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

The *Summary* is a quarterly publication of the Institute, intended to keep the academic community informed about the Institute's research. To accomplish this goal, it contains summaries of recent research publications and reports on other activities.

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Letter from the President

To our readers:

A conference on economic mobility in the United States and other advanced countries was held at the Levy Institute in October, under the distribution of income and wealth program. More than 30 participants from various universities, institutes, and government agencies presented their latest research and discussed future directions in research and policy. Their studies showed a significant amount of income mobility and a recent decline in poverty and general well-being. There was, however,

no consensus on how to accurately measure these trends.

The program on financial markets and monetary policy begins with a policy note by Senior Scholar James K. Galbraith. The conditions attached to an International Monetary Fund (IMF) loan to Brazil, he says, are a form of blackmail that will deflate the Brazilian economy and lead to further loans until the private foreign sector is safely divested of its Brazilian holdings. In another policy note, Institute Professor of Economics Philip Arestis and Senior Scholar Malcolm Sawyer of the University of Leeds review the institutional and policy framework of the European Monetary Union (EMU) and find the European Central Bank (ECB) to be undemocratic and unaccountable. Since ECB policies focus on inflation rather than unemployment, they say, regional disparities in unemployment pose a threat to the successful operation of the euro. A working paper by Arestis and Kostas Mouratidis of the National Institute of Economic and Social Research compares the monetary policy performance of EMU countries and cites different monetary policies and economic structures that could potentially undermine the credibility of the ECB.

A working paper by Arestis and Santonu Basu of South Bank University, London, investigates financial globalization and finds it to be far from integrated. In the absence of a uniform credit standard, they say, financial globalization will bring periodic financial crises and aggravate the unequal distribution of income and wealth. A second working paper by Arestis and Mouratidis studies the credibility of monetary policy in European countries, using two previously overlooked factors: domestic output-gap variability and inflation variability. They conclude that these variables affected the credibility of national central banks as countries formed the EMU.

The effects of financial policies on the productivity of capital are assessed in a working paper by Arestis, Panicos Demetriades of the University of Leicester, and Bassam Fattouh of the Centre for Financial and Management Studies, University of London. The authors maintain that financial liberalization is a complex process that affects countries in different ways and has ambiguous effects on key macroeconomic aggregates.

A working paper under the federal budget policy program, by Arestis, Andrea Cipollini of Queen Mary and Westfield College, University of London, and Fattouh studies the U.S. federal budget and presents new evidence on the solvency debate. The authors observe that the U.S. budget has undergone a number of regime shifts, that the budget deficit is sustainable in the long run, and that economic policymakers intervene only when deficits reach a certain threshold.

As always, I welcome your comments and suggestions.

Dimitri B.	Papadimitriou
President	•

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Institute Research

Program: Distribution of Income and Wealth

Conference: "Economic Mobility In America and Other Advanced Countries"

Scholars met at the Levy Institute on October 18 and 19 to discuss their latest findings on economic mobility. The conference, organized by Senior Scholar Edward Wolff of New York University, encompassed sessions on a range of issues, from the effect of education on intergenerational mobility to the persistence of hardship over the life cycle. The participants included international experts from government, the nonprofit sector, and academia. Audio of the conference can be accessed from the Webcast Archive page of the What's New section of the Institute's website.

Session 1. Mobility in Economic Well-Being

The session was chaired by Levy Institute President **Dimitri B. Papadimitriou.** Presenting papers were **Jonathan D. Fisher** of the Bureau of Labor Statistics (BLS), **Conchita D'Ambrosio** of Università Bocconi, Milano, and DIW Berlin, and **Joachim R. Frick**, DIW Berlin. The discussants were **Lars Osberg** of Dalhousie University and **Thesia Garner** of the BLS.

Fisher pointed out that the ability of individuals to move between income classes might be less important than their mobility between different levels of consumption. Economists believe that patterns of consumption may be different from those of income, primarily because economic theory suggests that consumers tend to maintain a relatively steady level of expenditures, even as their incomes vary. Measuring mobility using estimates of consumption, instead of income, is thus an interesting exercise. There is no data set that follows the consumption expenditures of specific individuals over time, however. Fisher and

his coauthor, David S. Johnson of the BLS, were able to surmount this obstacle by constructing estimates of consumption for the participants in the Panel Study of Income Dynamics, which did follow respondents over a number of years. Their method was to measure certain variables that are correlated with total consumption, such as home ownership. Fisher and Johnson then estimated the probabilities of consumption increasing or decreasing over time. For example, an individual whose consumption expenditures were in the lowest fifth of the population in 1984 had approximately a fifty-fifty chance of leaving that group by 1999.

Many observers have attributed the recent economic slowdown in Germany to the costs of unification. D'Ambrosio and Frick looked at how the same events shaped mobility within German society. On average, incomes gradually converged in the two parts of Germany from the time of unification until about 1997. After that, the gap between the two regions increased, and a wide disparity remains. The process of economic mobility within eastern Germany had the effect of reducing overall inequality among former East Germans. In the western part of the country, mobility had less of an equalizing effect and may have even increased the skew in the income distribution. (This indicates that in the west, those near the top improved their lot at the expense of their poorer compatriots.) D'Ambrosio and Frick also examined self-reported satisfaction, and their results suggested that eastern Germans grew happier, not just richer, during the period after unification.

Responding to Fisher and Johnson, discussant Osberg pointed out several difficulties in accurately inferring consumption expenditures from data on income. He remarked that although the authors defined mobility as movement relative to the rest of the population, such movement could also be interpreted as a form of risk. Garner, discussant for the presentation by D'Ambrosio and Frick, described the historical precursors to the current practice of measuring well-being subjectively and the trend toward such measurement in studies of labor markets. She suggested attempting to break down total measures of mobility into components related to particular demographic changes.

Session 2. Mobility in the Labor Market

Senior Scholar **Edward N. Wolff** chaired the session. **Robert Haveman** of the La Follette School of Public Affairs, University of Wisconsin, Madison and **Bruno Contini** of the Centre for Employment Studies IZA and the University of Torino gave presentations on recent work. **Heidi Hartmann** of the Institute for Women's Policy Research acted as the discussant for both papers.

How have young workers coped with declines in their economic opportunities? Clearly, two options are to remain at home or to live alone. Haveman and coauthor Brian Knight, also of the La Follette School of Public Affairs, University of Wisconsin, studied this issue by comparing labor market and living arrangement data for youth during two different time periods: the "good" job market years of the late 1960s to mid 1970s and the "bad" years of the mid 1980s to around 1990. Haveman presented evidence that as job opportunities for young men deteriorated in the 1980s, the men adjusted by marrying later or not at all, or, if married, by not having children, which protected them somewhat from the punishing effects of the poor labor market. Low-skilled men were the most affected by unfavorable economic conditions during the period, and, of all men, they were the ones who adjusted their living arrangements and family commitments the most. This disparity suggests a cause-and-effect relationship between economic opportunity and lifestyle choices. Women, on the other hand, increased their earnings, an improvement that allowed growing numbers to live alone or raise children on their own. This rising tide, however, did not lift all boats; the disparities between wages for high-skilled and less-skilled women increased over time.

Whether people can move easily between classes is a question related to a theory known in the economics literature as labor market segmentation. As described by Contini, the theory posits that two different tiers exist in the labor market: a "secondary" one characterized by low pay and few ladders to a higher level, and a primary one, with relatively good pay, more contractual protections, and plenty of opportunities to advance. Contini presented evidence that U.S. labor markets are among the most segmented of a large group of Western economies. This result is based on the fact that workers who earn the least have a relatively low chance of moving into a higher income bracket, while higher earners are more mobile. When the ratio of employed workers to total population for each country was plotted in a graph as a function of the degree of labor market segmentation, a U-shaped pattern appeared. Contini suggested that this apparent relationship between segmentation and employment was due to two separate links: (1) countries with a stronger welfare state tended to have less segmented markets, and (2) labor market participation was highest in two groups of countries: those with the smallest welfare state and those with the largest. What could be the rationale for the second link? Countries with a relatively large welfare state, such as those in Scandinavia, provide ample child care and other services that allow people to work. On the other hand, where the welfare state is weakest-in Great Britain and the United States-the state provides few safety nets for those who do not work, leaving citizens no choice but to accept any available job.

Hartmann offered a more positive interpretation of the changes in women's living arrangements described by Haveman. Declining rates of marriage may not be due to a decline in the economic fortunes of potential husbands, she said, but may instead reflect women's increased wherewithal to support a family independently. She agreed with Contini that the Scandinavian countries' extensive system of publicly provided social services (such as child care) may account for the fact that labor market participation in those nations rivals that of Anglo-Saxon countries. Hartmann also pointed out that Contini's results suggested an intriguing difference: European women who earn low wages were more likely than those in the United States to escape the low-earnings category as they aged.

Research Scholar **Ajit Zacharias** was the chair of the session. **Thomas Hungerford** of the Social Security Administration and **Panos Tsakloglou** of Athens University of Economics and Business presented papers. (Hungerford will be joining the Institute early next year as research director and senior scholar.) **Sanders Korenman** of Baruch College was the discussant.

Economic well-being involves more than income. It is important to know if other forms of hardship tend to persist throughout a lifetime. Hungerford described a study of a randomly selected group of Americans born between 1924 and 1931. The study utilized data on several different indicators of what might be considered social or economic hardship, including receiving welfare benefits, being poor, being unmarried, being a tenant, and living in overcrowded housing. The most important finding of the study is that most of these forms of hardship tended to be linked across the life span. For example, those who were unmarried in their 40s had a 27 percent chance of being poor or nearly poor at age 65, while only 7 percent of those who were married during their 40s were poor or nearly poor when they reached old age. Middle-age poverty raised the probability of poverty in old age by 30 percentage points. These differences were moderated, but not eliminated, after other differences between individuals, such as race, gender, and education were taken into account. In many cases, the measures of persistence were particularly large for African Americans and women.

Tsakloglou presented a view of economic mobility in western Europe during the 1990s, concentrating on mobility in and out of poverty. A person was considered poor if his or her income was less than a certain percentage of the median income. Using new data from the European Union, Tsakloglou showed that although there was a great deal of movement in and out of poverty over time, a large proportion of citizens in each country, ranging from 58 to 78 percent, stayed out of poverty during all five years of the study. Moreover, in many countries, such as Denmark, most of those who fell into poverty were able to escape within a year's time. On the other hand, in each of the countries, at least 14 percent of those who were poor at any given point in time were impoverished over the entire time span of the data set.

What events were likely to lead to a spell of poverty? Changes in family or living arrangement status, such as divorce, were less important in this regard than declines in income. Similarly, a rise in income was most likely to lift an individual out of poverty. The most important type of change in income for poverty exit and entry was losing or obtaining a job. Another finding of Tsakloglou's study was the existence of a kind of poverty "trap": individuals who were in poverty tended to stay there, even if their other characteristics (such as race) did not make them especially prone to poverty spells.

Korenman, as the discussant for this session, pointed out that Hungerford used a five-year measure of hardship in middle age, while his gauge of hardship in old age was based on a one-year "snapshot." Fewer individuals experience hardship over an extended period of time than in any one given year. Korenman emphasized the connection between the persistence of hardship and the equalizing effects of government benefits for the aged. In discussing Tsakloglou's presentation, Korenman pointed out the difficulty of distinguishing between two hypotheses: first, that the longer a particular individual stays in poverty, the harder it is to get out; or second, that those in poverty a long time tend to have unobserved characteristics, such as a lack of job skills, that predispose them to stay in poverty.

Session 4. Intergenerational Income Inequality

Daphne Greenwood of the University of Colorado, Colorado Springs was chair for the session. **Jo Blanden** of the Centre for Economic Performance at the London School of Economics presented a paper she had written with Stephen Machin of University College London and the Centre for Economic Performance. **Barbara Wolfe** of the University of Wisconsin, Madison was the discussant.

Blanden presented evidence on mobility from studies that followed the same individuals over a number of years. She focused on the picture in the United States and the United Kingdom. In the United States, mobility, as measured by the relationship between parental and child income, stayed roughly the same between the cohorts that turned 30 around 1987 and those that turned 30 around 1998. In the United Kingdom, mobility fell sharply over a roughly similar time period. Blanden examined whether changes in the affordability of education were behind the reduction in mobility in the United Kingdom. She presented evidence that parental income has indeed been a factor of increasing importance there in determining whether a child receives a college degree. Moreover, much of the decline in mobility in the United Kingdom can be attributed to increasing disparities in educational attainment.

Wolfe argued that differences in college attendance rates between the United Kingdom and the United States or from one time period to another might be due to differences in the economic rewards for completing a degree, rather than differences in the generosity of financial aid programs. She called attention to the complexity in the relationship between college attendance and a parent's earnings; for example, a parent may increase his or her work effort specifically to pay for a child's education.

Session 5. Wealth Mobility

Mariko Chang of Harvard University chaired this session. Richard H. Steckel of Ohio State University presented a paper he had written with Jayanthi Krishnan of Temple University. Florencia Torche and Seymour Spilerman of the Center for the Study of Wealth and Inequality at Columbia University then presented their joint paper. Jay L. Zagorsky of Ohio State University gave the third presentation. These were followed by the remarks of discussants Ngina Chiteji of Skidmore College and Robert Margo of Vanderbilt University.

Steckel began by making some general observations on the work presented so far. He pointed out that data on how

individuals' wealth evolves over time are affected by historical context. For example, the period from the mid 1960s to the mid 1970s was characterized by declining income and wealth inequality, so that individuals may have been more mobile in that period than, say, during the 1980s or 1990s. In this case, economic mobility would merely reflect historical circumstances, rather than any general tendency to move from one part of the income or wealth distribution to another. Steckel also emphasized the difficulty of comparing studies that measure wealth in different ways or that look at two different age groups. Steckel's own study, a joint piece with Jayanthi Krishnan, used data from the National Longitudinal Survey for a time period from the mid 1960s to the mid 1970s. Steckel and Krishnan found that there was significant movement during their sample period from one decile of the wealth distribution to another, a phenomenon that mitigated the inequality found when the distribution at any one point in time was examined. Another important finding of the study is that mobility differed by demographic characteristics, such as race, marital status, occupation, years of schooling, and region of the country.

Torche and Spilerman examined the effects of Chileans' wealth and income on their children's economic well-being. Torche showed that resources are distributed more un-equally in Chile than in the United States. Parental resources can affect children's economic prospects in several ways. First, parents' wealth can be transferred directly to children. Second, wealthy parents can invest in their children's education, thus bestowing wealth indirectly. Torche dealt with these issues using a survey of several thousand male heads of household in Chile. The data support the view that parents' economic resources, whether measured in terms of wealth or occupation, have a strong impact on how much education their children receive. Moreover, parental resources affect children's ownership of various consumer goods, such as computers and automobiles. The two effects are closely related: the benefit to consumption levels of having wealthy parents operates primarily through access to education. On the other hand, the children of wealthy parents tend to be more likely to have more substantial assets, such as stocks, certificates of deposit, or real estate primarily for a different reason: because they were able to pay for those assets with money from their parents.

Zagorsky presented evidence on how an individual's race was likely to affect his or her ability to accumulate assets over time. Data show that in 2000, the mean net worth of white, young baby boomers was \$213,000, while the corresponding figures for African Americans and Hispanics were \$48,000 and \$87,000, respectively. Using data that tracked specific individuals from 1985 to 2000, Zagorsky found that there is a great deal of mobility between levels of net worth. For example, about half of all white baby boomers who were in the lowest 10th of the wealth distribution at the beginning of the sample period had moved into the top half by 2000. African Americans in the lowest 10th did not succeed as well in escaping the lower end of the distribution, however, and those in the middle of the distribution tended to be pulled downward over time. Wealth mobility is strongly influenced by nonracial characteristics such as home ownership, but even holding those factors constant, African Americans are less likely to become richer over time.

Chiteji was interested in Steckel's finding that race played an important role in mobility. Determining the reason for this relationship was important, she said: Was it due to the fact that, on average, whites received larger inheritances than African Americans? Did entrepreneurship account for some of the difference? Chiteji also pointed out some apparent inconsistencies in the effects of adjusting the data for age differences on Steckel's results. Margo noted that Torche and Spilerman as well as Zagorsky based their analyses merely on associations between various characteristics and economic outcomes and did not establish any causal relationships. He said also that it might be worthwhile to compare economic mobility in Chile now with mobility before the recent liberalization of the economy. With regard to Zagorsky's findings on the mobility of African Americans, Margo argued that this group's over-representation in the lowest wealth category increased their chances of apparent upward movement (as they could not possibly move downward). These movements tended to obscure African Americans' true lack of mobility.

Session 6. Earnings Mobility

The final session was chaired by **Heather Boushey** of the Economic Policy Institute and included talks by **Steven J. Rose** of ORC Macro International and **Jeffrey S. Zax** of the University of Colorado, Boulder. **Maury Gittleman** of the BLS, as discussant, commented on both papers.

Rose began by making some observations on the difficulties of drawing inferences from data on how individuals' earnings change over time. Many studies compare the percentile of a person's total earnings at the beginning of a certain period with that at the end, but observations of earnings in a given year depend on an element of chance, not just on permanent increases in earnings capacity. The importance of chance events that temporarily boost or decrease income can by seen by observing the earnings paths of individual workers, which often form a saw-toothed pattern. Thus, someone who happened to be unlucky in the first year of a study would be likely to have higher earnings by the final year, but this would not reflect a steady growth of earnings that would lift a worker into a higher income class for an extended time. In his paper, Rose attempted to avoid this kind of misleading deduction by categorizing workers according to their average earnings over a 15-year period. He found that many people did not experience a rising earnings level over his sample period (1981-1995), and that a large proportion lost ground. Low-wage workers and those who left the labor market for part of the period fared badly. A comparison to workers of an earlier generation showed that their earnings in the 1950s and 1960s more likely followed a rising path.

Whether we should be concerned about the trend in much of the world toward increased inequality depends in part on whether the trend is mitigated by economic mobility. Zax posited three possible stylized patterns of mobility. First, in the most inequitable scenario, individuals would remain in the same percentile of earnings throughout their working lives. A second possibility would slightly alter the first one to allow for all individuals to rise steadily throughout their lifetimes relative to the

workforce as a whole. Finally, earnings could be simply random, with no persistence in relative position from one year to the next. Zax assessed these theories using data from the unemployment insurance system of the State of Colorado. These data allowed him to trace the path of workers' earnings over a number of years. A person's position in a "ranking" of annual earnings tended to increase over time, suggesting that there may be some truth to the second hypothesis. However, this result did not apply to workers earning more than the median income, who often failed to hold on to their relative position. This result was inconsistent in all three stylized models.

Gittleman pointed out that Rose's results could be related to the broad decline in older men's participation in the labor force. Zax's study, he said, was hampered by the lack of data on demographic characteristics, such as age and gender, and more elaborate hypotheses about economic mobility than those entertained in Zax's paper should be considered. According to Gittleman, one problem evident in both presentations was an inability to distinguish between changes in wage levels and changes in the number of hours worked in a given time period.

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Program: Financial Markets and Monetary Policy

The Brazilian Swindle and the Larger International Monetary Problem JAMES K. GALBRAITH Policy Note 2002/2,

According to the International Monetary Fund (IMF), sound financial policies include balanced budgets, tight money, deregulation, and privatization of capital assets. The IMF has offered Brazil a \$30 billion loan on the condition that the country continue to run a large primary surplus in the government budget. Neither increased public spending nor increased imports can be financed from the loan. According to Senior Scholar James K. Galbraith, this loan is a form of blackmail that will lead to deflation of the real Brazilian economy, the destruction of Brazil's tax base, and a deterioration of the country's public budget. Since the IMF prohibits Brazil from fighting recession by increasing domestic demand (raising domestic investment and moving the trade balance back into deficit), there is no chance that the country's high level of indebtedness and interest obligations can be reduced, says Galbraith. This situation, he adds, will lead to the country's taking on additional loans until the private foreign sector is safely divested of its Brazilian holdings.

Galbraith contends that the postwar trading framework has become hopelessly distorted by the hegemony of the U.S. dollar, unsustainably high interest rates, debt deflation, and capital flight. These asymmetries, he says, lead to prosperity in rich countries and a deepening crisis in poor ones. In the case of Brazil, where most of the substantial deficit in its current account (outflows less inflows of financial assets) is attributable to interest payments on external debts, external balance is a matter of mortgaging or selling property to pay interest, a strategy that shrinks real activity and curtails imports. In the medium term, the government must finance a continuing reduction in private capital inflows, substituting debt to the IMF for exposure to private external investors while, at the same time, maintaining external debt payments to satisfy older creditors.

According to the author, the IMF is helping to maintain an illusion of business as usual. Its \$30 billion loan benefits private holders of Brazilian assets, foreign bankers, and domestic political forces that oppose growth in public services and social reform. Any new government would be unable to change current policy. The entire case for privatization, he says, is financial; privatization would raise resources needed for the continued servicing of past debt. Moreover, compliance with IMF policies does not translate into favorable treatment on Wall Street because private investor judgments are driven by considerations of conditions in other developing countries (contagion in financial markets) and the United States (relative rates of return facing investors). Therefore, Brazil is being punished by the financial markets because of the failure of IMF policies as they were applied in Argentina.

A review of proposals for dealing with the problems of sovereign debt shows that if the systemic problems of excess and unpayable debt are not addressed, they will prolong the present prebankruptcy stage of financial relations, with no provisions available to protect the populations or public programs of developing countries. In the short run, the only route available to Brazilian policymakers acting on their own, says Galbraith, must involve a reduction of debt payments (stop paying and impose strict controls over capital flight). The Brazilian real would be devalued and interest rates reduced to accommodate exporters and import substitution.

In his review of the world financial order from Bretton Woods and the Marshall Plan to the present, Galbraith notes that, contrary to the views of Keynes, the characteristic structure of unregulated international finance placed bankers and creditors in the dominant position, forcing adjustment by debtors. This is locally rational but disastrous for the system as a whole, he says, as individual debtors are forced to contract their economies in order to meet their interest payments, and as a result, the entire economic system contracts. In Keynes's plan, creditors would have to adjust by expanding their domestic economies, their employment, and their absorption of imports until such time as their consumption of imports rose to match their sale of exports and the system balanced at high levels of employment. No country would be required to contract domestic economic activity

or to forgo full employment in order to meet international clearing obligations or pay debt service to foreigners.

The world financial order assumed that the United States would remain a strong surplus country and a creditor to the rest of the world. Instead, it has become the world's largest debtor and has joined Brazil and other developing nations as a country effectively constrained by its debts. Dollar devaluation as an option to improve the U.S. trade deficit is very unlikely, says Galbraith, because exports to wealthy regions may not be particularly price-sensitive, and such an action would affect the value of developing countries' reserves, resulting in a general deepening of the world slump. He speculates that if widespread diversification away from the dollar as a reserve asset occurs, and if the European Union emerges as the world's creditor power, it would be in the U.S. national interest to collaborate in the reconstruction of a global order that serves the interests of debtors as well as creditors. This, however, would require a thorough overhaul of U.S. political processes.

European Integration and the "Euro Project" PHILIP ARESTIS and MALCOLM SAWYER Policy Note 2002/3

The adoption of the euro and the creation of the European Monetary Union (EMU) began with the signing of the Maastricht Treaty, the ratification of the Stability and Growth Pact (SGP), and the establishment of the European Central Bank (ECB). According to Institute Professor of Economics Philip Arestis and Senior Scholar Malcolm Sawyer, the institutional and policy framework of the EMU consists of an undemocratic and unaccountable ECB that generates macroeconomic policies that emphasize controlling inflation rather than diminishing the level and disparity of unemployment. There has been no real convergence of economic growth, they say, so massive differences remain in living standards and unemployment rates across the European Union (EU).

The authors note that a neoliberal agenda was embedded in the EMU's institutional and policy framework. They also observe that the general thrust of the convergence criteria within the Maastricht Treaty was deflationary, as countries were forced to cut budget deficits, reduce public debt, and lower inflation and interest rates. The Treaty also implied a general rejection of Keynesian economics and of the use of fiscal policy to stimulate employment.

The theoretical framework of the new monetarism adopted by the eurozone was based on the premises that central bankers should be favored over policymakers for the use of discretion; that inflation can be controlled via monetary policy; that unemployment fluctuates around an equilibrium rate determined by supply; and that fiscal policy should be subordinate to monetary policy in controlling inflation. The sole objective of the ECB, therefore, is to achieve price stability. Implementation of the SGP is, in effect, a national-level balanced budget requirement. The absence of fiscal policy at the EU level eliminated fiscal policy as an effective instrument for reducing unemployment.

Three key factors underlying the introduction of the euro were that the ECB is the only effective federal economic institution; that the ECB and the national central banks are linked to the European System of Central Banks, with responsibility divided among them; and that the ECB is intended to function independently of the EU's Council, Parliament, and member governments. The authors point out, however, that there is a complete separation between the monetary and fiscal authorities, and decentralization of fiscal authorities makes policy coordination difficult. They therefore cite a need for the creation of a body charged with the coordination of EMU monetary and fiscal policies.

According to Arestis and Sawyer, ECB macroeconomic policy runs counter to the creation of high levels of employment; the eurozone has neither the weapons with which to fight recession nor the ability to run a fiscal deficit; and the EU budget is too small to operate as an effective stabilizer or to redistribute funds from one region to another. The authors observe that the disparity of unemployment across regions presents a major challenge and poses a considerable threat to the successful operation of the euro. They note that the SGP and associated policies contain no remedies for the disparities among employment, income, and economic performance. They also cite the lack of productive capacity in many regions where actual output is approximately equal to potential output, despite the fact that unemployment exceeds 8 percent.

Is There a Trade-Off between Inflation Variability and Output-Gap Variability in the EMU Countries? PHILIP ARESTIS and KOSTAS MOURATIDIS Working Paper No. 359, October 2002

The European Central Bank (ECB) pursues price stability for the euro area by using the interest rate as a policy instrument to control inflation. One criticism of inflation targeting is that it may lead to higher output variability and ignores other policy objectives such as economic activity. Institute Professor of Economics Philip Arestis and Kostas Mouratidis of the National Institute of Economic and Social Research compare the monetary policy performance of Economic and Monetary Union (EMU) countries based on the trade-off between inflation variability and output-gap variability before and after the 1992 Maastricht Treaty. They find asymmetries in the euro area, in view of different monetary policies and economic structures, and conclude that asymmetric shocks could therefore pressure the ECB and potentially undermine its credibility.

Theoretical research on monetary policy rules has demonstrated the possibility of a trade-off between output-gap variability and inflation variability. Aggregate demand shocks are shown to move output and inflation in the same direction, while supply

shocks move them in opposite directions. Some studies conclude that any attempt to stabilize inflation leads to higher output-gap variability and that inflation-targeting countries attach greater importance to inflation variability. Therefore, say the authors, it is essential to examine whether inflation targeting (implicit or explicit) induces excessive output-gap variability.

The authors review studies of the relationship between the unconditional standard deviation of the output gap and inflation (the long-run variability trade-off) and suggest that an explicit model of transitional (short-run) dynamics yields useful information on the long-run relationship between output-gap and inflation variabilities. They note that variability in both output and inflation fell during the 1990s in all eleven EMU countries and it is difficult, they say, to assess whether better economic performances during that time were due to inflation-targeting regimes or to shocks with lower standard deviations.

Arestis and Mouratidis develop a stochastic volatility model that includes a ratio that measures the cost of a one-unit decrease of inflation in terms of the output gap. In countries where this ratio is relatively low, a better monetary policy performance is implied in terms of the trade-off between inflation and output-gap variabilities. The model is also based on the theory that shocks moving both variabilities in the same direction are demand shocks, while shocks moving both variabilities in opposite directions are supply shocks. The response of monetary authorities to supply shocks that induce a trade-off between inflation and output-gap variabilities and that buffet the economy depends on two factors: (1) the economic structure as measured by the slopes of the aggregate demand and supply curves, and (2) the preferences of monetary authorities regarding the stabilization of output-gap and inflation variabilities.

The Arestis-Mouratidis study uses quarterly data for the Consumer Price Index and Gross Domestic Product (GDP) from the International Financial Statistics database. The authors also use Industrial Production data, in light of inconsistent GDP data for some countries. All data are employed to construct the output-gap variable. The data are analyzed for three periods: the European Monetary System (EMS) era (1979 to 1998); the period prior to the Maastricht Treaty (1979 to 1991); and the period following the treaty and before the introduction of the EMU and the euro (1992 to 1998), during which time monetary policy was the responsibility of the national central banks.

Using GDP data, the ratio of the cumulative percentage loss of output for a one-percentage-point reduction in inflation ranged from 0.2 for Austria and Ireland to 0.8 for Germany. The trade-off between inflation variability and output-gap variability deteriorated in the period after the Maastricht Treaty for Finland, France, Germany, Ireland and Spain, but it improved in the case of Austria, the Netherlands, and Portugal.

The authors note that IP data delineate three distinct groups: those nations with a trade-off ratio lower than 0.2 (Austria, Germany and the Netherlands); those nations with an average trade-off ratio of 0.9 (Belgium, Ireland, and Italy); and those nations with a trade-off ratio higher than 1.0 (Finland, France, Greece, Portugal, and Spain). Results from the periods before and after the Maastricht Treaty are consistent with each other, except in the case of Germany, Ireland, and the Netherlands. Deterioration of the trade-off in Germany before the Maastricht Treaty is explained, say the authors, by the relatively high interest rate differential between Germany and other countries, by Germany's limited flexibility in the use of monetary policy to stabilize supply shocks, and by German unification.

Results showing both improvements and deteriorations, over time, in the trade-off ratio support the authors' contention that it was imperative to examine the trade-off for each country during the EMS period and the periods before and after the Maastricht Treaty.

Financial Globalization: Some Conceptual Problems PHILIP ARESTIS and SANTONU BASU Working Paper No. 360, October 2002

Financial globalization refers to the process by which the financial markets of various countries are integrated. According to Institute Professor of Economics Philip Arestis and Santonu Basu of South Bank University, London, financial globalization requires a single worldwide currency managed by an international monetary authority-a circumstance missing from the present system.

The authors note that many countries have recognized the need to control financial flows that were purely speculative in nature and to ensure that, in order to prevent financial instability, expenditures for increasing productivity were not constrained by inadequate financial flows. Regulations (e.g., ceilings on interest rates) were designed to ensure that credit would be allocated to industry and trade. In some cases governments stood as guarantors and reduced credit-standard requirements. International controls (e.g., foreign currency purchases) ensured that foreign financial flows were concentrated on the production side of the economy and prevented free financial flow and exit. Governments also acted as direct guarantors between foreign lenders and domestic borrowers. The main objective of these government regulations was financial stability and the promotion of economic and social objectives. These regulations undermined the independence of the financial sector as a profit-seeking economic unit and resulted in the emergence of new lending institutions (e.g., specialized banks).

The authors point out that doubts about the merits of administrative controls over interest rates have triggered the formulation of a "financial repression" thesis-that government intervention distorts the price of loans and adversely affects the allocation of

loans and savings. This thesis has led, in turn, to a "financial liberalization" thesis-that in the absence of intervention, market forces determine the interest rate and thereby govern the allocation of loans. The presumption by some economists was that interest rates played a crucial role in savings, investment, and growth. The crucial message, say the authors, is that lack of competition brings inefficiency and, therefore, there is a need to increase the number of players, tap a larger pool of savings, and liberalize the external sector of the financial system. A similar view held by some economists posits that if currencies were allowed to float, they would ultimately balance exports and imports. Any remaining trade imbalances could be addressed by attracting foreign direct investment.

As a result of these views, a number of countries floated their currencies, removed financial controls, and relaxed laws governing mergers and acquisitions. Increased efficiency and enhanced growth were attained through the liberalization of the external sector of the financial system. Financial capital moved more readily from one country to another. These government actions were based on the belief that flexible interest rates would unite lending and borrowing countries in one market and, therefore, that financial markets would be globalized. However, say the authors, because the loan market operates under conditions of uncertainty, interest rate variations alone cannot clear it. A credit standard-collateral or some form of security appropriate to the loan market-is needed in order to provide lenders with an alternative means to recoup their loans.

The existence of different currencies complicates the credit standard and makes it necessary for countries with unrecognized currencies to offer assets (including export-sector assets whose value is related to export earnings) as collateral, a situation that segregates domestic financial markets from international ones. Because this form of collateral does not constitute alternative means of payment, associated loans carry a high level of credit risk. Furthermore, since countries with low export potential have narrow access to financial markets and limited growth rates, the free movement of financial capital introduces the possibility of increased inequality and additional financial crises in the world economy.

A single currency, the authors contend, would avoid such conflict by allowing the adoption of a uniform credit standard for all countries. This step would require the establishment of a world central bank for the global financial markets. According to the authors, however, the global economy is far from integrated and the process of financial globalization may reverse. They conclude that, in the absence of a uniform credit standard, financial globalization will result in periodic financial crises and aggravate the unequal distribution of income and wealth.

Credibility of EMS Interest Rate Policies: A Markov Regime-Switching Approach

PHILIP ARESTIS and KOSTAS MOURATIDIS Working Paper No. 361, October 2002

Monetary authorities have preferences concerning the mix of inflation and unemployment, and set interest rates accordingly. Their credibility is a function of their success in fighting inflation and generating economic growth. The cost of reducing inflation in terms of foregone economic growth, however, may be high, and the credibility of monetary policy may fluctuate.

Institute Professor of Economics Philip Arestis and Kostas Mouratidis of the National Institute of Economic and Social Research study the credibility of monetary policy in five countries-Austria, Belgium, France, Italy, and the Netherlands-within the European Monetary System (EMS). They use a Markov regime-switching model and include two main factors that previous studies have overlooked: (1) domestic output-gap variability and (2) inflation variability. These variables allow them to evaluate preferences and credibility when central banks attempt to stabilize aggregate supply and respond to demand shocks.

The authors find that the output-gap and inflation variables affected the credibility of national central banks as the EMS transformed into the European Monetary Union (EMU). They also find that these variables were significant in the high-credibility regimes and insignificant in the low-credibility regimes. Countries had different preferences regarding the trade-off between stabilizing the output-gap variable or the inflation variable. The effects of inflation variability on the probability of transition between regimes were greater than the effects of output-gap variability; all countries except Italy enjoyed high credibility regarding price stability when they adopted disinflationary policies as a prerequisite for joining the EMU.

The authors use monthly data from the five countries for the period covering March 1979 to December 1998. Interest rates, inflation, and industrial production data are derived from the International Financial Statistics database. They measure the output-gap series by assuming that the trend follows a "random walk" process, which more precisely measures potential output. They find that the effects of individual shocks quickly faded in a low-credibility regime and lasted longer in a high-credibility regime. There were periods when national monetary authorities placed greater focus on domestic issues (e.g., unemployment, GDP growth) than on credibility, which was associated with adhering to the basic principles of German monetary policy. Credibility in most countries was low from 1979 to 1986, a period of time during which 11 exchange rate realignments took place within the EMS. The probability of being in the high-credibility state increased in the period from 1986 to 1991, when most interest rate convergence took place without any realignment. The probability of being in the high-credibility state declined during the currency crises of 1992, 1993, and 1995.

Arestis and Mouratidis also find that monetary policy in France and Belgium was more sensitive to inflation variability than to output-gap variability; that Italy's monetary policy had low credibility (due, perhaps, to a high debt-to-GDP ratio and the

overvaluation of the lira against the deutsche mark prior to the 1992 currency crisis); that monetary policy in the Netherlands had a high credibility and was directed toward stabilizing inflation expectations; and that Austria placed greater emphasis on stabilizing its output-gap variability.

Financial Policies and the Aggregate Productivity of the Capital Stock: Evidence from Developed and Developing Economies

PHILIP ARESTIS, PANICOS DEMETRIADES, and BASSAM FATTOUH Working Paper No. 362, October 2002

Financial liberalization aimed at removing regulations on financial market activity has become a central part of the financial globalization process and is widely believed to enhance the efficiency of the financial sector, especially in terms of allocating resources toward the most productive investment projects. According to Institute Professor of Economics Philip Arestis, Panicos Demetriades of the University of Leicester, and Bassam Fattouh of the Centre for Financial and Management Studies, University of London, financial liberalization is a complex process with ambiguous effects on such key macroeconomic aggregates as the productivity of the capital stock.

The authors empirically assess the effects of financial policies on the average productivity of capital in 14 countries (six of which are developing economies). They construct a financial policy data set collected from central banks and official publications for the period 1955 to 1996. The central bank data relate to four broad types of financial policies: interest rate restraints, restrictions on capital flows, reserve and liquidity requirements, and capital adequacy requirements. The effects of these policies on the productivity of the capital stock are estimated using econometric methods that exploit the time-series and cross-section dimensions of the data set while controlling for financial development, employment, and capital.

In their review of economic theory and related literature, the authors note that financial policy restraints may or may not adversely affect investment, the average productivity of capital, the size of the financial system, bank insolvency risk or default, moral hazard behavior, and depositor losses in the event of bank failure. Information asymmetries may distort the allocation of resources away from productive activities; interest rate liberalization may reduce the average productivity of capital and increase the probability of financial crisis; and some types of financial restraints (e.g., interest rate ceilings) may enhance the domestic banking system and result in a better allocation of resources. They further note that restrictions on foreign direct investment may, as a result of a misallocation of resources, negatively affect the average productivity of capital. While the abolition of reserve and liquidity requirements could increase the average productivity of capital, these requirements may actually enhance the productivity of capital if government resources are used to finance productive public investment.

The authors' review of the main financial policies of the countries sampled shows that the timing, pace, and homogeneity of liberalization differed substantially across countries and that the abolition of restrictions on capital inflows is a very recent phenomenon in the developed and developing world. Countries had different experiences regarding liquidity requirements, and most (except France and Australia) had abolished liquidity ratios by the 1990s. All countries at some stage used reserve requirements to conduct monetary policy, and these requirements were generally higher in developing countries. Many developed countries (except Germany and the United States) had controls on capital inflows in the early 1980s, while capital account liberalization took place in the mid 1980s and was completed in the 1990s. By 1993, all countries had adopted the capital requirements of the Bank for International Settlements.

The empirical results of the impact of various national financial policies on the average productivity of capital were mixed. Interest rate restraints were insignificant for Finland and Sweden; statistically significant for Australia, Germany, New Zealand, and the United States; and negative for France, Greece, India, and Thailand. The impact of reserve and liquidity requirements varied across countries and was insignificant in all the developing economies. The impact of capital adequacy requirements and capital inflow restrictions on average productivity was also mixed.

The results, say the authors, clearly suggest that the impact of financial policies varies considerably from country to country and probably reflects institutional differences. In developed economies there are important differences between bank-based and capital-market-based financial systems, which may explain why certain policies work differently. The finding that some form of financial restraint may enhance economic efficiency does not support the financial liberalization thesis and may reflect the prevalence of financial market imperfections. In many countries, interest rate restraints and reserve requirements (the focus of financial liberalization programs) had positive effects on the productivity of capital. Capital inflow restrictions, moreover, had positive effects in five countries.

Avenues for further research, say the authors, include the plausible conjecture that financial restraints have positive effects on productivity when institutional quality (prudential regulation and supervision) is weak. Exploration of the interaction between prudential and monetary control would produce useful insights into the effectiveness of financial liberalization and contribute to the debate on financial globalization.

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Program: Federal Budget Policy

Threshold Effects in the U.S. Budget Deficit
PHILIP ARESTIS, ANDREA CIPOLLINI, and BASSAM FATTOUH
Working Paper No. 358, October 2002

Are large federal budget deficits in the United States sustainable in the long run? Are U.S. public finances compatible with the government's intertemporal solvency constraint (i.e., any changes in taxes and government spending are followed by adjustment in future taxation and spending equal to the original change in present value)? Institute Professor of Economics Philip Arestis, Andrea Cipollini of Queen Mary and Westfield College, University of London, and Bassam Fattouh of the Centre for Financial and Management Studies, University of London, present new evidence in the solvency debate by testing whether there have been threshold effects in the U.S. deficit and by explaining regime shifts. They find that the U.S. budget deficit is sustainable in the long run, but it has undergone regime shifts, and that economic policymakers only intervene to reduce per capita deficits when these deficits reach a certain threshold.

Empirical research on U.S. public deficit sustainability has emphasized the importance of regime shifts in U.S. fiscal policy, and studies have shown that government solvency requirements imply that government spending increases have a nonlinear effect on the present discounted value of future government spending. The authors develop a Threshold Autoregressive Model in which trigger points are activated in the budget-cut process whenever the ratio of deficit to output reaches a certain threshold. They expect the fiscal process to follow different dynamics whenever the deficit moves below or above that threshold. The authors test jointly for linearity and stationarity in a quarterly time series from the second quarter of 1947 to the first quarter of 2002. They identify two regimes, each with different budget deficit dynamics, which support the "trigger point" theory of adjustments to U.S. fiscal policy.

The authors determine that the dynamics of the total (including interest payments) real per capita U.S. government surplus are different depending upon whether the (semiannual) change is above or below the estimated threshold value. They also find evidence of half-year delays in fiscal stabilization plans once policymakers react to undesirable decreases in the per capita surplus. The delays may be prolonged by political and institutional frictions in establishing the rules and regulations whereby budgets are drafted, approved, and implemented.

The authors plot the deviations of semiannual changes in the per capita surplus (threshold variable) from the estimated threshold point and identify the dates of significant shifts. They find that, during the 1950s and early 1960s, regime shifts were related to conditions of recession or war. They attribute the three main shifts, from surplus to deficit, that occurred during the 1960s to tax cut proposals, the budgetary demands of the Vietnam War, and sharp increases in domestic spending. A major shift from surplus to deficit followed the 1973 oil crisis. The greatest shift to take place during a period of peace and in the absence of external shocks occurred in the third quarter of 1981 and corresponded to the enactment of legislation aimed at cutting personal income taxes over the next three years. Because those tax cuts were not matched by equivalent cuts in government spending, the federal budget went into deficit and remained there for a considerable period of time. This period saw a number of regime shifts that reflected efforts (e.g., the Tax Reform Act of 1986, and the Balanced Budget and Emergency Deficit Control Act of 1985) to reduce the budget deficit. Coincident with President Clinton's economic policy that emphasized the importance of balancing the budget, the budget went into surplus in the 1990s. The authors cite the slowing of the economy following a period of exceptional growth, and preparations for war in Afghanistan as causative factors behind a shift from budget surplus to budget deficit, a shift that went into effect in the first quarter of 2001.

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Institute News

NEW BOARD CHAIRMAN

Leon Levy, general partner of Odyssey Partners and founder of the Levy Institute, has been named chairman of the Institute's Board of Governors. The board, whose duties include providing guidance to the Institute's research programs, consists of Levy; Leon Botstein, president of Bard College; Martin L. Leibowitz, vice chairman and chief investment officer, TIAA-CREF; Institute President Dimitri B. Papadimitriou, Jerome Levy Professor of Economics and executive vice president of Bard College; Joseph E. Stiglitz, professor of economics, business, and international and public affairs at Columbia University; William Julius Wilson, Lewis P. and Linda L. Geyser University Professor at Harvard University; and Janet Yellen, Eugene E. and Catherine M. Trefethen Professor of Business and professor of economics at the University of California, Berkeley.

NEW RESEARCH STAFF

Research Scholar **Claudio dos Santos** is working with a team of Institute scholars on the Levy macroeconometric models, originally developed for the Institute under the direction of Distinguished Scholar Wynne Godley. Dos Santos's broad areas of research interest are in the fields of macroeconomics and macroeconometrics. He received B.A. and M.Sc. degrees in economics from Rio de Janeiro's Federal University (UFRJ). He is a Ph.D. candidate in economics at the Graduate School of Political and Social Science, New School University; his thesis is entitled "Three Essays on Stock-Flow Consistent Macroeconomic Modeling."

Greg Hannsgen, editor of the Levy Institute *Report,* has joined the Institute as a resident research associate. He is studying the effects of monetary policy and the determi-nants of the supply of money. Previously, he was involved in research on Supplemental Security Income, an interest stemming from four years' work at the Social Security Administration. Hannsgen received a Ph.D. in economics from Notre Dame. He previously earned an M.A. in public affairs from the University of Minnesota in Minneapolis and a B.A. in economics from Swarthmore College.

Thomas Hungerford will become the Levy Institute's research director after the first of the year. He currently is a senior economist in the Social Security Administration's Office of Policy and an adjunct associate professor of economics at American University. His research interests include poverty, income inequality and mobility, social welfare policy, the economics of aging, and time use. Hungerford received a Ph.D. in economics from the University of Michigan.

Senior Scholar **Anwar M. Shaikh** is a member of the Levy Institute Macro Modeling team and professor in the Department of Economics, graduate faculty of political and social science, at New School University. His teaching and research interests include international trade, mathematical economics, growth and cycle theory, national economic accounts, history of economic thought, and macroeconomics. His recent writing has focused on the long-term determinants of exchange rates among OECD countries, of the U.S. stock market, and of inflation in advanced economies. Shaikh's recent articles include "An Important Inconsistency at the Heart of the Standard Macroeconomic Model" (*Journal of Post Keynesian Economics* 24:3: 423-41), written with Distinguished Scholar Wynne Godley. He received a B.S.E. from Princeton University and M.A. and Ph.D. degrees from Columbia University.

Research Scholar **Gennaro Zezza** is a researcher at the University of Naples, Italy. He will be working with a team of scholars on the Levy macroeconometric models, originally developed for the Institute under the direction of Distinguished Scholar Wynne Godley. Zezza has long worked on macroeconometric models, with Godley in the United Kingdom, in Denmark, and at the Institute, as well as at Confindustria in Italy. His other research interests are economic growth, innovation, and regional conver-gence. He is also involved in distance learning projects and has taught economics at the University of Cassino. Among his most recent publications are *Un Laboratorio di Apprendimento a Distanza: Free Software*, *Formazione a Distanza e Lavoro Cooperativo* (A Distance Learning Laboratory: Free Software, Distance Learning and Team Work), Tecnologie Didattiche, 2002. He holds a degree in economics from the University of Naples.

LEVY INSTITUTE-SHANGHAI EXCHANGE

In October, President Dimitri B. Papadimitriou visited the Shanghai Academy of Social Sciences in the People's Republic of China as a Distinguished Scholar. He gave a lecture, "The Revival of Keynesian Economics," and led two seminars, "Reconstituting the Financial Structure" and "Community Development Banking." He also finalized an agreement between The Levy Economics Institute and the Shanghai Academy of Social Sciences for joint research and a scholar exchange.

UPCOMING EVENT 13th Annual Hyman P. Minsky Conference "Fiscal and Trade Policy for Sustainable Growth"

April 15, 2003 New York Hilton, 1335 Avenue of the Americas, New York City

Registration and program information will be posted on the website as it becomes available.

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Publications and Presentations by Levy Institute Scholars

PHILIP ARESTIS *Institute Professor of Economics*

Presentations: "Can Monetary Policy Affect the Real Economy" (with Malcolm Sawyer), International Conference on Monetary Policy, University of Bourgogne, Dijon, France, November 14; "New Keynesianism and the Economics of the 'Third Way" (with Malcolm Sawyer), Sixth International Workshop on "Neukeynesianismus-Der Neue Wirtschafts-politische Mainstream?" Berlin, October 25.

WALTER M. CADETTE Senior Scholar

Presentation: "Roundtable on the Recognition and Measurement of Stock Options," Baruch College, New York City, December 3.

JAMES K. GALBRAITH Senior Scholar

Publication: "The Unbearable Costs of Empire," *The American Prospect*, November 18. *Presentation:* "What Is the American Model Really About? Soft Budgets and the Keynesian Devolution," 8th Annual Workshop on Alternative Economic Policies in Europe, Brussels, September 27-28.

DIMITRI B. PAPADIMITRIOU President

Presentations: "The Revival of Keynesian Economics," "Reconstituting the Financial Structure," and "Community Development Banking," Shanghai Academy of Social Sciences, PRC, October.

GWYNETH H. CROWLEY Head of Information Services

Publication: "Kenneth Boulding," The Scribner Encyclopedia of American Lives, New York: Charles Scribner's Sons, 2002.

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