixing" market failures fails to account for their mission-oriented funding role. Market failure theory (MFT) is the standard framework economists and policymakers have used to formulate and evaluate public investments. This understanding is both conceptually limited and historically inaccurate. Governments have always played a role in creating and shaping markets. The authors draw on evolutionary economics, mission-oriented investments in science and technology policy research, the developmental network state in development economics, and the entrepreneurial state to propose a new way to look at how public policy creates and shapes markets.

Mazzucato and Penna follow a historical review of the development of SIBs with an analysis of the four roles they play: countercyclical, developmental, venture capitalist, and challenge led. They also critically examine the MFT explanation associated with each of these roles. SIBs have often fostered technologies that private markets deem too risky, including the Internet, biotechnology, and green technologies. The authors also observe that a wide range of SIBs have successfully engaged in countercyclical policy to combat recessions and financial crises; most recently, following the global financial crisis of 2007–08. During economic booms, SIBs often promote strategic investments to advance economic development, in developing and developed countries alike. For decades, they have played an important role in supporting new ventures such as small- and medium-size enterprises and innovation. The challenge-led, or mission-oriented, activities of SIBs are readily identified in public efforts that require patient, long-term funding to achieve a public goal (e.g., climate change). However, despite the obvious contributions of SIBs, MFT prescribes a limited role for government and a narrow set of tools to evaluate the costs and benefits of public involvement. The authors note that the evaluation schema applied to public action are at their roots static measurements applied to an inherently dynamic process, reflecting the MFT perspective.

A heterodox perspective on SIBs, they argue, offers a useful critique of the MFT perspective, but the insights of heterodox thinkers have yet to achieve a lasting impact on how SIBs are understood and operated. Future research, the authors suggest, could be fruitfully directed toward areas such as developing indicators that measure the four roles of SIBs; comparing SIBs across states and regions; and developing case studies on individual SIBs or programs to again derive a set of best practices. SIBs, the authors conclude, must not be seen as merely fixing market failures but as vehicles to open up new economic and technological possibilities—making things happen that, if left to private markets, would not.
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Program: The Distribution of Income and Wealth

Tale of Two Ginis in the United States, 1921–2012

MARKUS P. A. SCHNEIDER and DANIELE TAVANI

Working Paper No. 826, January 2015

In this working paper, Markus P. A. Schneider, University of Denver, and Daniele Tavani, Colorado State University, investigate some seemingly contradictory results, and in doing so shed light on the evolution of income inequality in the United States between 1921 and 2012. The authors recall that for most of the 20th century top incomes conformed to a U-shaped pattern. Between the 1940s and '80s, the top 1 percent captured 10 percent of income, following income shares of 20 percent in the 1920s. This suggests declining income inequality and a relatively stable income distribution. Yet income inequality has risen steadily since the 1980s, to levels not seen since the Great Depression. The Gini index, however, tells a different story—it shows that income inequality has been rising steadily in the United States since the 1940s.

Schneider and Tavani's analysis is informed by a methodology proposed by Robert Jantzen and Klaus Volpert, and employs adjusted gross income data from the US Internal Revenue Service to estimate two Gini-like indices. They reveal two patterns of inequality using this approach. The first income inequality trend occurs between the early 1940s and the late 1970s; the second, between 1981 and 2012. The authors note that their findings are consistent with much of the recent research on the distribution of income in the United States. In addition, they employ the Lorenz-dominance criterion proposed by Anthony Atkinson to better analyze the welfare effects of their findings. While they do not observe Lorenz-dominance in the absolute sense, using a relative measure and taking into account growth rates for the periods in question, the authors find that the increase in income inequality since 1981 appears to have been welfare reducing.

They begin with an evaluation of the contribution of these two indices to the evolution of the rising Gini index since the 1940s. They find that rising inequality between 1940 and 1977 was driven by rising income inequality at the bottom of the income distribution that overwhelmed or masked decreasing inequality at the top of the distribution. In contrast, the period between 1981 and 2012 was characterized by rising income inequality at the top of the income distribution.

The authors' analysis shows that income inequality at the bottom of the distribution is explained by the fact that moving from the lowest to the second-lowest income decile represents a small change in income but a substantial gain in the share of total income (i.e., the lower the income group, the lower its share of total income). Thus, between 1944 and 1977 the middle of the income distribution captured more income at the expense of lower income groups. In short, upward social mobility meant more households increased their income but left less behind for those who remained in the lower income groups. This was a not a welfare-reducing pattern, the authors note, as the Lorenz curves do not cross. In contrast, the income inequality seen between 1981 and 2012 was clearly a case of top-driven inequality. This pattern, coupled with a lower average growth rate of 2.8 percent per year, shows evidence of being relatively welfare reducing.

The analysis offers a clearer understanding of how the distribution of income has changed in recent years. Taken on its own, the Gini index suggests a nearly constant trend of increasing inequality in the post–World War II period. In fact, the postwar period has seen at least two distinct periods in the evolution of income inequality. By unpacking the Gini index using two indices, the authors reveal an increase in inequality driven by the growing distance between middle-income groups and lower-income groups in the first period, and, in the most recent period, a growing share of income going to the highest-income groups as the main driver of inequality.

www.levyinstitute.org/pubs/wp_826.pdf

Quality of Match for Statistical Matches Using the Consumer Expenditure Survey 2011 and Annual Social Economic Supplement 2011

FERNANDO RIOS-AVILA

Working Paper No. 830, January 2015

Research Scholar Fernando Rios-Avila analyzes the quality of the statistical match between the Current Population Survey (CPS) March 2011 supplement and the Consumer Expenditure Survey (CEX) 2011. These datasets are central to the Levy Institute's integrated inequality assessment (IIA) model for the United States. He first reviews the alignment of the datasets and then discusses various aspects of the quality of the match. Overall, Rios-Avila finds an appropriate balance across different characteristics, with some manageable imbalances noted for specific characteristics.

The IIA is an alternative to conventional general equilibrium models and provides a more thorough method to assess the impact of public policies on economic well-being across income groups. The IIA relies on a variety of information on US households; notably, detailed household consumption and expenditure data. Providing these data therefore requires the creation of a synthetic dataset drawn from the Annual Social and Economic Supplement (ASEC) of the 2011 CPS and CEX. In addition, the IIA model requires household wealth data not included in the ASEC or CEX dataset. However, a match created for a 2014 Levy Economics Institute Measure of Economic Well-Being (LIMEW) project included a match of the Survey of Consumer Finances for 2010 with the ASEC dataset. This match is included as an input for the creation of the IIA synthetic dataset.

The CPS is primarily a survey of labor market conditions; however, the survey also includes a wealth of demographic data. The ASEC is administered annually to collect additional information on households interviewed for the CPS. For the purposes of the matching process, the data collected on the householder, spouse, and household structure were used. The CEX includes two surveys—an interview and a diary survey—to capture information on large and small consumer purchases, respectively. The challenge is to match these two datasets so that consumer expenditures can be transferred from the CEX to the ASEC records while maintaining the integrity of the underlying population distributions. The measure of the success of this procedure is referred to as the "alignment" of the data.

Because of differences in the design of these surveys, it is not possible to fully reconcile or standardize data. However, these differences do not result in large misalignments that would misrepresent the underlying relationships. Rios-Avila reports that the datasets show an appropriate level of balance in terms of the distribution of households, with most variables showing less than a one percent difference. He notes some small divergence in the match of education and income data.

The statistical match, or data fusion, process is a common procedure, and a variety of empirical strategies have been developed to accomplish the task. In this case, the author implements a variation on ranked CSM, which is also used in the estimation of the LIMEW. The method uses a weight-splitting strategy that complies more closely with the criteria for constrained statistical matching.

Rios-Avila reports that more than 80 percent of the records were matched in the first 13 rounds and all records were matched after 27 rounds. As the match is complete, it is, by definition, perfectly aligned and the underlying distributions have been preserved. The author therefore turns to a discussion of the major expenditure aggregates across the two surveys, using selected alignment variables. The only expenditure aggregate that shows evidence of imbalance is education. Further examination indicates that while caution is called for when making inferences about specific groups, the overall match provides a sound basis for making inferences about the population.

Finally, the author presents the results of a series of simple linear models to further investigate the quality and to take into account multiple characteristics and potential sources of bias in the matched data. While there are some instances of bias in isolated parameters, the overall quality of the match provides a sound basis for statistical inference. In closing, Rios-Avila observes that future research might fruitfully exploit resampling methods such as a bootstrap or multiple imputation.
www.levyinstitute.org/pubs/wp_830.pdf

Program: Economic Policy for the 21st Century Explorations in Theory and Empirical Analysis

The State and National Systems of Innovation: A Sympathetic Critique

GIOVANNA VERTOVA
Working Paper No. 823, December 2014

Giovanna Vertova, University of Bergamo, offers a critical evaluation of the National Systems of Innovation (NSI) literature and proposes revisions to how the NSI are studied and implemented. Her paper begins with a discussion of some of the foundational NSI texts, from which she draws the standard or mainstream understanding of the concept. Based on this definition, she presents a critique of the NSI and its linkages with mainstream economic theory, and applies a heterodox perspective. Building on this critique, Vertova proposes a series of revisions to guide future NSI research, policymaking, and implementation. Central to her recommendations is the notion that government, because of its central role in creating the NSI and its unique social responsibility, can act as the innovator of first resort, especially during periods of economic crisis.

Vertova's reading of the NSI literature reveals a number of shortcomings and specious arguments. Notable among these, the literature relies on a set of definitions that are so broad as to encompass nearly any activity, actor, or function. For example, the literature assigns an important role to "institutions," yet some of its primary texts fail to include government and its policies; finally, the NSI concept is variously, and imprecisely, applied as both a normative and a descriptive tool. Another deficiency in the literature is its failure to provide an adequate explanation of the role of the financial system in fostering and sustaining innovation.

The author first discusses three flaws in how the NSI's normative dimensions are typically framed. NSI policy often emphasizes microeconomic regulatory activities but says little about the macroeconomic functions of government. Vertova ascribes this to a strong supply-side orientation in the NSI literature, which does not recognize that elements of the innovation process primarily serve a social function (e.g., universities) and were not created to serve the needs of firms. Further, this supply-side orientation rests on the same theoretical foundation as much of orthodox/mainstream economics (e.g., only private forms create wealth, growth, and employment). Private firms are seen as the engines of innovation, and the pursuit of profit does not create negative social consequences. In short, firms are defined as universally rational, welfare improving, and uniquely qualified to produce innovation, regardless of the form their profit-seeking innovations take.

The role of financial systems in innovation is a subject long treated in the innovation literature, notably by Joseph Schumpeter. The NSI literature includes two broad models of bank-based and stock-exchange-based financial systems. This approach was later revised to include the financial system and the regulatory role of government, but using a supply-side microeconomic orientation that Vertova finds flawed. She argues for a macro perspective on finance and innovation that would allow for the development of financialization. For example, one might argue that the lack of profitable innovations in the real economy contributed to the development of financial innovation, wherein firms directed their financial resources toward financial markets, instead of toward production, investment, and innovation. Vertova notes that the work of Distinguished Scholar Hyman P. Minsky on money manager capitalism is absent from the evolutionary tradition.

Neoliberalism justifies capital accumulation for its own sake and argues for a minimal role for government. The author offers an alternative perspective. Government has often led investment in risky, profit-creating innovations, not merely intervening to correct market failure. In contrast, private firms innovate for the sole purpose of making profits, while governments innovate to serve a social purpose. Unlike firms, governments have the ability to implement innovations directly and to create innovations that address basic social needs. Agriculture, health care, and environmental protection are areas where private firms do not hold the same goals as a public entity. The ability of governments to invest in and transmit innovation is an important tool for countering economic crises. Rather than seeing government as a passive or even negative element in the innovation process, Vertova argues for viewing government as a creator of innovation and, when needed, as the innovator of first resort.
www.levyinstitute.org/pubs/wp_823.pdf

Building the Entrepreneurial State: A New Framework for Envisioning and Evaluating a Mission-oriented Public Sector

MARIANA MAZZUCATO
Working Paper No. 824, January 2015

Mariana Mazzucato, University of Sussex, argues that inclusive, sustainable, "smart" innovation-led growth requires rethinking the role of government in the economy and considering not only the rate at which we fund innovation but also its direction. For this to occur, she argues that government must be understood as having a role beyond addressing market failures. Government must be seen as playing a part in shaping and creating markets while ensuring that the risks and rewards are equitably distributed. In this paper, Mazzucato explores four sets of questions dealing with the direction, evaluation, and reorganization of public institutions, and the management of the risks and rewards resulting from innovation.

Mazzucato's argument rests in part on her rejection of the mainstream vision of government as either an obstacle or an unfortunate-but-necessary adjunct to markets when they fail. Market failure theory (MFT), she explains, has largely defined the conditions under which government intervention is necessary or tolerable. In this vein, the author examines four major limitations of this perspective. She points to government's ability, for which there is ample historical proof, to "think big" and to support visionary projects that private firms and markets either fail to recognize or are too timid to pursue. This is especially true of societal challenges to which markets are often blind or that fail to produce adequate results. The "entrepreneurial state" has, she observes, nurtured industries ranging from space exploration to the Internet. Government action is often limited by the belief that it should play a minimal role in the economy (i.e., to prevent "crowding out" private investment or from picking winners and losers) and that strict fiscal discipline is the most responsible course. To counter those beliefs, the author calls for a vision of government that emphasizes its unique capacity to act as a catalyst, to create and shape markets, and, in the words of John Maynard Keynes, to do "those things which at present are not done at all."

Another obstacle presented by the MFT framework is the manner in which it evaluates public investment choices. The mainstream methods assume static conditions and ignore the dynamic quality of economic development. Public policies and investments aimed at addressing societal needs have the potential to transform the landscape and deliver benefits that expand social and economic opportunity. Likewise, the very narrow and often negative view of the role of government prevents public actors from developing the expertise to undertake transformative, mission-oriented investments. Government, argues Mazzucato, must be seen as a partner if it is to play a role in envisioning and managing transformational change.

Finally, MFT has little to say about how to apportion the risks and rewards when government is the lead risk-taker in creating innovations in capitalist economies. When government goes beyond merely "creating the conditions for change" (as it so often has), how should it be repaid? How should it cover the losses that are an inevitable part of investing in high-risk innovation? For example, the Google algorithm was originally funded by the National Science Foundation. Are increased tax revenues a sufficient return, or should the public retain some larger stake to balance out its losses in other investments?

The author suggests that governments adopt a portfolio approach to the risks and rewards resulting from public investments, rather than a risk-averse, loss-minimization strategy. The public sector is not bound by the short-termism of the private sector, and, further, pursues projects that serve a social purpose, with the potential to transform the economy. In practice, the goal should be to create an institutional structure that is not susceptible to political whims, selects a broad enough range of investments to have a reasonable expectation that successful investments will cover losses, and creates the capacity to learn from investment decisions and improve them in the future. In an increasingly financialized global economy that conflates financial speculation with innovation and investment in the real economy, there is a clear need, Mazzacuto concludes, for an entrepreneurial state, acting as a catalyst for innovation, setting new directions, and including social purposes among its criteria for public investments.
www.levyinstitute.org/pubs/wp_824.pdf

INSTITUTE NEWS

Levy Scholar Appointed Greek Deputy Labor Minister

Rania Antonopoulos, senior scholar and director of the Gender Equality and the Economy program at the Levy Economics Institute of Bard College, has been appointed Greece's deputy minister of labor and social solidarity. Antonopoulos ran for parliament as an MP with the anti-austerity Syriza party, which won a near majority in the general elections held in January 2015. A specialist in gender and macroeconomic policy, pro-poor development, and social protection, she has collaborated with the Labour Institute of the Greek General Confederation of Labour on a pilot public service jobs program that was adopted by the Ministry of Labour and put into effect in 2012. Building on that experience, Antonopoulos led a team of researchers in developing a job guarantee scheme that is at the center of Syriza's program for restoring growth and boosting employment following six years of deep recession.

Levy Research Associate Appointed to Senate Budget Committee

Research Associate Stephanie A. Kelton, associate professor and chair of the economics department at the University of Missouri–Kansas City, has been named chief economist for the Democratic staff of the Senate Budget Committee. A leading proponent of Modern Money Theory (MMT), Kelton will be working with ranking minority member Sen. Bernie Sanders (I-VT) to advocate for a federal budget that focuses on reducing unemployment and income inequality. MMT economists view money as something that is spent into existence by the state to serve public purposes. Kelton believes government can spend what is needed to spur economic growth and achieve full employment because it uses "fiat" money. A sovereign government that responsibly issues its own currency determines what it can "afford." The deficit, she says, "is not about affordability in real terms. It's about inflation." The key to a stronger economy is to get money circulating through consumption. "Capitalism runs on sales," says Kelton. "Spending creates income."

New Books in the Levy Institute Book Series

Economic Development and Financial Instability: Selected Essays

By Jan A. Kregel. Edited by Rainer Kattel. Foreword by G. C. Harcourt
Anthem Press, October 2014

This volume of nearly two dozen essays demonstrates the breadth and depth of Senior Scholar Jan Kregel's scholarship on the role of finance in development and growth. Drawn from his published work spanning a quarter century, the collection reflects his deep understanding of the nature of money and finance and of the institutions associated with them, and of the indissoluble relationship between these institutions and the real economy—whether in developed or developing economies. Many of the essays expand upon the late Distinguished Scholar Hyman P. Minsky's financial instability hypothesis (i.e., in capitalist economies, stability engenders instability). The volume also contains a number of Kregel's key works on financial instability, its causes and consequences, as well as his discussions of the global financial crisis and Great Recession.

The essays are organized along three major themes: theoretical discussions, finance for development, and the financial crises in the United States and European Union (EU). The first group of essays focuses on theoretical work in the areas of financial markets and economic development, capital flows in relation to the globalization of production and development financing, risks and implications of financial globalization for national policy autonomy, the creation of an international financial environment that ensures net resource transfers to developing countries, and the tensions inherent in financial regulation. The second group centers on development finance, and covers such topics as the differences between balance of payments crises and debt deflations; global financial liberalization and preserving the domestic policy space in developing areas such as Latin America; the role of derivatives and global capital flows in the Asian financial crisis; the Argentine crisis and the flaws in structural adjustment policy; and the Washington Consensus.

The third group of essays presents Kregel's analyses of the US and EU financial crises. The essays under this heading address topics such as the monetarist and post-Keynesian analyses of German monetary and economic unification; currency stabilization through full employment; the challenges the European Monetary Union faces in combining price stability with employment and income growth; Minsky's "cushions of safety," systemic risk, and the crisis in the subprime mortgage market; the failure of bailouts and the design of a new financial system; the need for financial regulatory reform following the 2007–08 financial crisis; lessons learned from the euro crisis; and Minsky's perspective on the limitations of the narrow banking proposal as a means to reform the financial sector.

This collection will be of interest to scholars and policymakers alike, as it offers a perspective on some of the most important developments of the late 20th and early 21st

centuries in the areas of money, finance, development, and the institutions that bind them.
www.levyinstitute.org/publications/economic-development-and-financial-instability-selected-essays

Contributions to Economic Theory, Policy, Development and Finance: Essays in Honor of Jan A. Kregel

Edited by Dimitri B. Papadimitriou
Palgrave Macmillan, December 2014

This collection of 16 essays brings together distinguished scholars who have been influenced by Senior Scholar Jan Kregel's contributions to the fields of economic theory and policy. The volume's contributors address topics analyzed in Kregel's published work, including monetary economic theory and policy; the Cambridge (UK and US) controversies; trade and development theory; lessons learned from the financial crises in East Asia, Latin America, and Europe; Minskyan-Kregel theories of financial instability; and global governance. The collection aims to clarify ongoing theoretical and policy debates and, ultimately, to understand the causes of high unemployment, identify the factors that determine economic expansion, and analyze the impact of financial crises on systemic stability, markets, institutions, and international regulations on domestic and global economic performance.

Essays focusing on economic theory include a contribution by Research Associate Mathew Forstater on political economy; post-Keynesian, post-Sraffian economics by Alessandro Roncaglia and Mario Tonveronachi, Senior Scholar L. Randall Wray's discussion of Kregel's contributions to our understanding of money in *The General Theory*; and an essay on the financial analysis of monetary systems by Research Associate Éric Tymoigne. The section on employment policy opens with an essay by Research Associate Pavlina R. Tcherneva on full employment, inflation, and income distribution in relation to alternative fiscal policies, and includes Jayati Ghosh's assessment of the rural employment guarantee in India. A selection of essays examining issues in economic development begins with a critical evaluation of development theory by Research Scholar Leonardo Burlamaqui and Rainer Kattel applying the perspectives of Joseph Schumpeter, Hyman P. Minsky, and Kregel. Luiz Carlos Bresser-Pereira's contribution centers on access to demand, and C. P. Chandrasekhar covers development finance in an era of financial liberalization. Juilo López-Gallardo presents his views on the last two stages of economic development in Mexico, and Mario Damill, Roberto Frenkel, and Martín Rapetti examine the vicissitudes of the Argentine economy.

The volume closes with a group of essays focusing on financial instability and crises. Stephany Griffith-Jones and José Antonio Ocampo discuss global governance and financial stability, Jomo Kwame Sundaram reviews lessons learned from the 1997–98 East Asian crises, and Erik S. Reinert compares the responses of Marriner Eccles in the 1930s with those of Mario Draghi in the 2010s. The final essay in the collection, by Fernando J. Cardim de Carvalho, addresses the theme of financial regulation and supervision; specifically, the prospects for Basel III given the results to-date of Basel II.
www.levyinstitute.org/publications/contributions-to-economic-theory-policy-development-and-finance-essays-in-honor-of-jan-a-kregel

Upcoming Events

24th Annual Hyman P. Minsky Conference

Is Financial Reregulation Holding Back Finance for the Global Recovery?
The National Press Club, Washington, D.C.
April 15–16, 2015

A conference organized by the Levy Economics Institute of Bard College with support from the Ford Foundation

Despite the appearance of greater stability in the US financial system since the 2008–09 global recession, the economic recovery remains sluggish, with a real unemployment rate above 11 percent and a widening income gap. In Europe, fiscal austerity has only worsened the prospects for recovery in many countries, with falling prices fueling concerns about deflation. Lower commodity prices and weak global trade continue to impact emerging market economies, many of which have seen their currencies fall to multiyear lows.

In this context of global uncertainty, the 2015 Minsky Conference will address both financial regulatory reform and the outlook for sustainable economic growth, drawing from

Minsky's work on financial instability and his proposal for achieving full employment. Panels will focus on the design, flaws, and current status of the Dodd-Frank Wall Street Reform Act, including implementation of the operating procedures necessary to curtail systemic risk and prevent future crises; the insistence on fiscal austerity exemplified by the recent pronouncements of the new Congress; the sustainability of the US economic recovery; monetary policy revisions and central bank independence; the deflationary pressures associated with the ongoing eurozone debt crisis and their implications for the global economy; strategies for promoting an inclusive economy and a more equitable income distribution; and regulatory challenges for emerging market economies.

Invited speakers include Senator Elizabeth Warren (D-MA); Representative Maxine Waters (D-CA, 43); James Bullard, president and CEO, Federal Reserve Bank of St. Louis; Vítor Constâncio, vice president, European Central Bank (ECB); FDIC Vice Chairman Thomas M. Hoenig; US Treasury Under Secretary for International Affairs D. Nathan Sheets; Patricia Mosser, deputy director, Research and Analysis Center, Office of Financial Research, US Department of the Treasury; Paul McCulley, former chief economist, PIMCO; Bruce C. N. Greenwald, Robert Heilbrunn Professor of Finance and Asset Management, Columbia University; Lakshman Achuthan; cofounder and chief operations officer, Economic Cycle Research Institute; Paul Tucker, senior fellow, Harvard Business School; Gillian Tett, US managing editor, *Financial Times*; and Pedro Nicolaci da Costa, Federal Reserve and economics reporter, *The Wall Street Journal*.

For program and registration information, visit our website, www.levyinstitute.org.

The Hyman P. Minsky Summer Seminar

Blithewood, Annandale-on-Hudson, N.Y.
June 12–20, 2015

The Levy Institute's sixth annual Hyman P. Minsky Summer Seminar will be held on the Bard College campus in June 2015. The Summer Seminar provides a rigorous discussion of both theoretical and applied aspects of Minsky's economics, and is geared toward recent graduates, graduate students, and those at the beginning of their academic or professional careers. For more information, visit our website. (Registration is now closed.)

PUBLICATIONS AND PRESENTATIONS

Publications and Presentations by Levy Institute Scholars

GREG HANNSGEN *Research Scholar*
Publication: "Credit Divisor," in L.-P. Rochon and S. Rossi, eds., *The Encyclopedia of Central Banking*, Edward Elgar, 2015.
Presentation: "Inside Money in a Kaldor-Kalecki-Steindl Fiscal-policy Model: Proposed Roles for the Unit of Account, Inflation, Leverage, and Financial Fragility" (with T. Young-Taft), Eastern Economic Association 41st Annual Conference, New York City, February 26 – March 1, 2015.

THOMAS MASTERSON *Research Scholar and Director of Applied Micromodeling*
Presentation: "The Great Recession and Racial Inequality: Evidence from Measures of Economic Well-Being," Allied Social Sciences Association Conference, Boston, January 3–5, 2015.

MICHALIS NIKIFOROS *Research Scholar*
Publication: "On the 'Utilization Controversy': A Theoretical and Empirical Discussion of the Kaleckian Model of Growth and Distribution," *Cambridge Journal of Economics*, January 22, 2015, doi:10.1093/cje/beu076.

DIMITRI B. PAPADIMITRIOU *President*

Publications: "Hello 2015. Goodbye Austerity?," *The Huffington Post*, January 8, 2015; "The Problem of Greek Debt" (with M. Nikiforos and G. Zezza), *Capital.gr*, March 7; "The Restructuring of Public Debt" (with M. Nikiforos), *Kathimerini*, March 8; "Greek Debt: Do the Right Thing," *The Huffington Post*, March 18.

Presentations: "Could Greece Be Europe's Lehman Brothers?," interview with Kathleen Hays, Bloomberg Radio, January 5, 2015; "Markets Tank with Greece Poised to Leave the Euro," interview with Ian Masters, *Background Briefing*, January 5; interview regarding the Greek elections with Kathleen Hays, Bloomberg Radio, January 22; interview regarding the prospects for the Greek economy and the ongoing negotiations with the EU with Alex Katsomitros, *CT Financial News*, February 10; interview regarding the revival of Interconnector Greece-Italy portion of the ITGI or push for the Interconnector Greece Bulgaria (IGB) with Sebastião Martins, Gas Strategies, February 13; interview regarding the situation after the elections in Greece with Marta Mladenova, Bulgarian National Radio, February 13; interview regarding the political and economic issues in Greece with Geddy Sveikauskas, Ulster Publishing, February 17; interview regarding the approval of Greece's reform package and the four-month extension of the bailout agreement with its eurozone partners with Kathleen Hays and Vonnie Quinn, Bloomberg Radio, February 24; lecture, "Prospects and Policies for Greece after SYRIZA," Mount Holyoke College, March 10.

GENNARO ZEZZA *Research Scholar*

Publication: "Euroexit e salari" (Euroexit and Wages), *Economia e Politica*, March 2, 2015.

Presentations: "Stock-flow-consistent circuits?," presented at "A Day in Honour of Augusto Graziani," Université Paris–Sud, January 20, 2015; interview regarding the state of the euro regime with Cesare Sacchetti, *L'antidiplomatico*, January 19; interview regarding Greece's possible exit from the eurozone with Emiliano Brancaccio, *Il Mattino*, February 3; lecture, "A New Currency?," meeting on "The Euro. . . and the Alternative," Faculty of Economics, University of Palermo, February 21; interview regarding the possibility of a Grexit with Giacomo Russo Spena, *MicroMega*, February 27.

Recent Levy Institute Publications

STRATEGIC ANALYSIS

Is Greece Heading For a Recovery?
DIMITRI B. PAPADIMITRIOU, MICHALIS NIKIFOROS, and GENNARO ZEZZA
December 2014

Will Tourism Save Greece?
DIMITRI B. PAPADIMITRIOU, MICHALIS NIKIFOROS, and GENNARO ZEZZA
August 2014

Is Rising Inequality a Hindrance to the US Economic Recovery?
DIMITRI B. PAPADIMITRIOU, MICHALIS NIKIFOROS, GENNARO ZEZZA, and GREG HANNSGEN
April 2014

Prospects and Policies for the Greek Economy
DIMITRI B. PAPADIMITRIOU, MICHALIS NIKIFOROS, and GENNARO ZEZZA
February 2014

RESEARCH PROJECT REPORTS

The Measurement of Time and Income Poverty in Korea: The Levy Institute Measure of Time and Income Poverty
AJIT ZACHARIAS, THOMAS MASTERSON, and KIJONG KIM
August 2014

Co-operative Banking in Greece: A Proposal for Rural Reinvestment and Urban Entrepreneurship
DIMITRI B. PAPADIMITRIOU and TAUN TOAY
July 2014

Responding to the Unemployment Challenge: A Job Guarantee Proposal for Greece
RANIA ANTONOPOULOS, SOFIA ADAM, KIJONG KIM, THOMAS MASTERSON, and DIMITRI B. PAPADIMITRIOU
June 2014

Federal Reserve Bank Governance and Independence during Financial Crisis
L. RANDALL WRAY
April 2014

POLICY NOTES

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JAN KREGEL
2014/6

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JAN KREGEL
2014/5

A Decade of Flat Wages?
FERNANDO RIOS-AVILA and JULIE L. HOTCHKISS
2014/4

The Myth of the Greek Economic "Success Story"
C. J. POLYCHRONIOU
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Measuring the Impact of a Job Guarantee Policy for Greece
RANIA ANTONOPOULOS, SOFIA ADAM, KIJONG KIM, THOMAS MASTERSON, and DIMITRI B. PAPADIMITRIOU
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MARIO TONVERONACHI
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PAVLINA R. TCHERNEVA
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KIJONG KIM, THOMAS MASTERSON, and AJIT ZACHARIAS
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L. RANDALL WRAY
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WORKING PAPERS

Beyond Market Failures: The Market Creating and Shaping Roles of State Investment Banks
MARIANA MAZZUCATO and CAETANO C. R. PENNA
No. 831, January 2015

Quality of Match for Statistical Matches Using the Consumer Expenditure Survey 2011 and Annual Social Economic Supplement 2011
FERNANDO RIOS-AVILA
No. 830, January 2015

The Repeal of the Glass-Steagall Act and the Federal Reserve's Extraordinary Intervention during the Global Financial Crisis
YEVA NERSISYAN
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MARKUS P. A. SCHNEIDER and DANIELE TAVANI
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