Levy Economics Institute of Bard College

Summary

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LETTER FROM THE PRESIDENT

To our readers:

We are pleased to open this issue with two strategic analyses—one for the United States and one for Greece—under the State of the US and World Economies program. In our analysis of the medium-term outlook for the US economy, I and Research Scholars Michalis Nikiforos and Gennaro Zezza identify both internal and external risks that threaten economic growth in the years ahead. We argue that weak demand for US exports, fiscal conservatism, and income inequality constitute structural weaknesses in the economy. These risks are compounded by global conditions, mainly in the form of stagnation in the economies of the United States' trading partners, continued appreciation of the dollar, and the prospect of a contraction in asset prices. Turning to Greece, we report that Greece may see a modest return to growth in 2017 under current policies but these will do little to reduce the unemployment and poverty wrought by nearly a decade of austerity. We propose the creation of a complementary currency, which would respect Greece's current agreements, to fund a job creation program and move the economy toward sustainable growth. In a related policy note, I explore the prospects for a complementary currency in Greece in greater detail, drawing on Switzerland's successful use of a similar instrument as a means to bolster demand and promote financial stability.

Returning to the US economy, Jordan Brennan contributes a two-part e-pamphlet in which he traces some of the sources of economic stagnation and rising income inequality in the United States. He argues that trends in the concentration of corporate power, the decline of unions, and the use of anti-inflationary monetary policy explain much of the economic dysfunction we see today. Also writing on economic developments in the Americas, Senior Scholar Fernando J. Cardim de Carvalho examines the recent economic turmoil in Brazil. He suggests that public-private (foreign) investment in tandem with the continued devaluation of the real represents a path forward for Brazil, but cautions that future progress ultimately rests on resolving the country's political ills. The last publication under The State of the US and World Economies program is a working paper by Markus P. A. Schneider, Stephen Kinsella, and Antoine Godin on the heterogeneous impacts of austerity on the distribution of income in Europe. They find that the most severe instances of austerity led to greater income inequality, driven by lopsided increases at the top of the income distribution, higher incentives for rent seeking, and lower incentives for workers to improve productivity.

Three working papers are included under the Monetary Policy and Financial Structure program. Tanweer Akram discusses the persistently low global interest rates seen in recent years and the outlook for rates in the near term. Alberto Botta, Antoine Godin, and Marco Missaglia examine the contours and implications of a financial Dutch disease in the case of the Colombian economy, offering policy suggestions to promote long-term development in the real economy. Giuseppe Mastromatteo and Lorenzo Esposito review the elements of functional finance and suggest that it is a robust, pragmatic, and coherent framework for policymaking, often rebuffed in theory but embraced in practice.

In the first of two working papers under the Gender Equality and the Economy program, Bhavya Aggarwal and Research Associate Lekha S. Chakraborty offer a critical review of gender equality measurements currently in use by the United Nations Development Programme and propose alternative measures. Research Scholar Tamar Khitarishvili contributes an analysis of the trends in gender inequality in Central Asia, the South Caucasus, and the Western CIS, highlighting the commonalities and differences between the nations in this region.

Senior Scholar Joel Perlmann and Patrick Nevada contribute a policy note to the Immigration, Ethnicity, and Social Structure program in which they present their arguments for modest but important modifications to the US Census Bureau's anticipated changes to the race, ancestry, and ethnicity questions in the upcoming census. Their analysis is presented in greater detail in a working paper on ethno-racial origin in US federal statistics between 1980 and 2020.

Finally, under the Economic Policy for the 21st Century program, Miguel Carrión Álvarez and Dirk Ehnts investigate the use of graph theory in stock-flow consistent modeling, offering new tools to enhance our use of this valuable approach to modeling the macroeconomy.

As always, I look forward to your comments.

Dimitri B. Papadimitriou, *President*

Program: The State of the US and World Economies

Strategic Analysis

Destabilizing an Unstable Economy

DIMITRI B. PAPADIMITRIOU, MICHALIS NIKIFOROS, and GENNARO ZEZZA
Strategic Analysis, March 2016

Levy Institute President Dimitri B. Papadimitriou and Research Scholars Michalis Nikiforos and Gennaro Zezza present the latest analysis of the medium-term prospects for the US economy. Their analysis reveals that the economy remains fragile due to three persistent structural issues: weak demand for US exports, fiscal conservatism, and a four-decade trend in rising income inequality. It also faces risks from stagnation in the economies of the United States' trading partners, appreciation of the dollar, and a contraction in asset prices. The authors provide a baseline and three alternative scenarios using the Levy Institute's stock-flow consistent macro model: a dollar appreciation and reduced growth in US trading partners scenario, a stock market correction scenario, and a third scenario combining scenarios 1 and 2. Overall, the baseline scenario shows that future growth will depend on an increase in private sector indebtedness, while the remaining scenarios underscore the linkages between a fragile US recovery and instability in the global economy. The authors begin with a review of the current condition of the US economy.

The current US recovery has been slower than any other recovery in the postwar period, with real GDP (as of 2015Q4) only 11 percent higher than its precrisis peak in 2007Q4. Civilian employment is only 2.2 percent higher than its 2007 peak, while the ratio of civilian employment to the overall population is a mere 1 percent above its trough in 2009. This is equivalent to the employment-population ratio seen in April 1984. The global recovery remains tenuous, with downturns in Brazil and Russia, and a stock market crash in China. The US economy and its prospects for growth continue to be closely linked with the economies of these and other US trading partners.

Three entrenched structural weaknesses are at the core of US economic fragility. The first is weak demand for US exports, which is compounded by a rising dollar: in the past 18 months, the dollar has appreciated by more than 25 percent. The impact on the trade balance has been masked in recent years, as US net exports have been buoyed by the export of petroleum products and a simultaneous reduction in energy imports, but, the authors caution, the decline in global oil prices will put an end to this trend. During the 1980s and increasing in the 1990s, the US market was flooded with imports and saw its current account deficit rise. But for the relatively recent rise in petroleum exports, the US trade deficit today would stand at its precrisis peak of 6 percent of GDP. In addition, the slowdown in emerging markets, stagnation in the developed economies (notably Europe), and the appreciation of the dollar have created a structural external deficit that, if left uncorrected, will put the burden of growth on the accumulation of domestic deficits.

The second structural weakness hampering the US economy is the unprecedented degree of fiscal conservatism that has come to dominate Washington. The current recovery is the only one in the postwar period to have been accompanied by a net decrease in real government expenditures. Effectively implementing austerity during the worst recession since the Great Depression, and in the presence of declining exports, has left the entire burden of job creation on the private sector. As a result, we have seen an increase in the private sector debt-to-income ratio. This has been supported by rising asset prices and thus the "improved" balance sheets of debtors and creditors. The current recovery, the weakest in US postwar history, rests on the rise in asset prices. Clearly, any "correction" could have outsize consequences for the US economy as a whole.

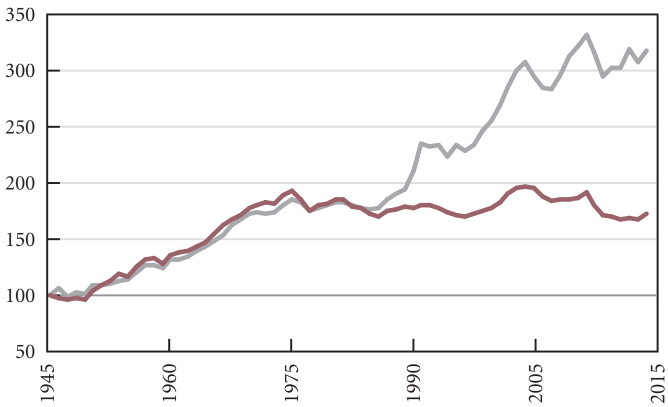
Income inequality is the third structural challenge facing the US economy. Income inequality, the authors report, has continued to erode the real incomes of the majority of US households throughout the recovery (Figure 1). In addition, the increase in the private sector debt-to-income ratio has fallen disproportionately on households at the bottom 90 percent of the income distribution. This has the dual effect of undermining economic stability and lowering aggregate demand, as households seek to deleverage rather than make new purchases. These internal structural issues will only be exacerbated by weaknesses in emerging and developed economies, and/or an end to the remarkable recovery in asset prices. The authors turn next to a survey of the recovery to date.

The last three US recoveries have been the shallowest in the postwar period, with the current recovery the weakest of these. In particular, the lack of a robust recovery in labor markets is masked by a low unemployment rate, which obscures the fact that employment growth in the recovery has been dominated by low-wage and low-productivity jobs. Breaking down GDP into its major components, the authors report that the recovery of consumption, the largest component of GDP, during the current recovery has been the weakest in the postwar period. This is largely a result of increased income inequality. Thus, the majority of consumers have less to spend and are focused on reducing their debt levels rather than on new consumption. Asset inflation in the 1980s and '90s supported consumption for a time by hiding the vulnerability of highly indebted households (and thus they continued to borrow and spend), and it made the balance sheets of financial institutions seem healthier (and thus sustained their willingness to lend). Turning to investment, the authors observe that the last three recoveries in investment have been on the low side of the postwar average, with real investment returning to its precrisis peak only in 2015Q1. Perhaps most remarkable is the historic decline of US government spending in the wake of the Great Recession (Figure 2). Today, real government expenditures stand 8 percent below 2009Q2, when the recovery began. This is not limited to federal spending: this is the only recovery in the postwar period where state and local government spending has also declined.

For US exports and imports, the remaining components of GDP, the authors report that while US exports trended upward in the early years of the recovery, these have subsided as a rising dollar and weakness in the economies of US trading partners took hold. Petroleum production concealed much of the larger story in US trade. In fact, the trade deficit in goods other than petroleum worsened during the recovery and now stands at record levels; in contrast, exports of services have contributed to positive developments in the trade position of the United States.

The authors close their review of the components of GDP with an observation about the recoveries of real estate and equities markets, which are now close to their historical peaks. They pose the question, Do the fundamentals of the US economy justify these levels? Further, the outlook for US trading

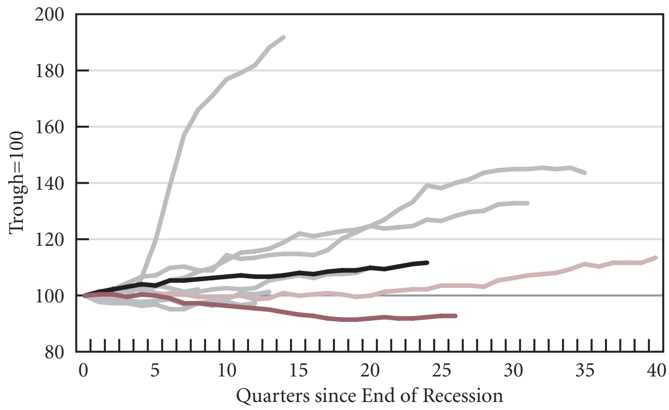
Figure 1 **Index of Real Average Income, 1945–2014 (1945=100)**



Top 10%
Bottom 90%

Source: Alvaredo et al. 2016

Figure 2 **Index of Real Government Expenditure in US Recoveries, 1949Q4–2015Q4**

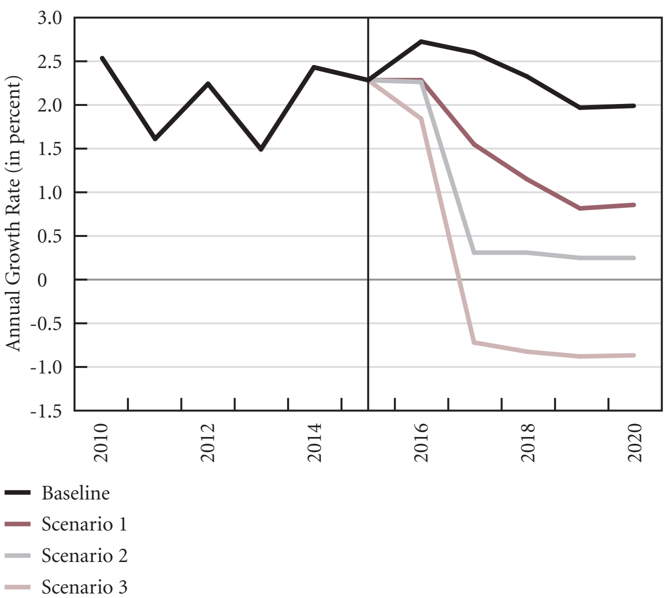


Earlier Recoveries
1991Q1–2001Q1
2001Q4–2007Q4
2009Q2–

Sources: BEA; NBER; authors' calculations partners (notably Canada, Mexico, and the eurozone,) remains weak in the near and medium term. China, representing 9 percent of US exports, is facing a transition in its economy, as well as high levels of private debt and dramatic decline in its stock market in recent months. Japan remains stagnant and has recently adopted negative rates.

The authors next present a baseline analysis using the Institute's stock-flow consistent macro model, followed by three scenarios for the medium term. The baseline scenario relies on the Congressional Budget Office's (CBO) most recent projections in *The Budget and Economic Outlook: 2016–2026.* The CBO estimates that US GDP will continue to fall, from 2.7 percent in 2016 to 2.5 percent in 2017 and to 2.0 percent by 2020. The baseline scenario reveals the changes necessary for the US economy to grow at the rate estimated by the CBO and for the US deficit to remain stable as a percent of GDP. The baseline results show that given the current state of the economy and the position of the United States' trading partners, future growth will have to be fueled by a rapid increase in private sector indebtedness. As unlikely as this may be, the authors caution, 2001 and 2008 should serve as potent reminders of how economic growth fueled by an increase in private sector debt will inexorably end.

Figure 3 **Real GDP Growth Rate, Actual and Projected, 2010–20**



Sources: BEA; authors' calculations

The first scenario employs the same assumptions as the baseline, with the additional assumptions that the US dollar will appreciate nominally by 20 percent between 2016 and 2020, and that the growth and inflation rates of US trading partners will be one percentage point lower than current International Monetary Fund projections. Compared to the baseline scenario, scenario 1 shows a reduction in growth (1.6 percent in 2017, decreasing to 0.85 percent by 2020); a significant negative impact on the current account deficit and a rise in the government deficit, leading ultimately to a higher private sector deficit; and, finally, a higher debt-to-income ratio, as the private sector is assumed to accumulate debt as in the baseline. Scenario 2 uses the same assumptions included in the baseline scenario but with a decline in the S&P 500 price index to 1450 by the end of 2016, remaining stable thereafter. It also assumes that a second round of deleveraging occurs. Under these two assumptions, the US economy would grow at a rate below 0.4 percent in 2017 and beyond (Figure 3). The current account balance would improve as compared to the baseline and the private sector balance would remain positive, but the government deficit would increase to 7.8 percent by 2020. The third scenario combines the changes in scenarios 1 and 2, circumstances that are not terribly farfetched. Based on these assumptions, the economy would see negative growth of -0.7 percent by 2017 and -0.9 percent by 2020. The current account deficit would increase slightly, in part because of reduced demand for imports. The private sector balances would also increase slightly, to 5.3 percent in 2020. Finally, the lack of growth would cause the government deficit to swell to 9.8 percent by the end of the simulation period.

The authors conclude with a call for policies to return the US economy to sustainable economic growth. Such policies must address income inequality, support international cooperation to rebalance the global economy and improve the US external position, and, finally, relax the fiscal stance of the government. The alternative is secular stagnation, or debt-driven growth ending in yet another financial crisis.

www.levyinstitute.org/pubs/sa_3_16.pdf

How Long Before Growth and Employment Are Restored in Greece?

DIMITRI B. PAPADIMITRIOU, MICHALIS NIKIFOROS, and GENNARO ZEZZA

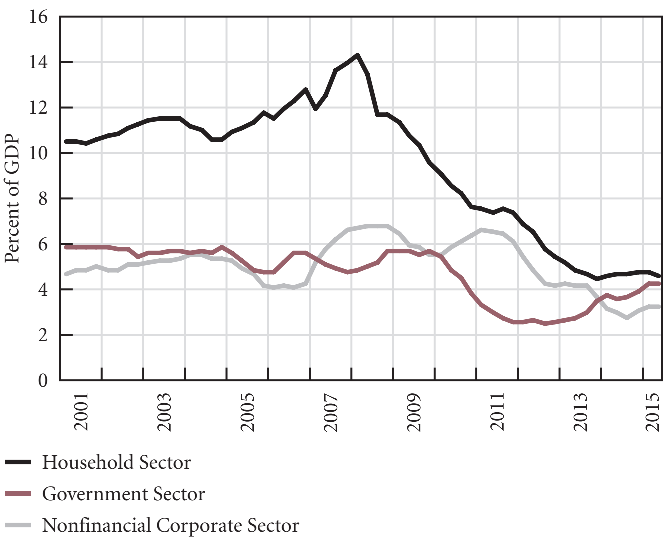
Strategic Analysis, January 2016

Levy President Dimitri B. Papadimitriou and Research Scholars Michalis Nikiforos and Gennaro Zezza offer an analysis of the medium-term prospects for the Greek economy—an economy still burdened by austerity and national debt nearly twice its annual GDP. The authors examine the near-term outlook for the Greek economy using the Levy Institute's stock-flow consistent macro model, following the likely trajectory of key macroeconomic indicators over the next three years. They find that under the current policy regime, as specified in the most recent Memorandum of Understanding (MoU), Greece can, at best, hope for the return of weak economic growth in late 2016, with little recovery in employment. Their analysis also includes a simulation of the impacts of a public investment program funded by European institutions, a strategy that yields insufficient growth in the medium term. Finally, they offer a revised proposal for fiscal stimulus, one that relies on the introduction of a complementary currency to fund a job creation program. Based on their analysis, this last simulation shows the most promise of delivering economic growth while meeting the primary surplus targets agreed to by the Greek government.

The authors observe that it is especially difficult to simulate the likely path of the Greek economy, particularly investment, as many of the major research centers have published contradictory projections, or their projections change from week to week. However, it is clear that residential investment, a driver of economic growth prior to 2007, has been falling for roughly the last eight years. Investment in "machinery and other construction" linked to manufacturing—not very large historically and therefore insufficient to offset the decline in residential investment. Comparing the investment trends in the three main sectors (Figure 1)—household, corporate, and government—they find that since 2011 overall private investment has been less than the depreciation of existing capital stock, which continues to fall in real terms. Furthermore, the outlook for housing prices remains weak, with an overall decline of 40 percent compared to precrisis levels.

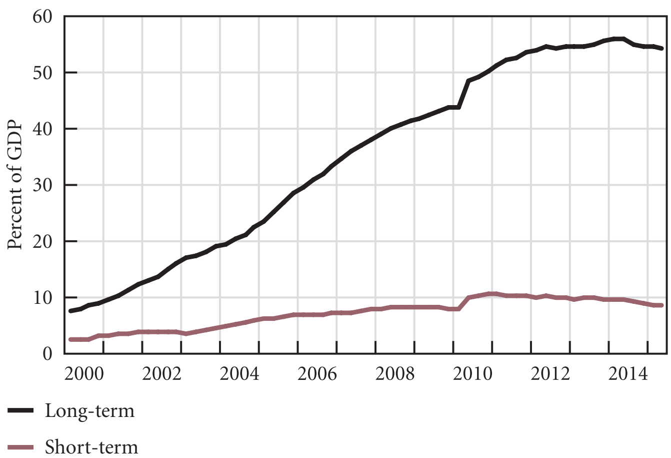
Examining other components of potential investment, the authors report on the sources of funds for the household sector, the nonfinancial sector, and the two sectors combined. They note an overall trend of a reduction in the funds for investment by households. The authors next employ a combined

Figure 1 Greece: Gross Fixed Capital Formation by Sector (Four-quarter Moving Averages)



Source: ElStat

Figure 2 Greece: Household Sector—Loans Outstanding



Sources: ElStat; Bank of Greece

measure using the household and nonfinancial sectors to examine private sector savings and investment, so as to overcome certain problems with nonfinancial accounting. This analysis shows that aggregate profits did not increase as a result of austerity, and the sources of funds for capital expenditures by the domestic private sector have been falling. Furthermore, borrowing, as measured by outstanding loans to the household and nonfinancial corporate sectors, is unlikely to increase, as households and businesses have less appetite for new borrowing, and banks are constrained in their ability to provide loans (Figure 2).

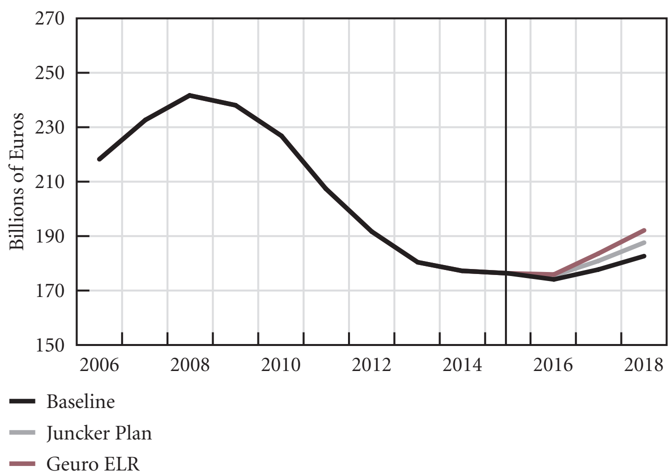
Turning to the effect of bank closures, late June 2015 represents the apogee of a period of uncertainty in Greece that was most visible in the flight of household deposits from Greek banks. The economic impact of the closures can be seen in declining imports and exports of services, little change in the export of goods, and a large drop in inventories. Overall, the reported statistics for GDP show little decline—a finding the authors expect to be revised downward when final GDP figures are published in 2016. They anticipate a decline in domestic demand on the order of €500 million, with an overall decline in national income of nearly €3 billion as a result of the bank closures.

Turning to the outlook for the Greek economy, the authors first review the elements of the latest MoU, which calls for reductions in government spending and increases in government revenues—the latest round of austerity. They first present a baseline simulation of the Greek economy between 2016 and 2018 using preliminary estimates for 2015Q3 and optimistic assumptions regarding GDP, external funding, and so on. The baseline also assumes that the bulk of the new austerity measures will take effect in 2016, with no additional expenditure cuts or tax increases implemented thereafter. The results of the baseline scenario show a modest economic recovery, largely led by the export of goods and services, beginning in 2017. This scenario relies in large part on the International Monetary Fund's optimistic expectations for the growth of real income among Greece's trading partners and the receipt of capital transfers from abroad. The authors warn that an export-led recovery will therefore be a fragile one, and will not generate sufficient growth or employment within a reasonable period of time. GDP will remain below its 2006 level until 2030 if Greece achieves and maintains a growth rate of 2.1 percent from 2017 onward. It is therefore necessary to find additional means to stimulate economic growth and employment.

The first alternative is termed the Juncker Plan and assumes an annual increase in investment from European institutions (Figure 3). Under this scenario, Greece would undertake an investment plan of €1 billion beginning in 2016, followed by €2 billion and €3 billion in 2017 and 2018, respectively. Greece would see the pace of its economic recovery improve as a result of this initiative, but still not enough to create growth in 2016. The impact of the plan increases in 2017 and 2018 as the level of stimulus grows. However, the plan has little effect on employment growth as job creation is not an explicit goal.

The third scenario assumes that Greece creates a nonconvertible fiscal currency in the form of the Geuro, similar in many respects to the complementary currency adopted by the Swiss in 1934 to offset restrictive fiscal policy. The primary purpose of the Geuro would be the implementation of an employer-of-last-resort (ELR) program to create 550,000 jobs, at an annual cost of €7.5 billion. The authors propose to pay workers equally in euros and Geuros, implying an additional €3.75 billion cost for the program. This amount would be secured by paying public sector employees 20 percent of their wages and 10 percent of pension and related payments in Geuros. The combination of these measures would reduce net government payments by approximately €4 billion, while the

Figure 3 **Greece: GDP under Alternative Scenarios, Actual and Projected**



Source: Authors' calculations

emission of 11.5 billion Geuros would remain well below the expected demand (14 billion Geuros) for tax payments. The net effect of this proposal would be to increase incomes and therefore tax revenues. The authors note that the ELR program could be scaled down and still have a significant impact.

Importantly, the Geuro proposal would not interfere with the primary surplus targets or lead to a deficit in the current account. It is possible that the introduction of the Geuro would have less of an impact on imports compared to an equal stimulus using only euros. However, the authors observe, their simulation makes no adjustment for this possibility and may therefore underestimate the benefits of their proposal. If this simulation proves too conservative, a larger job creation program could be put in place, provided the flow of net new liquidity does not grow faster than the additional output generated domestically by the stimulus.

On balance, the authors conclude that austerity alone has not generated the growth Greece requires to end the social and economic damage seen in recent years. The best hope for the Greek economy is to seek innovative policy measures to meet its obligations as a member of the euro and foster the growth and employment that will ensure a sustainable future for the country.

www.levyinstitute.org/pubs/sa_gr_1_16.pdf

Complementary Currencies and Economic Stability

DIMITRI B. PAPADIMITRIOU

Policy Note 2016/1, January 2016

Levy President Dimitri B. Papadimitriou discusses the benefits of creating a complementary currency for Greece, following the example of Switzerland's over 80-year success with the WIR (from *Wirtschaftsring*, meaning "economic circle"). He notes that the WIR was created during a similar period of scarce liquidity and weak growth following the Great Depression. As he and other Levy scholars have reported, during the past decade the Greek economy has seen economic and social losses that are proportionately larger and of greater duration than those experienced by the United States during the Great Depression. The latest Memorandum of Understanding (MoU) will do little to reverse this trend. Papadimitriou observes that in order to meet the conditions of the MoU Greece's 2016 budget must again cut pensions and public expenditures, increase taxes, and engage in privatizing more public enterprises. There will also be an effort, co-funded by European Union programs, to foster growth through investment incentives, job training, and the like. This is largely a continuation of the strategies of recent years—policies that have not returned Greece to economic growth.

While the idea of a parallel financial system is not new, public debate was quashed by misrepresentations made in some quarters that such a system would be a precursor to a euro exit. These fears have temporarily prevented public discussion of such a plan at a time when Greece is in dire need of new tools to revive its economy.

The WIR, Papadimitriou explains, is the oldest and most significant complementary currency in use today. The Swiss National Bank does not advertise its use, as commercial and other banks oppose it. However, 16 percent of Swiss companies use WIR-denominated currency. The system consists of a private exchange network and clearinghouse, supported by a cooperative bank that provides banking services for transactions in WIR. All transactions, such as commercial loans, must be settled in WIR, and thus borrowers must continue to use WIR to sell some portion of their goods and services—which in turn creates demand for WIR within the system. Importantly, WIR are not convertible to Swiss francs, nor can they be sold at a discount. The WIR can only be spent within the system, which serves to maintain confidence in, and therefore the value of, the currency. Participants in the system consist of registered and unregistered companies; the former receive transactions in a combination of WIR- and franc-denominated currency while the latter use WIR on an ad hoc basis. All taxes incurred on transactions are paid in francs. Finally, each participant in the system maintains two accounts in the WIR Cooperative Bank—one in WIR and one in francs—with one WIR equal to one Swiss franc, but WIR cannot be converted to francs upon leaving the system.

The 80-year history of the WIR system has shown it to be a valuable countercyclical tool and a potent means for increasing and sustaining aggregate demand. In particular, small- and medium-size businesses, which are more vulnerable to economic downturns, benefit from the added source of credit and liquidity provided by the WIR. The use of WIR-type credit, the author notes, unlike the procyclical tendencies of monetary policy, has a countercyclical effect. These qualities alone recommend the creation of a similar system in Greece.

Properly designed, Papadimitriou argues, the liquidity flow of a Greek complementary currency would not grow faster than additional output, and thus would tame any inflation pressure. It would protect euro balances for imports and support achieving the required primary surpluses denominated in euros. Following the WIR system, Greece could create an electronic, nonconvertible currency that would not compete with the euro or violate the terms of the Maastricht Treaty. A complementary currency used as a domestic "fiscal currency" would also fall outside the purview of the European Central Bank. To avoid partisan uses of the complementary currency, its administration would be under an independent bank responsible to the Greek Parliament. Several strategic analyses of the Greek economy, he concludes, have demonstrated the potential of a complementary currency in tandem with a public job creation program to restore purchasing power, reduce unemployment, and put Greece on a path to sustainable economic growth sooner rather than later.
www.levyinstitute.org/pubs/pn_16_1.pdf

Rising Corporate Concentration, Declining Trade Union Power, and the Growing Income Gap: American Prosperity in Historical Perspective

JORDAN BRENNAN
e-pamphlet, February 2016

Jordan Brennan, Unifor and the Canadian Centre for Policy Alternatives, examines the rise of income inequality and the deceleration of economic growth in the United States. The first section of this two-part analysis examines the consolidation of corporate power between 1895 and 2013, and finds that mergers and acquisitions, declines in fixed asset investment, and the rise of practices such as stock buybacks have shifted investment away from the real economy, leading to weak economic growth and rising income inequality. The second part of the analysis examines the interplay of labor unions, inflation, and income inequality. The author observes that the decline of unions as a countervailing force to corporate power and anti-inflationary monetary policy has shifted income away from middle- and lower-income groups. Similarly, he observes that over the past century inflation has tended to redistribute income from capital to labor—from the upper to the lower income strata. In this context, anti-inflation policy can arguably be seen as a use of state power to effect a regressive redistribution of income.

Brennan notes that the rise in income inequality and the concurrent deceleration of GDP growth are two of the most perplexing and challenging problems facing the United States. Comparing 1935–80 with 1980–2013—the Keynesian-inspired welfare regime and the era of neoliberal globalization that followed—the average annual rate of GDP growth was more than halved and income inequality went from a postwar low in 1976 to a postwar high in 2012. The author argues that the conventional explanations of secular stagnation and elevated inequality are simply inadequate, largely because mainstream ("neoclassical") economics denies that the consolidation and exercise of institutional power affect the operation of markets and firms. This analytical flaw ignores key elements, and leaves researchers, policymakers, and the public at large blind to the full range of the economic forces at work.

Using analytical tools from early American institutionalism and Post Keynesianism, Brennan finds institutional power and distributive conflict help to explain the shifting patterns of American economic growth and income inequality. He presents new estimates of US merger activity (1895–2013), corporate concentration (1950–2013), and the earnings margins and fixed asset investment of the 100 largest American-listed firms (1950–2013). "Institutional power," the author explains, takes two forms: corporate power, which is a commodified form of power, and trade union, or "countervailing," power. "Corporate power" may be defined as large firms operating in oligopolistic market structures, while "trade union power" is the capacity of workers to act in concert through a labor union. His key finding is that the commodified power of large firms depresses economic growth and exacerbates income inequality, while the countervailing power of organized labor mitigates inequality and produces inflationary pressure.

The author first investigates the commodified power of large firms and finds that mergers and acquisitions (M&A) lead to the centralization of corporate ownership, as seen in asset concentration. Nineteen ninety to 2013 was the most sustained period of merger activity in American corporate history; as a result, asset concentration more than doubled, rising from 9 percent to 21 percent. There are roughly 5.7 million registered corporations in the United States, but the 100 largest firms account for one-fifth of total assets, which is a very high degree of concentration. Increased concentration is also shown to reduce competitive pressure, increase profits, and inflate the income share of large firms.

Because investment in fixed assets is a key driver of GDP growth, the diversion of corporate resources away from industrial expansion in favor of M&A reduces growth and leaves more corporate income in the hands of large firms (and their shareholders). With the rise of stock options in the 1980s, executives were given an additional incentive to divert income into share price–inflating stock repurchases, increasing the earnings of executives and contributing to yawning income inequality.

In the years between 1950 and the 1970s, he explains, investment by the 100 largest firms more than doubled, rising from 6 percent to 13 percent of revenue, only to trend downward in the decades after 1980. This suggests that large firms may be leading the stagnation tendencies of recent times through fixed asset underinvestment. Stock repurchases were nearly nonexistent in the 1970s but grew in significance in each subsequent decade, rising from less than 1 percent of revenue in the 1970s to 7 percent in 2007. Another first in American corporate history was seen in 2005, when the 100 largest firms spent more money in stock buybacks (inflating their stock price) than on fixed asset investment (replenishing their industrial base). Large firms have been on a buying spree in recent decades, plowing enormous resources into acquisitions rather than investing in the real economy.

The second part of Brennan's analysis documents the interplay between the countervailing power of organized labor, inflation, and income inequality from the late 19th century up to the present day. Mainstream economics insists that "market forces" distribute income according to productivity. However, the author points out that this assertion is rooted in some deeply problematic assumptions. Historically, unions played a crucial role in guarding and growing the labor share of income, and in so doing reduced income inequality, sustained aggregate demand, and promoted economic stability.

The growth of American labor unions and their willingness to strike, especially from the 1930s to the 1970s, helped create an inclusive prosperity, or "middle class." The erosion of unions since the mid-1950s and the deunionization of the American workforce since the 1970s have coincided with wage stagnation, negative trends in the national wage bill, and heightened income inequality.

Turning to inflation, Brennan observes that Post Keynesian theory views inflation as the product of the excessive claims made by different groups over national income. It is in this context that inflation may validly be understood as a power process insofar as it is a manifestation of social conflict and closely associated with the redistribution of income between different income groups. Over the past century, US inflation has tended to redistribute income from capital to labor and from the upper to the lower strata of the personal income hierarchy. If this set of claims is true, then anti-inflationary monetary policy must not only be understood as a political phenomenon; it must also be viewed as the use of state power to regressively redistribute income. In broad strokes, the economic history of the United States follows an arc beginning with the financial turmoil of the early 20th century—an unprecedented period of economic growth and social mobility—only to be undone with neoliberal policies that concentrate wealth and foment instability, economic and otherwise.

www.levyinstitute.org/pubs/e_pamphlet_1.pdf

Looking Into the Abyss? Brazil at the Mid-2010s

FERNANDO J. CARDIM DE CARVALHO

Working Paper No. 860, February 2016

Senior Scholar Fernando J. Cardim de Carvalho analyzes the debate surrounding the causes of the slowing Brazilian economy and the rise in inflation. On one side of the debate, some argue that the current economy is a result of past policy missteps, while on the other, some argue that the austerity policies implemented in 2015 are to blame. Cardim de Carvalho argues that the depth of the decline has its roots in events prior to the collapse of the Brazilian government in 2015, but that political paralysis remains an obstacle blocking the creation of a policy strategy going forward. He begins his analysis with a brief survey of recent economic trends in Brazil.

The author observes that Brazil's real GDP contracted by an estimated 3.5 percent in 2015, and the International Monetary Fund projects that the economy will shrink by an equal amount in 2016. Inflation stood at nearly 11 percent in

2015, and the Brazilian real lost half of its value against the dollar during the same period. Fiscal space is contracting, with fiscal deficits currently exceeding 10 percent of GDP and the debt-to-GDP ratio in excess of 66 percent. Furthermore, unemployment is expected to rise, and the solvency of large firms in the year ahead is a growing concern.

The acceleration in inflation, the author explains, is the result of supply shocks, utility price adjustments, and internal mechanisms. The supply shocks initially came in the form of weather events and exchange rate instability. Policy mistakes, notably manipulating utility prices (not only energy prices), led to both producer solvency problems and missed demand adjustments. The energy sector saw the largest price manipulation, with petroleum firms (notably Petrobas) and electric utilities requiring government subsidies as they incurred losses. By 2014, these policies could no longer be sustained and were reversed, leading to general price increases.

Cardim de Carvalho also calls attention to “inertial” factors, such as indexation mechanisms that translate short-term inflationary shocks into permanent changes in incomes and contracts, setting a new floor and adding to inflationary pressures both in specific sectors and more widely. The minimum wage is also indexed to inflation, but the impacts of this policy are contested and difficult to alter under a government headed by a workers’ party. Given these constraints, supporters of anti-inflation policies might turn their attention to the services sector, parts of which are highly income-elastic. In addition, the exercise of monetary policy itself has been hampered by the political crisis, thus complicating the possibility of managing inflation expectations.

The author observes that the causes of the sharp decline in Brazil’s GDP in 2015 go beyond the austerity policies announced that same year. Economic stagnation had set in as early as 2011–12. The high growth rates seen in 2010 were an aberration, as is evident in the poor performance of Brazil’s manufacturing sector. Investment followed a pattern similar to output and has been on a downward trend since 2013. Private consumption saw a less dramatic decline, while government consumption has been mixed. Finally, net exports languished following the 2008 crisis and only returned to positive territory when the Brazilian recession reduced imports, not unlike what was seen in Spain and Portugal. Thus, despite the expansionary policies of the government, Brazil’s economy was quite fragile well before austerity was imposed. However, austerity policies certainly had an impact, initially in the form of an “announcement effect” and then due to the general uncertainty as to what steps would be taken by the government. The economy was also undermined both directly and indirectly by corruption scandals, the prospect of impeachment proceedings against the president, reversals in policy, and manipulation of the nation’s fiscal accounting—resulting, ultimately, in an inability to govern. Today, the prospects for an expansionary fiscal contraction remain dim at best.

Assuming the political crisis can be resolved, Cardim de Carvalho suggests that Brazil must ensure that the devaluation of the real is maintained at roughly its current level. Domestic policy will remain focused on austerity for lack of any other politically viable alternative. As the domestic private sector is unwilling to take on debt, it falls to government and foreign investors to revive aggregate demand. The government might be faced with shifting its expenditures to finance such investments, which, the author observes, returns us to the question of politics. And for this problem, the author concludes, we may well have to wait for the elections in 2018.

www.levyinstitute.org/pubs/wp_860.pdf

Redistribution in the Age of Austerity: Evidence from Europe, 2006–13

MARKUS P. A. SCHNEIDER, STEPHEN KINSELLA, and ANTOINE GODIN

Working Paper No. 856, December 2015

Markus P. A. Schneider, University of Denver, Stephen Kinsella, University of Limerick, and Antoine Godin, Kingston University, examine changes in the public sector fiscal position of European countries and inequality at the top and bottom of Europe’s income distribution between 2006 and 2013. Their analysis relies on a parametric Lorenz curve model and Gini-like indices to evaluate distributional changes during this period. They find that the more severe instances of austerity, as measured by changes in a country’s primary balance, are associated with growing income inequality driven by gains for the top income groups. They also find weak evidence of reduced income inequality at the bottom of the distribution. On balance, the authors conclude that the regressive policies associated with austerity provide incentives for increased rent seeking while simultaneously reducing incentives for workers to increase productivity.

The authors' analysis relies on data drawn from the European Union's (EU) Statistics on Income and Living Conditions and data on 12 countries (Austria, Belgium, France, Germany, Greece, Italy, Ireland, Luxembourg, Netherlands, Portugal, Spain, and the United Kingdom) from the International Monetary Fund. Schneider, Kinsella, and Godin note that austerity policies were often promoted on the false basis that public spending, rather than financial markets, was to blame for the crisis. However, the neoliberal argument that budget cuts would lead to growth was followed to varying degrees. For example, France and Germany resisted aggressive austerity policies, while other, smaller countries were forced to implement much harsher measures. Yet the effects of these policy choices have received relatively little systematic analysis.

The authors investigate the differences in the impact of austerity across EU countries using two Gini-like indices that separate the top and bottom of the distribution, allowing them to identify what part of a country's income distribution bore the brunt of austerity. Their methodology is based on a parametric Lorenz curve model presented in an earlier Levy Institute publication (Working Paper No. 826, *Tale of Two Ginis in the United State 1921–2012*). The authors' stated expectation is that increased fiscal consolidation will drive increasing inequality, benefiting top income groups.

Schneider, Kinsella, and Godin report a statistically significant and robust association between positive changes in the cyclically adjusted primary balance and an increase in inequality. Their regression results indicate a positive association between deficit reduction and inequality, driven by increases in inequality at the top of the income distribution. The sole exception to these results is Greece, which might be seen as an outlier in terms of the scale of its adjustment. They further find that changes in inequality at the bottom of the distribution reflect business cycle effects, but that there is weak evidence of fiscal consolidation reducing inequality at the bottom of the distribution. The authors suggest that austerity may itself have incentive-reducing impacts for the bottom income groups, or, at a minimum, reduce incentives to increase productivity for the vast majority of the population.

The authors next contrast the Lorenz and generalized Lorenz (i.e., scaled to real GDP per capita) curves for Ireland and Greece. They also observe that when changes in the income distribution of a country result in an entirely new Lorenz curve that falls below the previous one, it implies a net loss of social welfare, assuming the mean income remains the same. They find that the generalized Lorenz curve for Ireland in 2012 is largely above that for 2009, and that the gains from GDP growth more than offset the welfare losses due to rising inequality. This is not to suggest that rising inequality is the price of growth or that austerity is the only means by which growth can be achieved. In the case of Greece, both the Lorenz curve and the generalized Lorenz curve for 2012 fall below those for 2009, driven by income losses for the bottom 70 percent of the Greek population. This was compounded by the collapse of the Greek economy, leaving the population worse off in 2012 than in 2009 because of economic contraction and increased inequality resulting from redistributive public policies.

The authors conclude that austerity measures (e.g., "freeing" markets, cutting expenditures, etc.) redistributed income from lower income groups to the top income groups. Far from creating greater efficiency, the neoliberal prescription has delivered greater inequality in many cases and has performed poorly even when judged by the criteria of the supporters of these same policies.

www.levyinstitute.org/pubs/wp_856.pdf

Program: Monetary Policy and Financial Structure

The Malady of Low Global Interest Rates

TANWEER AKRAM

Working Paper No. 852, October 2015

Tanweer Akram, Voya Investment Management, discusses the phenomenon of low interest rates, its implications for the global economy, and measures to boost global growth rates. Writing in the fall of 2015 when the prospect of interest rate increases by the Federal Reserve and the Bank of England gave rise to widespread speculation about the potential impact of such changes, Akram argues that interest rates are likely to remain low globally through mid-2016 due to a combination of domestic and international factors, even if some central banks adopt a tighter monetary policy during this same period. The author notes that central bank policies of quantitative easing and low interest rates have supported the payment and financial systems (and thus promoted higher net worth of high income households), but that these policies have done little to spur growth. The anticipated "wealth effect" of such policies failed to materialize. The problem of low interest rates will persist, Akram observes, unless governments undertake pro-growth fiscal policies targeting job growth. The way to drive up inflation and interest rates, he argues, is through increased effective demand, higher wages, and increased disposable income.

The author recalls that central banks in the United States, the United Kingdom, Canada, and Japan, as well as the European Central Bank (ECB), have all implemented low interest rates to varying degrees since the global financial crisis (with the ECB more mixed in its actions). John Maynard Keynes argued that interest rates are determined by human psychology, social conventions, and liquidity preference, with investors using short-term rates as a guide to long-term rates. Akram suggests that, given the short-term rates implemented by major economies, today's long-term rates comport with Keynes's conjectures.

Standard economic theory holds that interest rates should generally be positive. Until recently, most economists held that zero would be the lower bound for interest rates, but several central banks have introduced negative deposit rates. Holding cash would seem to be irrational under such conditions, but if, for example, deflation is anticipated, nominal negative yields could in practice produce positive real yields. Furthermore, Akram suggests, the current environment of low inflationary pressure, with scant indication of inflation increasing in the near term, appears to be unanchored on the downside. Global import prices remain low, core inflation remains low in most economies, nominal wage growth continues to be weak in the United States, and low unit labor costs have tamed inflation. The actions of central banks, the author argues, have done little to reverse these trends.

In addition, central bank balance sheets have become bloated with the asset purchases and other measures taken to provide liquidity and support financial institutions. Both the Fed and the ECB have engaged in such actions, and while the Fed's balance sheet has stabilized, the ECB expanded its balance sheet further starting in 2014. The balance sheets of major central banks are, in Akram's view, likely to remain elevated for the foreseeable future, and will only serve to put downward pressure on long-term interest rates.

The global economy, as measured by industrial production, remains subdued and appears to be slowing as compared to 2014. In both advanced and emerging economies industrial production has been weak compared to historical trends. For example, trends in key emerging markets show that industrial production has declined in Brazil and Russia and slowed in China. India continues to show some growth but remains a small share of global industrial production. One effect of this slowdown is reduced global trade flows, as seen in Asian exports and intra-Asian trade. Again, the author sees no relief from low rates from this quarter. Furthermore, the demand for safe assets, such as government bonds, is robust, and is expected to remain so for sovereign currency debt, driving up prices and lowering long-term interest rates, especially when equities display volatility.

Overall, the bias in the global economy remains on the downside, and interest rates are likely to remain low longer than currently expected. Clearly, low rates and accommodative monetary policy have not been enough to reinvigorate the global economy, and fiscal austerity has been at best counterproductive to restoring growth. Akram argues that fiscal policy must be reoriented to a pro-growth agenda, with employment creation its first priority. Large scale, properly managed employment programs would increase effective demand, and in doing so promote macroeconomic stability. Protracted periods of low interest rates, he warns, can lead to a vicious cycle of low inflation and declining effective demand. Low rates have failed to deliver the investment growth promised. It is time, the author concludes, for bold pro-growth, pro-employment fiscal policy to turn the tide.

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Finance, Foreign Direct Investment, and Dutch Disease: The Case of Colombia

ALBERTO BOTTA, ANTOINE GODIN, and MARCO MISSAGLIA
Working Paper No. 853, November 2015

Alberto Botta, Mediterranean University of Reggio Calabria and University of Pavia, Antoine Godin, University of Limerick, and Marco Missaglia, FLACSO (Latin American Social Sciences Institute) Ecuador, examine recent developments in Colombia, an economy that has seen the emergence of Dutch disease due to the rapid expansion of its petroleum sector and a decline in its manufacturing sector. The authors begin with a brief survey of the Colombian economy, emphasizing recent macroeconomic trends in its financial balances. They next discuss the risks associated with the pattern observed and offer a scenario analysis to better understand the implications of recent trends for the economy's future. The paper concludes with policy recommendations to reduce these risks and support balanced growth in the Colombian economy.

The authors note that while Colombia's domestic economy suffered as a result of the global financial crisis, it had been struggling under free trade and liberalization policies since the 1980s. The economy also saw a flood of foreign direct investment (FDI) after 2004, when the country opened its domestic oil resources to exploitation by foreign companies. A steady appreciation of the Colombian peso followed, with real exchange rate appreciation of 6.6 percent year over year since 2003. This increase in the value of the peso, the authors explain, occurred during a period of comparatively low inflation in Colombia, and stems from nominal appreciation rather than from inflationary pressures, or from trade or current account surpluses.

In order to better understand the appreciation of Colombia's currency, the authors turn to an analysis of the country's balance of payments. They observe that the capital account surplus more than compensated for the current account deficit in the period 2002–13, suggesting that the origin of Colombia's Dutch disease was in the financial sphere. Since 2005, FDI has largely remained above 3 percent of GDP, with a peak of 7 percent in 2010. The authors note that a self-reinforcing process of FDI flows, portfolio investment, and exchange rate appreciation appears to underlie the evolution of the Colombian external account. They next discuss the implications of this process for Colombia's current account, noting a striking dependence on imports of manufactured goods, which now stand at nearly 10 percent of GDP. In contrast, the trade account deficit has not exceeded 2 percent of GDP, nearing balance in the last four years due to high primary commodity prices. In addition, FDI inflows between 2009 and 2012 were exceeded by profits leaving Colombia. The authors suggest that changes in the country's productive base combined with external imbalances pose risks for both its long-range growth potential and its financial stability.

Turning to the question of the financial sustainability of Colombia's recent development pattern, the authors offer a scenario analysis, computing the changes in the financial balances necessary to meet government expectations for the economy and examining potential dynamics in Colombia's balance of payments. They report that oil and related products represent over 50 percent of Colombian exports—exports that are needed to pay for a large and rising volume of imports (foreign imports represent more than 60 percent of the domestic supply of capital goods). Given these deep structural shifts in the country's economy, changes in its exchange rate pose a fundamental risk to its ability to invest, accumulate capital stock, and support economic growth.

Their analysis shows that there is no immediate risk to the Colombian economy, and that small increases in non-oil exports would be sufficient to reach the government's goals for the current account over the next several years. However, the trends seen in Colombia since the mid-2000s are clearly unsustainable over the medium and long runs. Positive net capital inflows will not be enough to preserve foreign reserves or avoid an exchange rate crisis. Furthermore, imbalances between the capital and current accounts are likely to give rise to instability in the long run (this is perhaps the largest source of instability risk for Colombia).

The authors suggest two closely linked policy measures to preempt these risks. First, Colombia could reduce its reliance on FDI. Foreign investment should instead be encouraged in a manner that supports a diverse, productive economy. Second, the government should undertake policies to diversify the export base of the country. Likewise, Colombia might consider using some of its revenues from the export of natural resources to rebalance its economy. The authors conclude that the combined effects of financial Dutch disease pose significant risks to the stability of the Colombian economy. However, the country could address these risks with policy measures to reorient its economy toward balanced development and stability. *www.levyinstitute.org/pubs/wp_853.pdf*

The Two Approaches to Money: Debt, Central Banks, and Functional Finance

GIUSEPPE MASTROMATTEO and LORENZO ESPOSITO
Working Paper 855, November 2015

Giuseppe Mastromatteo, Institute of Political Economy, Catholic University of the Sacred Heart, and Lorenzo Esposito, Bank of Italy, Milan, offer a wide-ranging assessment of both mainstream theory and recent economic policies through the lens of functional finance. The authors observe that the global financial crisis, stagnant growth in many countries, and the role of central banks, governments, and the like have prompted renewed interest in what has been for mainstream economists a discredited approach: functional finance. They first offer their critique of some of the pillars of modern mainstream economics, including such topics as the quantity theory of money, central bank independence, inflation, Barro-Ricardo equivalence (BRE), and the impotence of fiscal policy. Modern Money Theory figures prominently in their analysis of the theoretical and practical failures of orthodox economic theory and the events of recent years.

The authors begin with the observation that much of the debate regarding economic policy hinges on underlying, and often mistaken, premises about the nature of money. They point out that the ability to issue money, whether it takes the form of a precious metal, a piece of paper, or an electronic entry, relies on a country's political authority (i.e., the ability to require the acceptance of something as a unit of account). Thus, money is created at the discretion of the issuer and, therefore, they argue, monetary policy is at all times also inherently discretionary in nature. The idea of a truly independent central bank defies the very origin and nature of the institution, as do set "rules." Rules work until such time as they do not—as in a crisis, for example—and the nature of money and central banks returns to its origins: the discretionary actions of the state. Unlike mainstream textbooks' version of money creation, the authors note that money is created by bank lending (not deposits), and that the central bank does not, in normal times, define the amount of money in circulation, nor is central bank money "multiplied" into loans and deposits. Turning to the relationship between inflation and unemployment, they observe that inflation represents a distributional conflict that the state cannot control through fiscal policy. The authors then touch briefly on the debate surrounding fiscal dominance before taking up BRE and the nature of debt. According to BRE, any increase in the public deficit will be offset by increased saving by taxpayers, and thus expansionary policy will fail. Mastromatteo and Esposito note the striking difference in how public debt and private debt are treated under BRE, with only public debt resulting in a net loss in efficiency. The authors also argue that the debt deflation process and microfoundations of mainstream economic theory show that the principles applied to an individual economic actor are useless in explaining public finances.

They next discuss several of the key advantages of functional finance. First, in a world of high public debt (the new normal) functional finance offers a better framework to assess the soundness of public finance. Further, the composition of debt is a critical consideration, whereas mainstream economics has focused on public debt levels. If, for example, rule-driven policies such as austerity undermine income growth and drive up leverage, and the public is forced to bail out private debt when financial crisis strikes, does it make sense to talk about "sound finance" principles? Or is it more reasonable to judge debt on how it supports or undermines financial stability and the overall macroeconomic condition of a country? With its pragmatic approach to economic stability, functional finance emphasizes results over rules. Furthermore, as functional finance is more of an approach than a rigid theory, it works well in "whatever it takes" situations where flexibility is an advantage.

Mastromatteo and Esposito offer four principles of functional finance: the state must maintain a reasonable level of demand, using public spending as a stabilizer; monetary policy should focus on creating full employment; having met these goals, the state should pursue a balanced budget; and the state should implement policies that increase efficiency and productivity, conceived in the broadest sense. The authors provide suggestions to guide the application of functional finance in public policy, focusing on the dimensions, composition and sequence, and accountability aspects of such interventions.

The mainstream paradigm, they conclude, showed itself to be useless in predicting, navigating, or addressing the global financial crisis, and events in recent years have served only to confirm the observations made by Abba Lerner and Hyman Minsky. Functional finance, they conclude, offers an approach to policy that accepts in theory what is already widely done by governments and central banks in practice—one that is both theoretically coherent and pragmatic.

www.levyinstitute.org/pubs/wp_855.pdf

Program: Gender Equality and the Economy

The 2030 Sustainable Development Goals and Measuring Gender Inequality: A Technical Articulation for Asia-Pacific

BHAVYA AGGARWAL and LEKHA S. CHAKRABORTY

Working Paper No. 859, February 2016

Bhavya Aggarwal, Birla Institute of Technology and Science, and Research Associate Lekha S. Chakraborty examine the gender-based indices constructed by the United Nations Development Programme (UNDP). The authors analyze several measures of gender inequality—including the Gender Inequality Index (GII), Human Development Index (HDI), Gender-related Development Index (GDI), and Gender Empowerment Measurement (GEM)—in terms of their specification, variables, and weights to better understand the scope and limitations of each instrument. The paper begins with a discussion of methodological issues in measuring gender inequality. The authors then move to a critical assessment of the GII and the variables used by the UNDP. They then present a version of the GII using alternative variables and decomposed indices. The paper closes with GII estimates calibrated using principle component analysis (PCA) and the authors' recommendations for a reformed GDI.

Aggarwal and Chakraborty recall that some of the earliest efforts to measure human development relied on GDP growth as a proxy. This approach was found to be inadequate, and there is a long history of refining how gender inequality is measured. In 1995, the UNDP introduced the GDI and GEM. However, in part due to weaknesses identified in these two measures, the agency introduced the GII in 2010 to replace the GDI, which was intended to capture gender inequality across the areas of reproductive health, empowerment, and economic activity. However, comparing the GII with the gender-neutral HDI, the authors note a number of weaknesses in the former, including a lack of sex-disaggregated data, the use of absolute measures applied exclusively to women (leading to an overestimation of gender gaps in some cases), variables that penalize low-income countries, weaknesses in the way empowerment is measured, and the omission of unpaid work.

The authors propose the use of under-five child survival rates and healthy life expectancy at birth as alternatives to the current health variables in the GII. In addition, they suggest educational attainment and representation in national and local government, intrahousehold decision making, and a proxy for access to knowledge media and networking for measuring the difficult concept of empowerment. The GII relies on the labor force participation rate (LFPR) to measure economic activity. However, this measure, important as it is, neglects the role of unpaid work, which is performed largely by women. Likewise, measuring LFPRs does not include information about gender pay gaps. The authors incorporate time-use survey data to address these shortcomings.

Using these new variables, the authors reconstruct the GII. They find that the original GII overestimates the gap between men and women in some cases, and, similarly, that using women-specific indicators overstates gender inequality in some cases, confirming their assumption. These weaknesses can be addressed by creating decomposed indices that would allow researchers to interpret the direction of inequality, create greater transparency in the components of the index, and also detect specific policy issues (e.g., health, empowerment, and economic activity). The authors apply PCA to determine the weights for the indicator variables within the three equally weighted areas of health, empowerment, and economic activity. They then produce a new set of results for all of the Asia-Pacific countries for which time-use survey data are available. They also provide a stepwise analysis of each variable included in the new index, and a detailed examination of the results for India and New Zealand.

The authors conclude that the original UNDP GII overestimates the gap between men and women, and that using gender-specific indicators can lead to erroneous estimates of gender inequality. They also find that incorporating time-use data leads to changes in the ranking of countries. For example, including unpaid care work improves the standing of countries such as Thailand and Mongolia, whereas Singapore, Japan, and Korea show worsening inequality when such factors are included. Overall, with the exceptions of China and Cambodia, all of the Asia-Pacific nations included in this analysis see a change in their ranking when time-use data are factored in. The authors conclude with the suggestion that an improved GDI may be a better alternative to current measures for capturing accurate and actionable trends in gender development.
www.levyinstitute.org/pubs/wp_859.pdf

Gender Dimensions of Inequality in the Countries of Central Asia, South Caucasus, and Western CIS

TAMAR KHITARISHVILI
Working Paper No. 858, January 2016

Research Associate Tamar Khitarishvili examines key trends relevant to gender inequality in the three regions of the former Soviet Union and offers policy proposals to support the prospects for inclusive growth, decent job creation, and economic empowerment. The three regions analyzed include Central Asia (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan), South Caucasus (Armenia, Azerbaijan, and Georgia), and Western CIS (Belarus, Moldova, and Ukraine). The paper provides a survey of conditions and trends within these three regions. The author is careful to note that there is a great deal of variety in the conditions, cultures, and policy challenges faced within these regions and within the individual countries discussed. Thus, the paper provides a country-by-country description and analysis emphasizing national and regional commonalities.

Khitarishvili begins by recalling that the collapse of the Soviet Union, which counted gender equality as a key policy goal, has been followed by profound social and economic transformation. The economic expansion in recent decades has demonstrated that growth and women's empowerment do not necessarily go hand in hand. For example, the labor force participation and employment rates for men and women have either remained stable or declined over the last two decades, with female labor force participation rates generally below men's rates. Furthermore, female employment is less secure. And, women tend to be underrepresented as both wage earners and as employers. In terms of the gender wage gap, women earn as much as 78 percent (Ukraine) and as little as 50 percent (Azerbaijan) of what their male counterparts earn. While gender wage inequality has improved in most of the countries discussed, it has worsened in Belarus, Azerbaijan, and Tajikistan. Female entrepreneurs also face greater barriers in accessing credit and tend to have weaker networks in the region. Also, women are less likely to be landowners than men.

The gender disparities in time use are present in both paid and unpaid work and they vary from moderate (Moldova) to high (Armenia and Azerbaijan). However, in terms of total work time, women spend more time working than men. Gender gaps in time use are particularly large in child care, and, interestingly, they tend to be greater in urban areas compared to rural areas. The author also notes that the high degree of gender-driven specialization by academic subject contributes to industrial segregation. Thus, despite the fact that women's returns to education tend to be higher than men's, many occupations remain effectively closed to them.

There have been region-wide increases in migration, with gendered patterns of migration varying widely. In most countries, external migration appears to be a male phenomenon, although there is considerable variation by gender within countries. Turning to health outcomes, the author notes that these declined markedly following the collapse of the Soviet Union, with men's health generally trending downward more than women's in areas such as communicable diseases, substance abuse, and suicide. However, substance use among women is rising and likely undercounted.

In the political sphere, women in these countries remain underrepresented in elected and appointed positions in government as compared to Europe and Central Asia, with somewhat better female representation in the Central Asian countries and Belarus. Regulatory or legal systems remain an important source of inequality. For example, of the 11 countries surveyed only Armenia draws no legal difference between men and women in economic life, as measured by the World

Bank. In most of the countries reviewed, women are legally excluded from specific forms of employment.

Reducing these gender inequalities, the author concludes, has the potential to contribute to the process of inclusive growth and development in the countries of the South Caucasus, Central Asia, and the Western CIS, and to the achievement of the Sustainable Development Goals of poverty and inequality reduction. To achieve such reductions, a comprehensive, evidence-based strategy is needed that complements supply-side interventions with demand-side measures aimed at gainful employment creation.

www.levyinstitute.org/pubs/wp_858.pdf

Program: Immigration, Ethnicity, and Social Structure

The US Census Asks About Race and Ethnicity: 1980–2020

JOEL PERLMANN and PATRICK NEVADA

Policy Note 2015/8, December 2015

Senior Scholar Joel Perlmann and Patrick Nevada, Bard College, discuss proposed changes to the US Census Bureau's questions regarding racial and ethnic origin in the 2020 Census. In addition to these welcome revisions contemplated by the Bureau, the authors suggest small, but potentially important, amendments to the ethno-racial information that is collected. The paper begins with a discussion of the history of and rationales for the changes made to past censuses, then examines the likely impacts of proposed improvements of the next decennial census, and concludes with the authors' proposal for minor alterations to the 2020 Census and beyond.

Perlmann and Nevada observe that in many respects the changes under consideration for the 2020 Census are reminiscent of those made to the 1980 Census. The authors first review four important revisions in the way the federal government collected ethno-racial data in recent censuses. The addition of the Hispanic Origin and Ancestry questions in 1980 were the first two changes. The 1980 Census also saw the removal of two parental birthplace questions (i.e., mother's and father's birthplaces), presumably in part to limit the total number of questions asked. Finally, the 1980 Census revised its presentation of the Race question by dropping the term "race" and asking respondents to make one or more selections from a list of self-identifying ethno-racial categories.

The authors note that the Hispanic Origin and Ancestry questions added in 1980 gather information about a respondent's origins but without any specific reference to their time of arrival, and thus provide no information about generational standing. This approach is similar to tracking African American origin, which is seen as socially and economically relevant to a person's life chances but unrelated to when a person's family arrived in the United States. In contrast, the parental birthplace questions gave priority to gathering information about the trajectory of immigrants and their American-born children. The authors explain that the reason for these new questions in 1980 was mainly the result of a decades-long struggle by groups of Mexican origin, largely concentrated in the Southwestern states, who had experienced entrenched discrimination but were statistically invisible, since they had been counted as US-born whites. The desire to redress the concerns of this group resulted in the Hispanic Origin question.

The reasons for the Ancestry question were threefold: Census Bureau officials did not want to limit their data collection to one ethnic group (i.e., Hispanics); white ethnic groups (i.e., people who did not fit the white Anglo-Saxon Protestant description) were demanding clearer recognition; and many people perceived a continuum of white and nonwhite minority groups. The fourth change in the 1980 Census (i.e., the removal of the word "race" from the question stem) appears to have been made and then reversed for narrow reasons. However, the authors note that this change had the effect of disconnecting the categories from a single covering concept and instead reflected a number of characteristics that might have affected a respondent's life chances. Likewise, in the 2000 Census respondents were permitted to choose more than one race category, which is usefully seen as an extension of this idea of removing an unnecessary covering concept.

Turning to the proposed changes for the 2020 Census, a combined Race and Hispanic Origin question—perhaps called "Race or Origin," or the word "race" might be dropped entirely as it was in 1980—is anticipated. Another likely innovation is the addition of greater specificity about respondents' origins under the ethno-racial groups, duplicating much of the information gathered by the Ancestry question. The authors note that the Ancestry question has limited value compared to the combined Race and Hispanic Origin question. Thus, it is reasonable to expect that the new question will replace the Race, Hispanic Origin, and Ancestry questions. Perlmann and Nevada suggest that, given the time and money saved by eliminating these questions, it is worthwhile to consider bringing back the parental birthplace questions. It is critically important, they argue, to restore questions about parental birthplace if we are to track the progress of recent immigrants, notably Hispanic and Asian groups, and subsequent generations.

The parental birthplace questions are, however, not needed on the 100 percent decennial census enumeration. The most logical place to include them is on the American Community Survey (ACS). A new combined ethno-racial question could replace two questions on the current ACS, saving both respondent time and federal expenditure. Further, Perlmann and Nevada suggest that this might be an opportune time to set aside the term "race." This would not change the way the data are used, but it might signal the important point that not all of the categories fit under a single covering concept.

Going forward, the planned changes to the census reflect its critical role in understanding the changing American community and shaping public policies to meet the needs of its people in the 21st century. The authors conclude that changes currently contemplated by the Census Bureau, and the modest modifications outlined above, promise to keep the census a robust and relevant resource for scholars, policymakers, and citizens.

www.levyinstitute.org/pubs/pn_15_8.pdf

This policy note is accompanied by Working Paper No. 857, "Ethno-Racial Origin in US Federal Statistics: 1980–2020" (www.levyinstitute.org/pubs/wp_857.pdf), in which the authors explore these issues in greater detail.

Program: Economic Policy for the 21st Century

Explorations in Theory and Empirical Analysis

The Roads Not Taken: Graph Theory and Macroeconomic Regimes in Stock-flow Consistent Modeling

MIGUEL CARRIÓN ÁLVAREZ and DIRK EHNTS

Working Paper No. 854, November 2015

Miguel Carrión Álvarez, Grupo Santander, and Dirk Ehnts, Bard College Berlin, discuss the contributions of graph theory to stock-flow consistent modeling and analysis. The authors separate the dynamic closure of stock-flow consistent (SFC) models from accounting constraints and cast the dynamic closure in the language of graph theory. Graphing, they suggest, has the advantages of presenting the economy as a network of cash flows, and permits the use of algebraic techniques that allow one to separate independent and dependent cash-flow variables and solve accounting constraints. The authors argue that each separation between independent and dependent variables can be interpreted as an institutional structure or policy regime. Thus, their framework allows them to address macroeconomic regime change directly. The authors demonstrate their graphical approach using a simple stock-flow consistent model (SIM) originally developed by Distinguished Scholar Wynne Godley and Marc Lavoie. The model includes eight possible closures to a single underlying accounting structure.

The authors recall that SFC models provide a framework for analyzing the macroeconomy from a monetary or financial standpoint and are fundamentally concerned with the flow of funds between sectors. Central to the development of such models are the closures based on the relevant autonomous behavioral equations. Graph theory and linear algebra techniques can then be applied productively to enhance model analysis and visualization. Álvarez and Ehnts then provide a discussion of the stock-flow structure proper and the additional elements needed for its solution or simulation. The third section of the paper operationalizes graph theory for SFC applications. The use of graph analysis, the authors contend, demonstrates that more than one closure is possible for a single, underlying SFC structure. Thus, the SFC framework itself is not tied to one set of closures. A clean separation of the accounting constraints associated with macroeconomic models from the determination of the behavior provides a neutral context for theoretical debates on such topics as expectations, microfoundations, and issues of policy and institutional design.

An abstract graph, the authors explain, is a collection of directed edges between nodes, in which a directed edge has both a source and a target node. Informally, an economy can be modeled as a graph in which sectors are nodes (carrying balance sheet data) or economic units (firms, households, etc.) connected by a network of contracts. In both cases, economic relations are represented by directed edges (labeled as cash flows or as financial assets) between nodes. In the case of an SFC model, the rows of a cash-flow specification table can be represented by arrows between nodes and labeled with monetary values. The transactions-flow matrix can also be represented graphically with economic sectors as nodes and cash flows as edges. Two such graphs could be combined but the result would be confusing, as it would include two types of edges (stocks and flows). However, for example, security stocks could be represented with labels attached to the nodes of the cash-flow graph.

Turning to spanning trees and elementary loops, the authors consider the economic interpretation of a cash-flow graph using a SIM model as a reference. A spanning tree, the authors explain, is a subgraph of all sectors and one fewer economic relation than the number of sectors. Adding one edge to a spanning tree results in a closed elementary loop. Finding a spanning tree thus requires selecting one fewer cash flow than the number of sectors, such that every sector has at least one cash flow in and out of it—there are no closed loops. Thus, each choice of spanning tree divides the cash flows into independent variables (i.e., the cash flows not on the spanning tree and the dependent variables on the spanning tree). The dependent variables, the authors note, are completely determined by the accounting relationships at each node (i.e., the independent variables). The authors next provide examples of graphing implementations (spanning trees) with eight possible closures of the SIM model, focusing on real and monetary drivers and examining three closures in detail (standard, austerity, and colonial/tax-driven closures).

Graph theory thus offers researchers a potentially valuable tool to visualize and discuss their models. Furthermore, it facilitates the explicit modeling of regime changes and the exploration of how these transitions might proceed. On balance, graph theory offers a new and largely unexplored path for investigating the economic relationships within a stock-flow consistent framework.
www.levyinstitute.org/pubs/wp_854.pdf

INSTITUTE NEWS

Workshop

Gender and Macroeconomics: Current State of Research and Future Directions

Convene Conference Center, New York City
March 9–11, 2016

"Gender and Macroeconomics: Current State of Research and Future Directions," a workshop organized by the Levy Institute with the generous support of The William and Flora Hewlett Foundation, was held in New York City March 9–11, with the goal of advancing the current framework that integrates gender and unpaid work into macroeconomic analysis and enables the development of gender-aware and equitable economic policies. More than 40 economists, researchers, and statisticians attended, including IDRC Senior Program Specialist Madiha Ahmed; Radhika Balakrishnan, professor and faculty director, Center for Women's Global Leadership, Rutgers University; Senior Economic Affairs Officer Elissa Braunstein, UNCTAD; Program Officer Helena Choi, Hewlett Foundation; Valeria Esquivel, research coordinator on gender and development, UNRISD; Levy Institute Senior Scholar Nancy Folbre, director, Program on Gender and Care Work, Political Economy Research Institute, University of Massachusetts Amherst; Alicia Girón, professor and researcher, Institute for Economic Research, National University of Mexico; Caren Grown, senior director, Gender Group, World Bank; Lisa Kolovich, economist, International Monetary Fund; Jan Kregel, senior scholar and director of research, Levy Institute, and professor of development finance, Tallinn University of Technology; Ruth Levine, director, Global Development and Population Program, Hewlett Foundation; Thomas Masterson, research scholar and director of applied micromodeling, Levy Institute; IFPRI Senior Research Fellow Siwa Msangi; Lindsey Reichlin, program manager, Institute for Women's Policy Research; Levy Institute Research Associate Pavlina R. Tcherneva, associate professor of economics and director, Economics and Finance Program, Bard College; Maureen Were, research manager, Central Bank of Kenya; and Ajit Zacharias, senior scholar and program director, Levy Institute.

Upcoming Events

25th Annual Hyman P. Minsky Conference

Will the Global Economic Environment Constrain US Growth and Employment?

Blithewood, Annandale-on-Hudson, N.Y.
April 12–13, 2016

The Levy Institute's 25th Annual Hyman P. Minsky Conference, "Will the Global Economic Environment Constrain US Growth and Employment?," will be held at Blithewood, on the Bard College campus, on April 12 and 13. This year's conference, which was organized with support from the Ford Foundation, will address whether the global economic slowdown will jeopardize the implementation and efficiency of the Dodd-Frank regulatory reforms, the transition of monetary policy away from zero interest rates, the "new" normal of fiscal policy, and the use of fiscal policies aimed at achieving sustainable growth and full employment, among other issues. Speakers will include former U.S. Representative Barney Frank (D-MA, 4); European Central Bank Vice President Vítor Constâncio; Richard Berner, director, Office of Financial Research, U.S. Department of the Treasury; Lakshman Achuthan, cofounder and chief operations officer, Economic Cycle Research Institute; Emilios Avgouleas, chair, international banking law and finance, School of Law, University of Edinburgh; Bruce C. N. Greenwald, Robert Heilbrunn Professor of Finance and Asset Management, Columbia University; Michael Masters, founder and managing member, Masters Capital Management; Levy Institute Research Associate Stephanie A. Kelton, chief economist, U.S. Senate Budget Committee, and professor, University of Missouri–Kansas City; Robert A. Johnson, president, Institute for New Economic Thinking, and senior fellow and director, Franklin and Eleanor Roosevelt Institute; Henry Kaufman, president, Henry Kaufman & Company, Inc.; Robert J. Barbera, codirector, Center for Financial Economics, Johns Hopkins University; Michael Greenberger, professor, School of Law, and director, Center for Health and Homeland Security, University of Maryland; and Frank Veneroso, president, Veneroso Associates, LLC.

The Hyman P. Minsky Summer Seminar

Blithewood, Annandale-on-Hudson, N.Y.
June 10–18, 2016

The Levy Institute's seventh annual Hyman P. Minsky Summer Seminar will be held on the Bard College campus in June. 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 beginning their academic or professional careers. For more information, visit www.levyinstitute.org.

PUBLICATIONS AND PRESENTATIONS

Publications and Presentations by Levy Institute Scholars

NANCY FOLBRE *Senior Scholar*

Presentations: Presentation at the New York University working group Oikos: Gender, Kinship, Money, Economy, December 11, 2015; chair, "Difference-in-Difference Analyses of the Effects of Family Policies," session sponsored by the Labor and Employment Relations Association, Allied Social Science Associations Annual Meeting, San Francisco, January 3, 2016; panelist, "Envisioning Alternative Economic Systems," session sponsored by the Union for Radical Political Economics / International Association for Feminist Economics, Allied Social Science Associations Annual Meeting, San Francisco, Calif., January 5; panelist, "Inequality, Public Policy, and the Future of Economics: In Memory of Barbara R. Bergmann (1927–2015)," session sponsored by the American Economic Association, Allied Social Science Associations Annual Meeting, San Francisco, Calif., January 5.

JOHN F. HENRY *Senior Scholar*

Publications: "Foreword" to *Advancing the Frontiers of Heterodox Economics: Essays in Honor of Frederic S. Lee*, ed. T.-H. Jo and Z. Todorova, Routledge, 2015; "Classical Political Economy, the Subsistence Wage, and Job Guarantee Concerns," *Journal of Post Keynesian Economics*, Vol. 38, No. 2 (Spanish version published in *Ola Financiera*, No. 23, 2016); "The Business Enterprise in the Age of Money Manager Capitalism" (with T.-H. Jo), *Journal of Economic Issues,* Vol. 49, No. 1; book review, *The Great Persuasion: Reinventing Free Markets since the Depression* by Angus Burgin, *Journal of Economic Issues,* Vol. 50, No. 1, 2016.

Presentations: "Classical Political Economy, the Subsistence Wage, Veblen, and the Employer of Last Resort," Association for Evolutionary Economics, Allied Social Science Associations Annual Meeting, Boston, Mass., January 3–5, 2015; "Brazelton on Keyserling" and "Does 'Morality' Deserve a Place in Economic Theory? A Neoliberal and Institutionalist Debate," Association for Institutional Thought, Western Social Science Association 57th Annual Conference, Portland, Ore., April 8–11; "Classical Political Economy, the Subsistence Wage, and Job Guarantee Concerns" and "Fred Lee, the Industrial Workers of the World, and Heterodox Economics," 15th World Congress of Social Economics, Brock University, St. Catharines, Ontario, Canada, June 22–24.

TAMAR KHITARISHVILI *Research Scholar*

Presentations: "Labour Market and Gender Inequalities," United Nations Development Programme Istanbul Development Dialogues (2016): #TalkInequality Conference, Istanbul, Turkey, February 9–10, 2016; "Wage Inequality and Economic Growth in Georgia during 2004–2011," Eastern Economic Association 42nd Annual Conference, Washington, D.C., February 25–28; "Paid and Unpaid Work in Transition Economies," 60th Session of the United Nations Commission on the Status of Women, side event on "Women and Work: Lessons from the 2015 UNDP Human Development Report," New York, N.Y., March 18.

THOMAS MASTERSON *Research Scholar and Director of Applied Micromodeling*

Publication: "A Comparison of Inequality and Living Standards in Canada and the United States Using an Extended Income Measure" (with E. N. Wolff, A. Zacharias, Selçuk Eren, and A. Sharpe), *Eastern Economic Journal*, Vol. 42, No. 21, 2016.

DIMITRI B. PAPADIMITRIOU *President*

Publication: "Useful Tool the 'Guaranteed Employment,'" *Kathimerini*, March 3, 2016.

Presentations: Radio regarding the Swiss complementary currency and its application to Greece interview with Pericles Vassilopoulos, Koinoniapoliton.gr, December 18, 2015; interview regarding the Greek economy and the alternative plan of a supplementary currency with Stavros Lygeros, Real News / Real FM Radio (Greece), December; interview regarding the upcoming Federal Reserve meeting and the reaction to the previous meeting and rate hike with Sheyna Steiner, Bankrate.com, January 25, 2016; interview regarding the refugee problem and the prospects for the Greek economy on the Greek Public Television (ERT 1) program Πρωϊνη Ζώνη, March 4; speaker, "Guaranteed Employment: An Alternate Policy for Full Employment," at the workshop "Guaranteed Employment Program: An Alternative to Austerity," cosponsored by the

Friedrich Ebert Stiftung, the GSEE Labour Institute, and the Levy Institute, Athens, Greece, March 2.

TAI YOUNG-TAFT *Research Scholar*
Presentation: "A Corporate Bond Bubble Model in an International Stock-flow Consistent Framework" (with G. Hannsgen), Eastern Economic Association 42nd Annual Conference, Washington, D.C., February 25–28;

L. RANDALL WRAY *Senior Scholar*
Publication: "'The Reality of the Present and the Challenge of the Future': J. Fagg Foster for the Twenty-First Century," *Journal of Economic Issues*, Vol. 50, No. 1, 2016.
Presentation: "Alternative Theories of Money," Columbia Law School, New York, N.Y., February 23, 2016.

AJIT ZACHARIAS *Senior Scholar*
Publication: "A Comparison of Inequality and Living Standards in Canada and the United States Using an Extended Income Measure" (with E. N. Wolff, T. Masterson, Selçuk Eren, and A. Sharpe), *Eastern Economic Journal*, Vol. 42, No. 21, 2016.

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