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

S Jay Levy, *Chairman*
Dimitri B. Papadimitriou, *President*

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

Editors: Karl Widerquist, Ajit Zacharias
Text Editor: Judith Kahn

Letter from the President

To our readers:

This double issue of the Summary features several events. In the program on financial markets and monetary policy, the Ninth Annual Hyman P. Minsky Conference on Financial Structure underscored the renewed general interest in Minsky's work as scholars demonstrated the relevance of an extension of his financial theories to the global financial system. In the program on employment policy and labor market structure, the Institute continued to extend its work on the distribution of income and inequality with a workshop on earnings inequality focusing primarily on technology and secondarily on institutional factors. Note that we will be holding a conference on inequality in the industrialized and developing countries in October. The first major event in our new program on psychology and economics was a symposium during which scholars explored the intersection between models of economic behavior and psychological processes, such as the effects of memory, learning, and religious beliefs on decision making. Finally, as we pursue our plans to expand our academic program, the Institute, in conjunction

with the Association for Evolutionary Economics, conducted a summer program on institutional economics to introduce junior faculty and graduate students to the field.

Publications in the employment program were Resident Scholar Oren M. Levin-Waldman's working paper on the minimum wage and regional wage structure; his policy note on effects of raising the minimum wage as reported in the 1999 Levy Institute Survey of Small Business; and a working paper by Thomas R. Michl, of Colgate University, on reconciling apparently contradictory findings in studies of employment effects of the New Jersey minimum wage increase. Ingrid H. Rima led a seminar on sectoral changes in employment.

Publications in the program on financial markets and monetary policy covered a wide range of topics. Visiting Senior Scholar Malcolm Sawyer, of Leeds University, examines the European single currency from a Minskian perspective. Martin Mayer, of the Brookings Institution, discusses risk reduction in the changing structure of the global financial system. Research Assistant Marc-André Pigeon and Senior Scholar L. Randall Wray examine the effects of demand constraints on economic growth. In two separate papers, Visiting Scholar Mathew Forstater considers the implications of Lerner's and Vickrey's theories for modern employment policy. Visiting Senior Scholar Philip Arestis, of the University of East London, outlines Keynesian alternatives to the European Central Bank. Wray and I discuss Minsky's analysis of financial capitalism. Distinguished Scholar Wynne Godley and Wray analyze the medium-term prospects for the U.S.economy. Resident Scholar Jamee K. Moudud, using data from the 1999 Levy Institute Survey of Small Business, discusses cash-flow and credit problems facing small businesses.

In publications in the program on federal budget policy, Senior Scholar L. Randall Wray and I discuss the true nature and scope of problems in the Social Security system in two policy notes and a working paper; Wray argues that budget surpluses are harmful over the long run; and Senior Scholar Steven M. Fazzari, of Washington University in St. Louis, examines the relationship between capital income taxes and economic performance. There were two seminars: Dean Baker, of Preamble Center, discussed Social Security; Tony Aspromourgos, of the University of Sydney, and Stephanie Bell, of New School University, explored deficit financing of an employer of last resort program.

In the program on psychology and economics, John T. Harvey, of Texas Christian University, led a seminar on the psychological and institutional determinants of foreign exchange rates. The publication under other projects was a working paper by Anwar Shaikh, of New School University, on real exchange rate movements and the international mobility of capital,

As always, I invite your comments.

Dimitri B. Papadimitriou
President

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Institute Research

Program: Employment Policy and Labor Market Structure

The Minimum Wage and Regional Wage Structure: Implications for Income Distribution

Oren M. Levin-Waldman
Working Paper No. 267, March 1999

The debate about increases in the minimum wage often focuses narrowly on two possible effects: increased unemployment among youths and benefits to those earning the minimum wage. According to Resident Scholar Oren M. Levin-Waldman, this narrow focus obscures the critical issue of the effect of the minimum wage on regional wage structure. There is conflicting evidence as to whether minimum wage hikes do have disemployment effects, but whatever effects they have are expected to be small because only a small portion of the workforce earns the minimum wage and many of those workers are teenagers. But if the effects are so small, why do proposals to increase the minimum wage engender so much political antagonism? The heat and persistence of the debate are evidence that increases have far more general effects than are often asserted.

The theory of perfect competition implies that an increase in the minimum wage above the market wage will cause an increase in unemployment and that the only way to increase wages without disemployment effects is to increase worker productivity. Levin-Waldman poses wage contour theory as an alternative theory of labor markets. A wage contour is a group of workers with similar characteristics, working in similar industries, and earning similar wages. The wages of workers in one contour are determined with reference to the wages in nearby contours. If the minimum wage is thought of as the wage contour for lower-skilled workers, it can serve as an important reference point for the wages of workers in surrounding contours. If the minimum wage is increased, firms have to increase the wages of other workers to maintain the relative position of nearby wage contours. Thus, the minimum can have an enormous impact on real wages and the distribution of income for an entire community. Increases in the minimum wage should therefore be examined in terms of this broad impact, not just their impact on those who earn exactly the minimum wage. Levin-Waldman examines the relative influence of education,

industry, region, and institutional factors (such as right-to-work laws and unionization) on earnings around the minimum wage by applying a logistic regression model to census data from 1940 to 1990 for primary income earners. He divides the 50 states into three types: "right-to-work"--states with right-to-work laws, all but one of which have union density below 15 percent; "high union density"--states with union density of 15 percent or more and without right-to-work laws; and "middle"--states with union density below 15 percent but without right-to-work laws. He finds that both institutional and human capital factors are important in determining who earns near the minimum wage. A low level of education increases the likelihood that someone will earn around the minimum wage, but those with less education in right-to-work states are significantly more likely to earn around the minimum wage than those with less education in high union density states.

According to Levin-Waldman, in states with right-to-work laws the federal minimum wage is often the only labor market institution holding up wage contours. It is also from right-to-work states that much of the opposition to the minimum wage comes. States that pass laws making unionization difficult may be seeking to maintain the power of employers at the expense of workers and so would be opposed to the minimum wage. The fact that the most forceful opposition to the minimum wage comes from the states with the lowest wages, in which the minimum wage is likely to have the most impact, implies that the minimum wage does have real effects on the distribution of income.

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Can Rescheduling Explain the New Jersey Minimum Wage Studies?

Thomas R. Michl
Working Paper No. 271, July 1999

David Card and Alan Krueger (using data on total number of employees) found evidence that the 1992 New Jersey minimum wage hike caused employment to increase in the fast-food industry, but David Neumark and William Wascher (using data on total payroll hours) found evidence that the minimum wage hike caused employment to decrease.[1] According to Thomas R. Michl, of Colgate University, firms' ability to change the scheduling of work hours makes it possible that both studies are right.

In Michl's analysis, a firm faces a fixed cost (such as fringe benefits) for each worker it hires and a constant marginal cost (the hourly wage) for each hour a worker is scheduled to work. Unlike the marginal cost, the marginal product is not constant but diminishing because workers become fatigued as they increase the number of hours they work in a week. An increase in the minimum wage increases the marginal cost of each labor-hour, but has no effect on the fixed cost of each

worker. Therefore, an increase in the minimum wage gives firms an incentive to hire more workers and to reduce the number of hours each worker is scheduled to work. If firms in New Jersey behaved in this manner, employment measured by the number of workers (as Card and Krueger did) would increase and employment measured by the number of hours worked (as Neumark and Wascher did) would decrease.

Michl tested this hypothesis by examining data made available by Card and Krueger and Neumark and Wascher in which 52 restaurants volunteered information on the number of nonmanagement employees and their total payroll hours. He found that the typical fast-food worker experienced no change in employment status but a reduction in hours of about 5 percent. This result is consistent with (or at least does not contradict) Neumark and Wascher's and Card and Krueger's findings.

Card and Krueger presented their findings as evidence that the fast-food industry is a labor market monopsony (rather than a perfectly competitive market, as common theory supposes) and that minimum wage hikes can increase the welfare of low-wage workers without significant side effects. Michl's scheduling model does not support the theoretical conclusion that the fast-food industry is a monopsony, but it does support Card and Krueger's findings about the benefits of minimum wage increases to low-wage workers. If the scheduling model holds true and the decrease in hours is more than offset by the increase in wages (as Michl estimates it is), more workers are employed, making more money and working fewer hours, than before the increase in the min-imum wage. Thus, the targeted workers do not necessarily lose out, as many minimum wage opponents claim.

Note

1. David Card and Alan Krueger, "Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania," American Economic Review 84 (1994): 772-793; David Neumark and William Wascher, "The Effects of New Jersey's Minimum Wage Increase on Fast-Food Employment: A Re-evaluation Using Payroll Records," NBER Working Paper no. 5224, August 1995.

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The Minimum Wage Can Be Raised: Lessons from the 1999 Levy Institute Survey of Small Business

Oren M. Levin-Waldman
Policy Note 1999/6

Minimum wage opponents often allege that small business will be hurt by increases in the minimum wage. However, in the 1998 Levy Institute Survey of Small Business most small firms said that their hiring practices were not affected by the 1997 increase to $5.15 per hour and would not be affected if the minimum wage were raised to $6.00. In a second survey, conducted in 1999, only 13.4 percent of firms responded that they would be affected by an increase in the minimum wage to $6.00; 35.8 percent said they would be affected by a increase to $7.25 per hour. Of those firms that said they would be affected, the percentage that would lay off current workers in response to an increase rises from 15.3 percent at $6.00 to 18.2 percent at $7.25. Under the worst case scenario--if these affected firms were to lay off all of their minimum wage employees--the disemployment effect would be only 0.4 percent of the labor force at a rise to $6.00 and 0.8 percent at a rise to $7.25.

Levin-Waldman recognizes that there is a "tipping point," a level of the minimum wage at which serious disemployment effects would begin to occur. However, the survey results suggest to him that $6.00 is well below the tipping point and it is still not reached at $7.25. If so, with appropriate consideration given to wage structure and employment consequences, the minimum wage could be used to boost the income of those at the low end of the wage scale.

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Workshop on Earnings Inequality, Technology, and Institutions

The Levy Institute organized a workshop, held on June 8 through 10, to discuss the persistent growth of earnings inequality despite years of economic growth. The scholars focused on the role of technology in the earnings gap.

Some researchers have attributed the increase in inequality to an increase in demand for skilled workers. **Larry Mishel,** of the Economic Policy Institute, pointed out six reasons to be skeptical about this claim. First, the acceleration in the growth of inequality has occurred only in the last two decades, but the demand for skilled workers has been increasing for much longer. Second, even if demand for more educated workers has outstripped supply, this can explain only a small portion of the increase in inequality because education accounts for only about 40 percent of wage inequality and demand for skilled workers is not the only variable that affects returns to education; globalization and the power of unions are also important factors.

Third, technology has not caused a corresponding increase in productivity, as one would expect if it were the causal factor in inequality. Fourth, recent wage trends do not support the hypothesis; median wages have declined rather than increased, and the college to high school wage differential has not changed. Fifth, the largest increase in inequality happened in the first

half of the 1980s, before widespread computerization supposedly sparked increasing demand for technology-related skills and a corresponding rise in inequality. Sixth, employment shifts do not support the hypothesis. For example, the unemployment rate, a large causal factor in inequality, is usually left out of these studies.

According to **Steven Rose,** of the Educational Testing Service, many studies have used education as a proxy variable for skill and have attributed increasing inequality to increasing skill by some groups, but this method can be misleading. Other studies have shown that education is a loose proxy for skill and that skill has only a small correlation with earnings. When one compares people who were presumably earning a skill premium who lost their job to people with similar skills who did not lose their job, one sees a permanent loss of income for the job losers, implying that they were not being paid for marketable skills but for something else.

Rose believes that an important driving force in increasing inequality is the increasing returns to office professionals. The now prevalent requirement of a college degree for business managers and professionals has created a barrier to entry to those positions. The pay differential has increased along with this occupational segregation, giving the appearance that these workers are receiving a form of rent rather than a skill premium.

Robert Margo, of Vanderbilt University, reported on his study of the history of wage inequality in the United States from 1820 to 1970 in order to put discussion of recent trends in historical perspective. An increase in the wages of white-collar workers relative to blue-collar workers was evident even before the Civil War, and there was considerable wage dispersion among unskilled workers during and immediately following the war. The number of students finishing high school rose in the decades leading up to the Second World War, but returns to education were evident much earlier. Returns to education are actually lower today than they were at the turn of the century. The Great Depression did not cause a long-term shift in inequality in the United States; the distribution of income in 1940 was similar to what it was in 1920. The most significant change in inequality in the twentieth century was a substantial decrease between 1940 and the late 1960s. This change is largely attributable to government intervention to increase the returns to lower-skilled occupations. The trend toward greater equality reversed in the late 1960s, and since then inequality has been gradually on the rise.

Peter Berg, of Michigan State University, and **Thomas Bailey,** of Columbia University, discussed the effects of high-performance work systems (called HPW) on earnings and job satisfaction. A high-performance work system is a work environment in which employees are involved in problem solving and decision making, teamwork is encouraged, training is used to enhance skills, incentives are used to motivate workers to perform well, workers have considerable job autonomy and job security, and the firm commits the resources necessary to accomplish these goals.

A high-performance work system may translate into higher earnings under some conditions. Workers may receive rewards for performance, an efficiency wage, or higher compensation for

enhanced skills. If HPW causes an increase in productivity, workers may be able to capture some of the increased rent in higher wages. However, HPW may not translate into higher earnings if the intrinsic reward of a more pleasant work environment is accepted as a substitute for higher wages. Berg and Bailey conducted a multivariate analysis of a survey of a random sample of firms in the steel, apparel, and medical technology and imaging industries and found that average wages are significantly higher in firms that practice HPW in all three industries.

Michael Handel, of the Levy Institute and Harvard University, and **Maury Gittleman,** of the Organization for Economic Cooperation and Development and the Bureau of Labor Statistics, discussed their study of the wage payoff of innovative work practices such as HPW and TQM (total quality management). Some authors have presented such practices as the best hope for good middle-class jobs in the United States, but research on their wage effects is inconclusive. For example, some researchers have found a 5 percent wage differential associated with TQM, but others have found a differential of only a tenth of a percent. Two reasons wages may not increase in response to these practices are the lack of power of workers to compel firms to share productivity gains and the substitution of the more pleasant work environment for higher wages.

Peter Cappelli, of the University of Pennsylvania, discussed his empirical evaluation of the skill-biased technical change hypothesis, which holds that the use of computers increases wages and therefore increases inequality. He used data from the National Employer Survey. The dependent variable was wages by occupational group, the primary independent variable was computer use, and there were a number of control variables for human capital characteristics, industrial characteristics, and organizational attributes (such as whether the company used total quality management or self-managed teams). He found that, when human capital characteristics were controlled for, the use of computers had small but still significant effects. There were significant effects for TQM and self-managed teams, suggesting that something more than just human capital was determining wages.

Todd Idson, of Columbia University, discussed the wage effects of skill-biased demand shift and employer size. He discussed possible explanations for the fact that larger firms pay higher wages than smaller firms. The productivity hypothesis suggests that larger firms pay higher wages because they are more capital intensive than smaller firms, which makes their workers relatively more productive. Efficiency wage theory suggests that larger firms pay higher wages because it is more costly for them to monitor workers' behavior. Insider-outsider theory suggests that larger firms pay higher wages because they are more likely to be unionized than smaller firms. However, empirical investigations have been unable to attribute the size-wage differential to any one of these factors.

The productivity hypothesis predicts that larger firms will adopt new technology faster than smaller firms, so that the size-wage effect would increase over time with technological change. Idson found that data from the 1970 and 1990 censuses of manufacturers were consistent with this hypothesis.

Michael Handel has found that computerization is not a sufficient explanation for growing wage inequality. Alan Krueger has attributed the growth of inequality to the growth of the use of computers in the workplace, but, according to Handel, Krueger's estimates were biased by the fact that he took the use of computers to be the only indicator of the type of work employees performed. Handel found that a number of other job task indicators, such as reading memos, using mathematics or diagrams, and using a pencil, had an effect on employee wages similar to that of computer use, suggesting that it is not specifically the ability to use computers that causes a person's wage to increase, but that computer use is simply a proxy variable for having an office job.

According to Handel, the timing of the increase in inequality does not support the hypothesis that computers are behind the change in the wage structure. The greatest growth in inequality occurred in 1981 and 1982, but the widespread use of computers did not begin until after 1984. Researchers have argued that even if computerization is not the main cause of increased inequality, it is still a contributing factor. When Handel tested this hypothesis by adjusting 1989 rates of computer use to the 1984 level, holding all else constant, his results suggested not even a secondary role for computers.

Andrew Glyn, of Corpus Christi College, Oxford University, discussed findings from his study of OECD countries. In some areas of Europe the unemployment rate of the least qualified workers is three times that of the most qualified. The least educated and poorest paid are also the least likely to have pensions but are the most likely to retire early, implying that early retirement is not voluntary. Countries with more egalitarian educational structure are expected to have more equality in wages, but there is not a high correlation between the two. Imports from low-wage counties have often been blamed for inequality, but there is only a small statistical correlation.

Some advocates of labor-market flexibility have argued that there is a trade-off between unemployment and wage inequality, based on a correlation between difference in earnings distribution and difference in unemployment rates. However, according to Glyn, statistical evidence that earnings distribution differences are not the dominant explanation of different unemployment rates casts doubt on the claim that deregulation and increased flexibility are the solution to the unemployment problem in Europe. Glyn advocates policies to generate more jobs.

David R. Howell and **Ellen Houston,** both of New School University, discussed the hypothesis that rising inequality in the United States is caused by skill-biased demand shift. They evaluated this hypothesis using data from the March Current Population Survey and direct and indirect measures of the skill requirements of jobs. These measures include education, real wages, and cognitive skill requirements. They found a high correlation between all these factors and wages. However, if the skill-biased demand shift hypothesis is correct, one would expect a positive correlation between growth in hours, growth in wages, and skill levels and a strengthening of this relationship over time and with the level of occupational detail.

Howell and Houston's findings did not support the skill-biased demand shift hypothesis. The

positive association between change in hours and change in wages diminished as occupational detail increased; the relationship between growth in hours and growth in wages diminished over time; and the relationship between skill and change in wages, although positive, diminished over time. A better explanation for the increase in inequality, according to the authors, is a fundamental policy shift since the late 1970s toward a more laissez-faire economic policy. This policy allowed U.S. factories to take low-road strategies with low investment in technology and training. This strategy is quite the opposite of skill-enhancing technical change, but just as likely to cause increasing inequality. Europe has faced similar global pressures, but has responded differently, and some European countries have managed to maintain both high wages and high employment levels.

Markus Jäntti, of Abo Akademi University, has found little evidence to support suggested causes of increasing inequality in Finland. The change in the dispersion of earnings from 1970 to 1995 has been remarkably similar across industries. Finland experienced the most severe peacetime recession in its history in the early 1990s with the shock to its economy of the fall of the Soviet Union, but the effects of this shock on the distribution of earnings are hard to discern. Some authors have attributed the increase in inequality that was observed from 1975 to 1990 to skill-biased demand shift, but there is no evidence of an across-the-board increase in demand for more-educated workers. The growth in the demand for university graduates has been slightly higher in the 1990s than it was in the 1980s but about the same as it was in the 1970s. This pattern of demand growth is inconsistent with the skill-biased demand shift hypothesis.

Research is needed into the role unions and the Finnish system of centralized collective bargaining might play. In Finland, an agreement between a coalition of firms in highly unionized industries and a coalition of unions is negotiated every two years. The payment by firms of more than the amount stipulated by the agreement could explain increasing inequality, but normally they do not pay more.

Steven Machin, of University College, London, discussed the hypothesis that the recent increase in inequality in developed nations can be attributed to increased trade with less-developed nations. The Heckscher-Ohlin theory predicts that opening of trade between a more-skilled nation and a less-skilled nation will cause the more-skilled nation to move toward specialization in skill-intensive industries and the other nation to move toward specialization in other industries. This would imply an increase in wage inequality in the more-skilled nation and a decrease in wage inequality in the less-skilled nation.

According to Machin, however, the observed data do not support the theory. First, the wage differential has not risen in all OECD nations that have recently liberalized trade with non-OECD nations. Second, the bulk of the shift in wages has been within, not between, industries, as the theory predicts. Third, there is no correlation between skills upgrading and measures of trade intensity. Fourth, nontradable goods industries are demanding more highly educated workers, contrary to what one would expect if trade was the causal factor. Fifth, there is little evidence in most OECD countries that producer prices are going up more in skill-intensive

industries than in other industries. Sixth, and perhaps most damaging, equality is not increasing in less-developed countries, as the theory predicts. Machin concluded that some of these inconsistencies could be attributable to the Heckscher-Ohlin theory's faulty assumption of full employment in all nations.

Edward N. Wolff, of New York University and the Levy Institute, in contrast to many of the other workshop par- ticipants, presented evidence that computerization has contributed to increased inequality. A large increase in expenditures on office, computer, and accounting equipment since 1968 coincided with the increase in inequality. No matter what control variables Wolff added to his regression equations, this strong and significant effect remained. Institutional factors, however, also matter. Unionization peaked in the 1950s, when inequality was decreasing, and the minimum wage peaked (in real terms) in the 1970s and then declined, closely tracking trends in inequality.

It is often argued that better education will help improve both productivity and equality, but, according to Wolff, the evidence does not bear this out. There is a link between education and income, but improving education does not necessarily improve the distribution of income. A large increase in U.S. educational attainment has coincided with a decrease in median family earnings and a decline in the growth rate of productivity. A rise in cognitive skills since 1970 has coincided with stagnant earnings. Furthermore, the variance of the distribution of education has fallen since the 1980s, but the variance of the distribution of earnings has increased. Wolff suggested that skills are acquired in school up to about eighth or tenth grade, but after that the fact of attendance serves more as a form of screening than as a reliable indication of learning. Employers assume that individuals who have completed more years of school are more intelligent or more capable than others, regardless of whether they really did learn anything of value in those additional years.

Robert Pollin, of the University of Massachusetts Amherst, discussed efforts in many cities to pass laws mandating that all city contractors pay a living wage, that is, a wage that is high enough to support workers' families. A Los Angeles proposal calls for a wage of $7.50 an hour with health benefits and paid days off; proposals in other cities have called for a wage as high as $10.00. Some proposals have included not only city contractors but also city vendors and any business receiving a subsidy, which is nearly all businesses. If so many businesses are to be included, one could ask, why not simply raise the minimum wage citywide? A citywide raise would be politically more difficult to enact than partial raises, and it raises the question of whether it will hurt the competitiveness of businesses within the city limits.

Pollin attempted to answer the question about competitiveness by surveying 451 firms in New Orleans, asking how they would be affected by a citywide increase in the min- imum wage to $6.50 an hour. The direct cost to firms would be only 0.7 percent of total output. Indirect costs would add perhaps another 0.9 percent, but this amount is still too small to have serious negative consequences for the average firm. Pollin found that most firms faced with a higher minimum wage would try to increase prices or productivity or would suffer lower profits (if they could

afford it) before resorting to laying off workers or relocating. Other studies have found that firms increase prices in lockstep with increases in the federal or a state minimum wage, but whether firms can do this with an increase in a municipal minimum wage depends on whether their competition is primarily inside or outside the city.

Conchita D'Ambrosio, of Bocconi University and New York University, discussed regional and demographic aspects of inequality in Italy. In 1987 the distribution of wages was similar in the north and south, but now more people in the south have incomes farther below the mean. There has also been a shift in the distribution of wages by educational group, with little or no corresponding shift in the number of people in each group. A change in the wage distribution by age largely accounts for the change in the distribution of income by region.

Institutional factors, according to D'Ambrosio, have also played a large role in changing the Italian distribution of income. Until the 1980s a national contractual minimum wage--set by centralized collective bargaining and applying to union and nonunion employers--was automatically adjusted for inflation, but since then it has remained fixed, causing a decrease in the real wage, primarily in those regions where unions are weakest.

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Sectoral Changes in Employment: An Eclectic Perspective on Good Jobs and Poor Jobs

Ingrid H. Rima
Seminar, May 3, 1999

Ingrid H. Rima, of Temple University, led a seminar at the Levy Institute on contemporary labor market theory. Most Post Keynesians have focused on macroeconomics and have left micro-oriented labor economics to mainstream economists. This is unfortunate, according to Rima, because contemporary mainstream labor market theory is a straightforward extension of demand and supply theory as applied to input markets, and in it wages serve simply to allocate scarce labor between alternative uses.

Rima applies a mix of models, including Post Keynesian, institutional, and industrial organization, in hopes of creating a more robust way to understand labor market outcomes. She builds heavily on Keynes's insight that wages are uniquely determined by the level of aggregate economic activity and its effect on the level of employment. However, it is no longer relevant to talk about "the" level of employment; instead, it is important to look at sectoral differences in jobs, wages, and price and output decisions of firms. Rima finds a primary division between firms that are price takers and firms that are price makers in their output markets.

Price-making firms have the ability to pass on costs to their consumers. After 1945 the U.S. economy was characterized by large, price-making "megacorps" (primarily in the manufacturing sector) that used capital and labor in fixed proportions. For such firms the mainstream method of determining prices (that is, by equalizing the marginal cost of an input with marginal revenue) is irrelevant because neither capital nor labor can be changed independently. These megacorps, by virtue of their technology and price-making ability, were in position to generate increasing returns, which allowed them to generate good jobs with high salaries and fringe benefits. A symbiotic relationship developed between capital and labor; as long as returns increased more rapidly than labor costs, megacorps could generate more good jobs.

Price-taking firms cannot pass on costs as readily. Because they cannot generate increased sales via lowering output prices, they cannot generate increased employment at high wages. According to Rima, the decline of America's industrial core has destroyed the symbiosis between capital and labor. Labor's inability to command the increases in wages it could in the past could stifle aggregate demand in the future, thereby creating new unemployment.

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Program: Financial Markets and Monetary Policy

Ninth Annual Hyman P. Minsky Conference on Financial Structure

Structure, Instability, and the World Economy: Reflections on the Economics of Hyman P. Minsky

The objective of the Ninth Annual Hyman P. Minsky Conference on Financial Structure, held on April 21 through April 23, was to determine the extent to which current domestic and global economic events coincide with the types of instabilities Minsky describes and to analyze his policy recommendations to alleviate instability and other economic problems. Summaries of the speakers' remarks and the discussion sessions are presented here.

Wynne Godley

Wynne Godley, Levy Institute distinguished scholar, discussed prospects for continued expansion of the U.S. economy. The expansion has been long-lived but not rapid, with an average rate of growth of only 3.2 percent--less than the average rate for the entire period since 1947 including all the recessions. And, quite striking to a Keynesian, the expansion has occurred despite a tightening fiscal stance.

Godley defined three important ratios that can be used to examine the effects of government spending and international trade on aggregate demand. The fiscal ratio--the ratio of government expenditure to the average tax rate--has risen steadily with GDP throughout the postwar period. The trade ratio--the ratio of export propensity to import propensity--has deteriorated since the

beginning of the Asian crisis. The combined fiscal and trade ratio rose until 1992, but has hardly grown at all since then. Thus, the expansion has been occurring despite the contractionary effects of fiscal policy and net export demand. What then has driven it? The answer is an unprecedented increase in private expenditure relative to income.

The private financial balance (measured as the difference between total private disposable income and private expenditure, expressed as a percentage of GDP) has moved from approximately +4 percent in 1992 to -4 percent today. The balance has two components: household and business. The business balance is not unusually low; thus, by far the greater part of the decline is attributable to household spending behavior. Household saving has fallen below zero, and much of the increase in spending has been financed by borrowing, which has grown to an unprecedented scale. Net lending to the nonfinancial private sector has risen from near zero at the beginning of the expansion to 15 percent of private disposable income today. The stock market boom has generated so much wealth that the existing level of indebtedness may not pose a threat to private balance sheets at the moment, but the net flow of credit cannot continue to grow indefinitely.

In the absence of a major fiscal policy change in the United States and given the consensus forecast for growth in the rest of the world, continued expansion of the U.S. economy requires that private expenditure continues to rise relative to income. But for this to happen the growth of debt will have to rise to such incredible proportions that at best the expansion would be halted and at worst the economy would be in danger of instability or severe recession. Godley concluded that it is impossible to say when the expansion will end, but, unless the stance of fiscal and trade policy is changed, a long period of stagnation seems inevitable in the medium term.

S Jay Levy

S Jay Levy, chairman of the Levy Institute, warned that inflation, financial turmoil, and scarcities of needed services are likely to plague the baby boom generation in the 2020s. Between 2015 and 2030 the number of people aged 65 and older ("retirees") will increase 52 percent or by 24 million, while the number of people aged 18 to 64 ("workers") will grow only 2 percent or by 4 million.

An outpouring of Social Security funds (at a rate climbing above $600 billion a year) and the liquidation of private pension and other savings accounts will accompany the tidal wave of retirees. The enormous flow of funds and the simultaneous scarcity of workers will cause inflation, financial stress, a high level of profits, and, especially for retirees, unexpectedly meager standards of living. The labor force is unlikely to be able to provide the services that the total population and especially the elderly will require.

The current 4:1 ratio of workers to retirees will last until about 2010 and then plummet to 2:1. Many people assume that productivity gains will offset the relative decrease in the size of the labor force, but Levy asserted that the evidence until now does not warrant that expectation.

True, GDP per worker in the goods-producing sector (manufacturing, mining, construction, and agriculture) has continually increased, but GDP per worker in the service sector has barely risen. The rapidly increasing demand for services in recent decades was met largely by growing service sector employment, made possible by rising labor force participation by women, but this movement from home to workplace is largely complete.

People require more health care services as they age; they also depend more on others for transportation and household operation. The scarcity of workers who might provide these services will lead to soaring wages and prices. The liquidation of equities held by private pension funds to meet their obligations to retirees threatens to precipitate an unprecedented bear market. The funds pouring into the hands of consumers from these funds and from the Social Security system will themselves be a powerful source of inflationary pressure. Levy assumes that the Federal Reserve will strive to cope with the problem, but monetary policy cannot augment the labor force. He recommends raising the retirement age and increasing immigration to help reduce the imbalance between workers and consumers.

David A. Levy

David A. Levy, vice chairman and director of forecasting of the Levy Institute, discussed the relationship between Hyman Minsky's work and the global economic situation. Minsky's view of the economy is more complex than the neoclassical view. The neoclassical view, in which decisions are rational and uncertainty is an estimable risk, is incapable of explaining events such as the Asian crisis. Minsky's theory can explain crises. Excessive optimism created by a boom leads investors to overextend themselves on credit. The amount of debt and the cost of debt service increase throughout the expansion, creating the need for larger cash flows. But, the failure of those cash flows to keep pace initiates a vicious cycle of defaults, diminishing credit availability, weakening investment, and declining profits.

The profits equation, as derived by Jerome Levy and later by Michal Kalecki, is an accounting identity in which profits are equal to fixed investment plus inventory investment plus dividends minus personal, government, and foreign saving. This identity was central to Minsky's analysis. Recently, the unprecedented decrease in personal saving has been the primary source of profits, while the other components have stagnated or turned negative. According to Levy, when personal saving returns to higher levels, profits will fall and the economy will suffer.

Levy noted that the Asian financial crisis was a global crisis from the start and it is not over. The cause was long-term overinvestment. By the 1990s much of the world was struggling with overcapacity, but firms in Asia continued to invest until the bubble burst. The crisis has spread to Russia and Brazil, the next most vulnerable countries, and even U.S. investment is topping out. Although growth surged through the first part of the year, there is evidence that it is fading.

Levy forecast that there is a high probability that U.S. economic growth will slow sometime in 1999. Growth in profits will depend on the continued slide in personal saving, but if saving stops falling, the economy will slow. Foreign economies are depending on U.S. demand, and

U.S. demand depends on the stock market, which could stall at any time. As to the prospects for a major stock market correction, Levy concluded, "Heavy rain, if not a monsoon, is in the forecast, and one should consider bringing an umbrella, if not a life raft."

Laurence H. Meyer

Laurence H. Meyer, member of the Board of Governors of the Federal Reserve System, identified three lessons he learned from Minsky's work. Crises are an inevitable part of capitalism; because crises and depressions can happen again, policymakers must be ready to respond; open economies with short-term foreign debt are especially vulnerable to financial crises.

Minsky's financial instability hypothesis (FIH), which explains the source of the downturns described by Keynes, can be summed up in three words: Stability is destabilizing. A robust and growing economy inspires investors to take financial positions that are sustainable only as long as the economy remains robust and growing. These financial positions make the economy vulnerable to crisis, but the vulnerabilities are not obvious until the crisis hits. Minsky believed that crises cannot be reformed away. Vulnerabilities can be reduced and their consequences partially counteracted, but they cannot be eliminated. Instability is endemic to capitalism.

According to Meyer, the FIH was at work in Asia. The shocks that supposedly caused the crisis do not seem big enough to have generated a crisis of such magnitude. Rather, perhaps they were merely the triggers of a crisis that was actually a product of the underlying instability of the economies in the region. Many of the vulnerabilities--excessive risk taking, financing long-term investment with short-term debt, government-directed lending, and moral hazard--seem obvious now in hindsight.

How can we keep the gains of capitalism while mitigating its inherent weakness? Nations can learn from the Asian crisis. The fear of a possible crisis is a strong incentive for cautious behavior at present, but that alone will become insufficient as time passes. Policy should be developed to ensure that countries create the institutions necessary to reduce de- stabilizing tendencies. Financial deregulation occurred in the East Asian countries before the institutions that advanced capitalist countries use to mitigate instability were put in place. Exchange rates should be kept flexible. Fixed exchange rates are hard to maintain in a small open economy, and a government should attempt to defend the currency only if it is realistically defendable. A currency is not likely to be defendable if it is considerably overvalued and people are using dollars to pay off foreign debt. The worst case scenario is for the government to defend the currency until it runs out of foreign exchange reserves and then allow it to float. This, of course, is exactly what happened in most East Asian nations.

According to Meyer, nations need a combined strategy of crisis prevention and crisis management, analogous to preventing and putting out fires. One such strategy is improving regulation to ensure adequate risk controls. Some say that more transparency and better information would help, but, in fact, investors and banks simply chose to ignore the many signs

of the vulnerabilities of the East Asian economies. The global financial system needs international standards for banking and banking supervision, monitoring of compliance with such standards, provision of technical assistance to developing countries to adopt such standards, and mechanisms to ensure that private investors bear the costs of risky investments. The operation of such a system would be daunting and even it could not eliminate all crises, but it would be a step in the direction of helping to prevent crises, mitigating those that do occur, and speeding recovery from them.

Martin Mayer
According to Martin Mayer, a guest scholar at the Brookings Institution, most people are not aware of how fragile the U.S. economy was last fall when the Federal Reserve lowered rates and encouraged more lending. The Asian economy had not begun to recover, Russia and Latin America were going down, and Europe was not doing well. If the public had known how bad the situation was, a small decrease in interest rates would not have been enough to turn expectations around.

A financial crisis, according to Mayer, is not when borrowers cannot afford to repay a loan; it is when lenders cannot afford not to be repaid. In Asia people denied that they were in trouble as their debt burden ballooned and compound interest exacerbated the problem. The Asian crisis demonstrated the importance of banks in that region, but the banking system is already marginal in the United States and is becoming marginal in Europe. This marginalization has changed the character of financial markets that the Fed must regulate. Today Fed actions primarily affect asset prices rather than lending, as they did in the past.

There is a growing problem with over-leveraging in U.S. markets. Economists call for transparency, but bankers do not want it. Federal regulations have allowed financial institutions to make their own rules for derivatives, but regulators cannot afford to believe that the people they regulate know what they are doing. Regulators cannot rely on "market discipline"--another term for "banking crisis"; they must substitute regulation for this harsh form of market control. Regulators need to structure the world financial system so that people who invest irresponsibly and people who lend to them suffer from the losses their irresponsibility creates. The people who ran Long-Term Capital Management did not suffer and that is why similar problems are likely to arise again.

Edward M. Gramlich
Edward M. Gramlich, member of the Board of Governors of the Federal Reserve System, discussed whether stabilization policy should rely primarily on monetary or fiscal policy. In the standard macroeconomic model both monetary and fiscal policies affect the economy but through different channels. Their effectiveness depends on the exchange rate regime. Fiscal policy is more effective when exchange rates are fixed and monetary policy is more effective when exchange rates are flexible. When exchange rates are fixed, monetary policy cannot be used for business cycle stabilization because it must be devoted to maintaining the exchange rate.

A major problem with stabilization policy is the lag time between the recognition of the need for action and the effect of the policy on the economy. The time it takes to implement an action is called the inside lag; the time it takes for the action to affect the economy is called the outside lag. Monetary policy has a relatively short inside lag. Once it was thought that monetary policy had a long outside lag because it worked through investment spending, but now, because credit markets are highly anticipatory and monetary policy works through net worth and consumption, it has a much shorter outside lag. Fiscal policy has a longer inside lag and therefore, according to Gramlich, is more appropriate for longer-term goals. Because exchange rates are flexible, monetary policy can be used for stabilization, and fiscal policy can be devoted to increasing aggregate supply.

Gramlich believes that fiscal policy can be used to increase aggregate supply by encouraging saving; if the government runs a budget surplus, people will save more and aggregate supply will increase. The government should treat the Social Security trust fund as separate from the rest of the budget and balance both budgets. Today the main budget is in deficit, but the overall budget is in surplus because of the enormous Social Security surplus. If Social Security is not treated as a separate budget, a large portion of the federal budget will go to support Social Security when its budget is projected to go into deficit. According to Gramlich, if the nonaccelerating inflation rate of unemployment (NAIRU) is known, the Fed could use the Taylor rule, which requires estimating the equilibrium Fed funds rate, raising interest rates when unemployment is below the NAIRU, and lowering them when unemployment is above the NAIRU. However, economists today are not certain what the NAIRU is. A possible solution to this problem is to target the inflation rate instead of the unemployment rate, but a better approach would be to modify the Taylor rule to target changes in inflation and unemployment instead of their level. That is, the Fed should try to keep unemployment and inflation within a given range of values and maintain them by using policy to equate the growth rates of aggregate demand and aggregate supply.

Richard S. Carnell

Richard S. Carnell, assistant secretary for financial institutions, U.S. Department of the Treasury, said there have always been cycles of boom and bust. Programs that attempt to insure against instability can have the opposite effect by encouraging risk taking, as happened in the U.S. savings and loan debacle. Regulators unintentionally encouraged speculation by allowing firms to keep the profits if their risky investments paid off, but insuring them against losses if they did not. Premiums were increased to pay off the growing losses, but this hurt healthy institutions.

According to Carnell, short-term instability is the price to be paid for maintaining long-term stability. He explained with an analogy to forest fires. If the forest service suppresses small fires, dead wood accumulates until eventually there is a much larger and more destructive fire. Too much deposit insurance allows poorly managed institutions to survive, weakening the entire system. Reforms since 1991 have tried to foster market discipline while still protecting the consumer. Over the last six years the Treasury has had a number of regulatory successes, including completing the savings and loan clean up, allowing interstate banking, and heading off

insurance fund problems. But there have been mistakes as well, such as allowing banks to obtain deposit insurance free on the rationale that the insurance fund is large enough and the money in the fund belongs to the banks anyway. According to Carnell, that rationale is incorrect: The money belongs to the taxpayers; they earned it by providing insurance to the banking industry. The government must be a diligent overseer of the banking industry and it must never buy short-term tranquillity at the price of long-term instability.

Session 1. Minsky and the Good Society

Murray Weidenbaum, of Washington University in St. Louis, praised Minsky for recognizing that an economy based on transfer payments creates resentment. Minsky wanted to reform the social welfare system to move people from dependence to productive activity. He believed that the government can achieve full employment by employing anyone who wants to work at a fixed wage. Weidenbaum doubted that such a strategy could be successful because most people in government work-oriented programs fail to make the transition to the private sector and end up back on government assistance. Rather, the best way to achieve full employment is to remove government from the process. Because regulations and taxes depress both demand and supply and reduce the level of employment and economic activity, government, rather than trying to fix market failures, should let the private sector fix government failure.

According to **Charles J. Whalen,** of Cornell and Zhongshan Universities, Minsky's broad theory of capitalist development can provide a valuable starting point for contemporary theorists. The theory illuminates the dynamics of capitalism, helps in fashioning new models of capitalism, shows that unregulated capitalism is unstable, demonstrates that some varieties of capitalism are less flawed than others, and facilitates an integrated view of economic issues. The essential elements of Minsky's theory of capitalist development are historic time, varieties of capitalism, the influence of institutions, credit and finance, the profit motive as the driving force of capitalism, financial innovation, the relationship between policy and the institutional structure, and the need for policy to change as the institutional structure changes. According to Whalen, the theory presents an optimistic vision in which the economy can be whatever we make it to be.

Edward J. Nell, of New School University, said that Minsky preferred a simple but not idealized model of unemployment in which unemployment depends on the level of spending and spending depends on investment and profits. An increase in household saving, for example, hurts profits and therefore increases unemployment. Most economists today do not accept this model, but they have difficulty explaining how involuntary unemployment can exist when wages are positive or why the economy has periodic recessions. The employer of last resort program, first proposed by Minsky, is a market-driven policy in which the government responds to market forces. The program would serve as an automatic stabilizer of both prices and output through the business cycle.

Session 2. Monetary and Financial Policies

James Tobin, of Yale University, discussed the utopian vision laid out in Stabilizing an Unstable Economy. Minsky believed that competitive markets play an indispensable role in the

economy, but financial institutions are the primary source of economic instability and stability depends on government action. Minsky criticized the use of monetary policy to stabilize the economy at a high level of unemployment and proposed New Deal-type measures such as the employer of last resort program, which would employ all unused labor at a fixed wage. Tobin finds such a program unsatisfactory because he defines unemployment not as the inability to find a job, but as the inability to find a job at a wage one is qualified to earn, even if one is willing to accept a job at a lower wage.

According to **C. A. E. Goodhart,** of the London School of Economics, Minsky would be unhappy with current economic models that ignore the role of the banking system and suppose that the federal budget deficit determines the level of inflation by its effect on interest rates. Minsky rejected the neoclassical synthesis, which left money entirely out of its models, in favor of the idea that money was a bond that emerges from debt rather than simply a ration card for goods. The neoclassical link between interest rates and inflation is faulty because, although changes in interest rates do affect asset values, asset values are a poor predictor of overall inflation. Housing is the only asset price that is a fairly good predictor of overall inflation, and stock market prices are an especially poor predictor.

Jan Toporowski, of South Bank University, believes that stock market inflation has marginalized the banking system and has now become the source of crises rather than the speculative activities of banks. Minsky emphasized the evolution of financial positions from hedge to speculative to Ponzi. The stock market has now reached the Ponzi stage in which it is dependent on the future flow of funds to justify current prices. Stock market capitalization does not encourage long-term investment because stocks are a short-term liability. A general lender of last resort for brokers would only increase the level of Ponzi financing.

Session 3. Interrelationships between Finance and Investment

Robert Pollin, of the University of Massachusetts Amherst, discussed the merits of a security transaction excise tax (STET) applied equally to both sides of a trade. There is mixed empirical evidence about whether this tax has the desired effect of dampening volatility. A STET will increase the cost of speculation and decrease the number of speculators in the market. It is hoped that by doing so the tax will decrease the likelihood of herd behavior, but, as some critics point out, a decrease in the size of the herd does not necessarily mean a decrease in herd behavior. Pollin concluded that regulators should experiment with a well-designed STET that takes into account the different transaction costs in different markets so as to avoid distortions.

According to **Steven M. Fazzari,** of Washington University in St. Louis and the Levy Institute, the introduction of ideas from the economics of information has inspired mainstream economists to reject the Modigliani-Miller theorem that financial decisions are irrelevant to the real economy. The rejection of the Modigliani-Miller theorem is in part due to a rediscovery of Minsky's long-ignored investment theory of output and finance theory of investment. Minsky used capital market imperfections to explain why money matters and the central role of finance in the performance of modern economies. Mainstream economists have yet to consider Minsky's

policy of government as lender of last resort, possibly because they believe such a policy would create moral hazard. Minsky admitted that moral hazard could be a problem, but believed that government's failure to intervene could be a more serious problem.

Perry Mehrling, of Barnard College, discussed three aspects of Minsky's theory: the idea that "everyone is a bank," the promise and problem of capital, and the specific role of the state. Everyone is a bank in the sense that firms and individuals in a capitalist society face the same financial problem as banks. They must be sure that their financial inflows equal or exceed their financial commitments. The promise of capital is its ability to drive economic growth. The problem of capital is that as investors' returns increase, they often experience euphoria and begin to base their financial positions on their expected returns. But, collective euphoria can turn to panic when expected returns fail to materialize. The role of the state is to step in at moments of panic as a lender of last resort so that a liquidity crisis brought on in the panic does not become an economic disaster.

Session 4. Irrational Exuberance
Robert J. Barbera, of Hoenig & Co., finds Minsky's theories more useful than neoclassical theory for financial forecasting. Some mainstream economists believe that technical progress and business savvy have eliminated the business cycle, but Minsky would not agree. Most mainstream economists also believed until recently that financial investment in East Asia was a good idea for developed countries. The fall of the Soviet Union and the low unemployment-low inflation economy in the United States led to overinvestment in Asia. The funding of too many bad projects eventually led to retreat, which turned into full-scale capital flight. Nearly everyone in East Asia went bankrupt with dollar-denominated debts and access only to local currencies. U.S. funds that are returning from Asian financial markets are financing a type of spending boom characteristic of the early stages of expansion, but seven years into the current expansion. The resulting boom in earnings has led to the overvaluation of many U.S. companies, but no preemptive tightening by the Fed is likely as long as inflation remains low.

Frank A. J. Veneroso, of Veneroso Associates, and **Robert W. Parenteau,** of Dresdner RCM Global Investors, argued that adaptive expectations are more realistic and fit Minsky's financial instability hypothesis better than rational expec- tations. Based on rational expectations, the behavior of investors as the financial system evolves from robust to fragile must be explained by liquidity preference, but adaptive expectations provides a better explanation. As returns increase, investors adapt their expectations on the assumption that recent returns will continue; they take new financial positions that would have seemed too risky earlier, but seem reasonable based on recent experiences. In a market boom firms that expect an increase in equity prices begin to view debt finance as an inexpensive alternative to equity finance. Firms issue less equity, which helps inflate an equity-price bubble and increase economic fragility. Forecasters who rely on fundamental data are proven wrong and become irrelevant because people make money following the trend whether the trend is rational or not. A model that uses adaptive expectations can explain why the forecasts of professional stock market analysts are not on average correct, as the rational expectations model predicts they will be. If one concludes that

expectations are adaptive, one must recognize that there will always be potential instability. Once firms and households have taken positions that require continued high returns, a shock can send the economy into a debt deflation.

Session 5. International Institutional Restructuring

Thomas I. Palley, of the AFL-CIO, criticized some of the policy recommendations commonly made in the aftermath of the Asian crisis and offered several concrete steps to prevent future financial crises. The consensus in Washington is that the Asian crisis was the result of insufficient transparency, but Palley doubts that improving transparency will prevent future crises. After all, banks often did not use the information that was available to them about the fragility of the East Asian economies before the crisis hit, and in spite of good banking regulations both the United States and Scandinavia have experienced crises. Palley suggested policies he feels would work better to avert financial crises, such as a "Chilean speed bump" rule (a requirement that foreign capital be kept in a country for a certain length of time), a Tobin tax, improved labor standards that would help increase domestic demand, asset-based rather than liability-based reserve requirements for banks, and the defense of weaker currencies by stronger currencies when the weaker currencies are under attack.

Andrew Cornford, of the United Nations Conference on Trade and Development, discussed the role of regulation and supervision of financial institutions in increasing stability. Changes in financial regulation--such as higher capital requirements for international lending, tighter controls on bank exposure, licensing, and limits on conglomeration--might improve the prevention and containment of crises, but regulation alone cannot eliminate instability. Regulation struggles to keep up with financial innovation and often lags behind. Boom and bust cycles bring latent concentration risk into the system in such a way that tools of bank supervision and regulation cannot substantially eliminate it. Macroeconomic policies can help, but they, too, cannot eliminate instability. Lawrence R. Uhlick, of the Institute of International Bankers, stressed the need to have good banking regulation in place before a crisis. Regulators often introduce more restrictive regulations after a crisis, when banks are in paralysis. A particular problem for regulators is whether international banks should be regulated by the home country or the host country. For example, the European Union gives all regulative authority to the home country, while the United States has the most rigorous host country regulations in the world. Whether the United States should adopt Europe's system or vice versa is not clear, but an agreement between the two on a single system for international banking oversight would be desirable.

Session 6. The Financial Instability Hypothesis

Piero Ferri, of the University of Bergamo, discussed what he considers to be the most important themes in Minsky's work and what Minsky left for others to do. Minsky differed from his contemporaries in that he, like the classical economists before him, focused on political economy and oriented his analysis toward policy. He stressed endogenous cycles, nonlinear models, and the importance of finance on real output. Minsky's analysis can be applied to speculative bubbles, but he was more interested in understanding the inherent instability of

capitalism itself, which led him to his anti-laissez-faire theorem: In a system in which the dynamics imply instability, government intervention is needed to maintain stability. He was an evolutionary economist who stressed the continual evolution of capitalism into new forms. Minsky based his financial instability hypothesis on an essentially closed economy, but, as an evolutionary economist, he would have wanted his theory to be adjusted to account for the globalization that has occurred since his time.

Paul Davidson, of the University of Tennessee, discussed Keynes's incompatibility thesis: Flexible exchange rates are incompatible with high growth and full employment. In the years following World War II most of the world had a fixed exchange rate system and there was unprecedented growth in both the developed and the less-developed nations. In the 1970s neoclassical economists used restrictive assumptions, which Keynes had argued against, to support an attack on the incompatibility thesis. Since the abandonment of the international fixed exchange rate system in 1973, the average growth rate, in both the developed and the less-developed countries, has been much lower. Flexible exchange rates have also exacerbated crises, such as in Asia. The international system requires a market maker to maintain exchange rates in a crisis, but today any single central bank is incapable of playing that role because it would run out of its buffer stocks of foreign currency during the crisis.

H. Peter Gray, of Rutgers University, cited the too quick liberalization of international capital flows as the cause of the Asian crisis. The developed countries built up a financial infrastructure over 150 years, but the less-developed countries tried to jump into modern capitalism with free international capital flows without the necessary financial infrastructure. They ended up with a system that was unable to withstand shocks without deteriorating into crisis. Such a shock was precipitated by local investors who thought it was cheaper to borrow in dollar-denominated loans, but were not prepared for the eventuality that their government would be unable to maintain its dollar peg. Banks from the developed world misjudged the risks as well. Investors from the developed world hoped only to get their money out before the local currency depreciated.

Stephen Rousseas, of Vassar College, said that policymakers are unfortunately turning further away from Minsky's insights. Minsky showed that financial innovations can undercut monetary policy. His monetary economics contained no natural values or centers of gravity, no laws of economics, no long-run equilibrium--just continual change. In the 1960s Minsky predicted collapses that never happened, but later said that government--as the lender of last resort and as a fiscal stabilizer--had helped avoid crisis. Today politicians in the United States and Europe are concentrating on shrinking the government, which will only make a crisis more likely. Tight monetary policy and a smaller government may make it difficult to implement policies like those that averted the 1960s crisis.

Session 7. Global Financial Crises: "It" Happened Again in Latin America
Jan A. Kregel, of the United Nations Conference on Trade and Development and the Levy Institute, said that reports on the state of the Brazilian economy at first exaggerated how bad the

situation was and then, when the economy did not melt down, began to exaggerate how good the situation is. Brazil still suffers from financial fragility and its macroeconomic variables look like those in Asia. Earlier in the decade hyperinflation was solved by indexation, but today the dangers are "hyperdeflation" and "hyperunemployment," neither of which can be solved by indexation. The Asian crisis has made it difficult for Brazil to maintain its low inflation policy. High interest rates are required to keep the antiinflation policy in place, but 95 percent of Brazilian government debt is tied to the overnight interest rate. Any increase in interest rates will cause the fiscal deficit to increase and the balance of payments to deteriorate. Devaluation of the currency will not solve the problem; interest rates can come down only if there is an inflow of foreign capital.

According to **David Felix,** of Washington University in St. Louis, mainstream policy recommendations for the Asian crisis (which now are to stimulate the economy) do not follow from mainstream theory (which assumes that the economy is self-adjusting). A version of Minsky's financial instability hypothesis extended to an open economy would have more explanatory power than his original closed economy version. Such a model would require a global lender of last resort, a large integrated public sector to prevent a collapse in aggregate demand, and a fixed exchange rate system with capital controls. Floating nominal exchange rates have increased the volatility of real exchange rates and have increased uncertainty for international investors. Since the collapse of the Bretton Woods fixed exchange rate system in the early 1970s, economic growth and increases in productivity have slowed, unemployment has increased, and more resources have been drawn into the financial sector. Felix concluded that a return to the Bretton Woods system in a modified form may become politically feasible in the near future because of the failure of floating exchange rates.

According to **Normal Gall,** of the Fernand Braudel Institute of World Economics, pensions are a central problem in Brazil today. He recalled Minsky's statement that a full-employment economy supports democracy, but a transfer-payments economy supports resentment. In Brazil, federal, state, and local governments spend 5 percent of GDP on interest payments and well over 20 percent on pensions. Retired workers receive pensions equivalent to what they could earn in a minimum wage job, but pensions for the ruling elite are extremely high. Military police colonels can retire as early as age 45 and collect a pension of $20,000 per month. The São Paolo military police has only 43 active-duty colonels, but it supports 1,000 retired colonels. Hyperinflation allowed the government to finance pensions relatively painlessly, but now financing is more difficult. The need for reform may appear obvious, but the middle class resists it, and Brazilian politicians are resigned to the fact that not all practical solutions are politically feasible.

Session 8. Global Financial Crises: "It" Happened Again in Asia

According to **Martin H. Wolfson,** of the University of Notre Dame, mainstream theories blame a currency crisis on the government's attempts to monetize budget deficits or to pursue expansionary macroeconomic policies that lead to a currency depreciation and a speculative attack. Neither can be applied to Asia, leaving mainstream theorists to pin the blame for the

Asian crisis on moral hazard or crony capitalism. None of these can explain the Asian crisis as well as an internationalized version of Minsky's financial instability hypothesis. A global version of Minsky's theory would have to take into account the effects on financial instability of capital inflows, foreign financing, changing international institutions, and institutional changes brought about by the increasing influence of neoliberal ideology.

Gary Dymski, of the University of California, Riverside, discussed prescriptions for recovery from the Asian crisis implied by Minsky's financial instability hypothesis. When government spending was a smaller portion of total economic activity, debt deflations created crises. When spending played a larger role, governments were able to prevent these crises by inflating away any excessive debt problems. Governments today are less likely to follow this pattern. Korea and Japan recently experienced land price bubbles, but the big bank-big government strategy advocated by Minsky is unavailable, and no one in the East Asian region is capable of acting as a lender of last resort. Debt is overhanging the Japanese economy and unless it is resolved or inflated away, Japan will continue to act as a drag on the global economy. Japan, therefore, needs to stimulate aggregate demand. Although government spending for public works has increased, the amount of spending is insufficient to stimulate aggregate demand adequately. Dymski suggests a program to make housing affordable as one way to push spending toward a sufficient level.

According to **Robert Z. Aliber,** of the University of Chicago, the Asian crisis had elements of a foreign exchange crisis and a banking crisis, but it is uncertain which caused which. Japan had a banking, finance, and real estate crisis without a foreign exchange crisis, but some other Asian nations experienced a banking and foreign currency crisis simultaneously. In either case, the depreciation of Asian currency and decreased demand in the Asian countries will cause the U.S. trade deficit to rise, which will add to a U.S. foreign debt that has been growing since the 1980s.

Philip F. Bartholomew, member of the Democratic Staff of the Committee on Banking and Financial Services, U.S. House of Representatives, asked, "Do you really think that Indonesia was a perfectly healthy economy until it was infected by some spreading contagion from Thailand?" In other words, was the Asian crisis a systemic event in which one country's problems spread to another or did each country experience similar problems at the same time? Bartholomew posited that the primary cause of the crisis was the stagnation of the Japanese economy, which caused a decline in Japanese loans to the region. The solution would have been to resolve outstanding bad debt and move on, but governments are unwilling to acknowledge that many of the loans they have made cannot be paid back. Before the crisis, Japan was the world's largest foreign lender; today Germany is the largest lender. Before the crisis the largest international borrowers were the newly developing East Asian nations; today the largest borrowers are Brazil, the former Soviet states, Korea, and Mexico.

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Minsky's Analysis, the European Single Currency, and the Global Financial System

Malcolm Sawyer
Working Paper No. 266, March 1999

Visiting Senior Scholar Malcolm Sawyer, of Leeds University, applies Hyman Minsky's theory to the European single currency and the global financial system. Minsky's financial instability hypothesis holds that over a period of growth the financial structure of an economy evolves from robust to fragile and becomes susceptible to debt deflations. Because of this inherent instability, Minsky advocated that government employ countercyclical fiscal policy and the central bank act as lender of last resort.

Minsky thought that understanding any economy at any moment requires taking into account the changing institutional structure. With that in mind, Sawyer examines the institutional and policy features surrounding the introduction of the European single currency. Many of the features can be described as deriving from "neoliberalism" or "new monetarism." The level of unemployment is assumed to be determined by supply-side factors, which leaves fiscal policy no role in affecting employment. The democratic process is not thought to be trustworthy enough to control monetary policy, authority over which is given to an independent central banker who sets interest rates to achieve the one overriding goal of price stability.

Minsky believed that in order to perform their role of maintaining stability, governments must be large enough so that changes they make in their deficits are large enough to be effective in offsetting changes in investment. With a single currency, each member state's government will still be large in relation to its GDP, but the fiscal authorities in each state will be barred from running deficits. The only authority empowered to run countercyclical deficits is the EU itself, but its budget would have to be much larger to have significant stabilizing effects.

Minsky believed that a growing economy requires an expanding stock of money, which can be provided only by government budget deficits that are at least partially monetized. According to Sawyer, rules of the single currency that prohibit deficits will make it impossible for member states to increase the money stock. In the most extreme case, in which monetary expansion does not occur, any economic growth would have to be accompanied by declining prices, greatly curtailing the ability of the European financial system to finance investment.

According to Sawyer, changes in the institutional structure of the global economy have generated a need for reform of the global financial system. Since the breakdown of the Bretton Woods system, flexible exchange rates have created extremely volatile exchange rates in real and nominal terms, and this volatility has increased uncertainty in international transactions. Drawing on Minsky's insights, Sawyer makes three policy recommendations. Measures to reduce speculation on foreign exchange markets, such as a Tobin tax on foreign exchange

transactions, should be initiated. Regulation of global financial institutions should be undertaken at the global rather than the national level. A form of international lender of last resort that neither imposes deflationary policy bias nor bails out irresponsible policymakers should be introduced.

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Risk Reduction in the New Financial Architecture: Realities, Fallacies, and Proposals

Martin Mayer
Working Paper No. 268, April 1999

According to Martin Mayer, of the Brookings Institution, many of the proposals aimed at reducing risk in the financial system do not recognize certain realities in the way the system has been operating and the way it is changing. Some have called for greater transparency, but this is not desired by bankers or regulators and is not the kind of fundamental change that is needed in any case. Indeed, banks and regulators rely on the absence of transparency in a liquidity crisis. Even sound banks are in danger of illiquidity because their liabilities (deposits) must be paid on demand while their assets are longer-dated. Illiquidity may thus occur without insolvency, but insolvency may be concealed by a mistaken diagnosis of illiquidity. However, since a liquidity crunch not only can cause a single bank to fail but also can send shock waves through the financial system, regulators step in and connive with bankers to reassure the public that the bank's assets exceed its liabilities. One reason both banks and the central bank will fight to maintain their secrecy is that both believe that they would not be able to calm apprehension under conditions of increased transparency.

A change in the financial system has occurred, Mayer said, and proposals for reform must recognize this. Banks are no longer the most important players. The world financial system is shifting from banks to capital markets as the primary source of investment funds. Financial markets have their own kind of liquidity problems. For a bank, liquidity is the ability to meet payments; for a market, liquidity is the ability of the system to generate a bid for each asset put up for sale. Academics mistakenly measure liquidity by the volume of trade in a market, but it should be measured by the stability of the spreads between bid and offer when a market comes under pressure.

The greatest dangers to the world economy today, according to Mayer, are unquestioned assumptions about the functioning of capital markets. The most serious of these is the assumption that the efficiency gains from increasing the comparability and interchangeability of paper are worth the added risk. Recently, many derivative instruments have been created to

cover market risk and credit risk. Derivatives are touted as "risk management," analogous to insurance, but, Mayer contends, the analogy is false. Insurance is based on the principle of risk sharing, but derivatives are based on the principle of risk shifting, and the risk is inevitably shifted onto those less able to bear it. Derivatives have been used to get around the margin requirements that were designed to limit the amount of a stock's sale price that could be borrowed. In addition, the use of derivatives in foreign markets has created an enormous pool of liquid funds ready to move out at the first hint of devaluation risk. Under such circumstances, even countries with sound macroeconomic policies can find themselves unable to contain a currency crisis. To hold exchange rates steady, they may be forced to increase interest rates. Doing so, however, can depress domestic production, cause banks to default, or create large government deficits. On the other hand, allowing the currency to float may bankrupt local industry if local enterprises have debts denominated in foreign currency (which is often the case).

Mayer suggests several possible reforms: requiring the lender of a cross-border loan to accept a short-term rollover under specified conditions; limiting the creation of off-shore deposits; increasing transparency about borrowers; setting capital requirements for derivatives that at least match their margin requirements; requiring that margins be maintained; and making the debts of large borrowers and the holdings of large traders a matter of regulatory, and perhaps public, knowledge.

Mayer admits that these reforms would increase the cost of cross-border credit, but says they are needed to protect against increased risk imposed by proliferating financial innovation. He concludes that four principles for financial regulation should be recognized: (1) markets do not create the legal order, the legal order enables markets to operate, (2) authorities will always have a more secure grip on lenders than on borrowers, (3) regulatory rules should take into account the new standards that banks employ to evaluate risk, and (4) governments cannot completely redesign the financial architecture, but they can require that private investors be prepared to handle inevitable crises. Safety, not efficiency, must be the primary goal for government intervention, and, according to Mayer, whenever increased efficiency causes decreased safety, the trade-off must be recognized.

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Demand Constraints and Economic Growth

Marc-André Pigeon and L. Randall Wray
Working Paper No. 269, May 1999

Conventional accounts of the current economic expansion in the United States often attempt to portray it as exceptional and to some extent this is true: the unemployment rate has dipped to its

lowest point in 30 years and this is the longest peacetime expansion in U.S. history. However, these accounts often ignore or forget that from 1970 until very recently, per capita output growth in the United States has been slow relative to that in several other developed economies. What explains this period of relative underperformance? Several commentators have suggested that the United States was constrained by either supply or slower productivity or both. Research Assistant Marc-André Pigeon and Senior Scholar L. Randall Wray argue instead that the explanation lies in demand constraints. Change in per capita output growth can be decomposed into the sum of the change in the employment rate and the change in labor productivity. Pigeon and Wray point out that from 1970 to 1996 the U.S. economy changed in a manner starkly different from that in several other developed market economies. While in most other countries there was little or no growth in the employment rate (coupled with relatively high productivity growth), U.S. per capita output growth was about evenly split between growth in the employment rate and productivity. The 25 percent increase in the U.S. employment rate was driven mostly by increased labor force participation of women and, since 1992, a falling unemployment rate. Why did the relatively higher growth in the U.S. employment rate not lead to relatively higher growth in per capita output? The answer is that productivity grew (relatively) slowly. In turn, the explanation for the slow productivity growth lies in a lack of aggregate demand. The experience of developed countries in which high output growth was accompanied by high productivity growth suggests that increases in the employment rate are not necessary to achieve high economic growth. Pigeon and Wray interpret this as supporting evidence for the proposition that economic growth is not primarily constrained by labor supply but by aggregate demand. They argue, for example, that Japan's rapid economic growth until the early 1990s and the subsequent slowdown can be attributed to fluctuations in aggregate demand. If growth is demand constrained, it follows that policies aimed solely at improving supply conditions, such as deregulating the labor market, will not work because they only lead to low productivity growth. Demand-stimulating policies must be used to achieve high rates of output. Finally, Pigeon and Wray argue that the presence of global excess capacity and deflationary tendencies are prima facie evidence of inadequate aggregate global demand. With the rest of the world targeting U.S. import markets, there is little danger that the United States will face supply constraints any time soon. Much of this supply has been absorbed precisely because U.S. aggregate demand in the last three years has been stronger than expected. This is largely the result of strong growth in consumer spending, perhaps due to the run-up in stock prices. If consumer spending slows, when the stock market bubble bursts, and if the government continues to run surpluses in the face of trade deficits, it will then become clear that the U.S. and the global economies have faced and continue to face a problem of inadequate demand, not supply.

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Functional Finance and Full Employment: Lessons from Lerner for Today

Mathew Forstater
Working Paper No. 272, July 1999

The failure of orthodox theory to explain the causes of crises or to provide effective remedial approaches is good reason to revisit the ideas of the great unorthodox economists of the past. Visiting Scholar Mathew Forstater outlines 15 lessons applicable to the present that can be drawn from the work of Abba Lerner on functional finance and full employment.

Lesson 1, the fundamental macroeconomic goals should be full employment, price stability, and a decent standard of living for everyone, and the state should take responsibility for achieving these goals. Lesson 2, policies should be judged by their achievement of these goals and not by their compliance with traditional economic dogma. No measure, such as a balanced budget, should be promoted as a desired end in itself, but only as a means to reach desired macroeconomic goals.

Lesson 3, money is a creature of the state. The state has the power to tax and to designate what will be accepted in payment of taxes. By doing so, the state gives value to what would otherwise be worthless currency. Once it has defined a currency, the state can issue it to purchase goods and to pursue its macroeconomic goals. Lesson 4, taxation is not a funding operation. Because money is a creature of the state, taxation serves only to give value to the currency, not to finance government spending. Therefore, the government budget should be judged only with regard to its effects on the promotion of the fundamental economic goals, not by its attainment of enough currency through taxation to finance spending. Lesson 5, government borrowing is not a funding operation. The logic concerning taxation also applies to borrowing. The government should borrow only if the effects of borrowing are desired. Lesson 6, the primary purpose of taxation is to influence the behavior of the public. For example, the government may increase certain taxes to reduce spending in general or on specific commodities.

Lesson 7, the primary purpose of government bond sales is to regulate the overnight interest rate. Lesson 8, bond sales logically follow from, rather than precede, government spending because citizens must hold currency before they can purchase bonds, but that currency enters the economy only through government spending. Lesson 9, printing money in and of itself has no impact on the economy. Money creation is not independent of the government's three pairs of fiscal instruments: taxing and spending, buying and selling, and borrowing and lending.

Lesson 10, without a full employment policy, society cannot benefit from a labor-saving technological advance; with a full employment policy, such an advance becomes truly beneficial to society. If unemployment exists, economizing on labor will be inefficient because displaced workers will simply be added to the unemployed. With a full employment policy, displaced labor can go into a more productive use. Lesson 11, without a full employment policy, a country must suffer over its trade deficit; with a full employment policy, there is no need to worry about importing "too much" relative to exports.

Lesson 12, attempts to argue that the deficit and the debt are not really as big as they look are counterproductive. Economists must speak out boldly that the size of the deficit does not matter, instead of fearing to shock the public and upholders of traditional doctrine. Lesson 13, when there is unemployment, jobs and money, not resources and goods, are scarce. The lack of money to spend on goods keeps resources unemployed and keeps output below potential. Lesson 14, functional finance is not a policy; it is a framework within which all sorts of policies may be judged. Lesson 15, to achieve full employment, government spending may have to include direct job creation. Traditional fiscal and monetary policies may be ineffective.

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Savings-Recycling Public Employment: An Assets-Based Approach to Full Employment and Price Stability

Mathew Forstater
Working Paper No. 273, July 1999

Nobel laureate William Vickrey formulated an assets-based approach to macroeconomic analysis in which the difference between desired and actual holdings of net financial assets (net nominal saving) is the key variable. It is the government's responsibility to recycle net nominal saving so that unexpected changes in it do not spark either inflation or deflation. Visiting Scholar Mathew Forstater summarizes Vickrey's assets-based approach and demonstrates how deficit-financed guaranteed public employment can recycle saving.

Vickrey was skeptical about mainstream economic theory, which focuses on saving as the cause of investment and assumes that the interest rate will move to ensure that all saving is invested. To Vickrey, saving is income not spent. An increase in nonspending (usually reduced consumption) causes the income of others to fall, which in turn causes them to save less. Saving does not cause investment; investment causes saving. Investment causes the income of others to rise, and so their saving rises as well. If saving is higher than investment, output and national income will decline until saving falls to equal investment. Vickrey believed that government budget deficits could recycle saving into investment to keep output from falling and that large government deficits are one reason the United States has not had a recurrence of a depression of the severity of the 1930s.

Vickrey felt that a new tool was needed to complement fiscal and monetary measures to achieve full employment, stable prices, and economic growth. In that spirit, Forstater proposes deficit-financed job creation as an effective automatic stabilizer to recycle saving. In this scheme, the government pledges to hire anyone ready and willing to work at a basic public sector wage. Savings-recycling public employment will not generate inflation because the deficit will be

permitted to expand only to the point at which the gap between desired and actual holdings of net financial assets is filled at zero involuntary unemployment. This is achieved by making sure that the deficit is exactly equal to the wages paid to workers hired under this program.

According to Forstater, this program will provide an anchor for the price level; the wage is set exogenously by the government so it would set a stable benchmark for wages paid in private sector employment. Furthermore, the program will keep human capital from deteriorating as it does when workers are unable to find jobs in the private sector, and the government can use this labor to enhance the efficiency of private sector industries. A savings-recycling public employment program could be the automatic stabilizer for inflation Vickrey was looking for and simultaneously provide truly full employment.

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The Independent European Central Bank: Keynesian Alternatives

Philip Arestis
Working Paper No. 274, July 1999

The European Union (EU) is preparing to put in place an independent European central bank (ECB) that will have inflation control as its overriding goal. Visiting Senior Scholar Philip Arestis, of the University of East London, proposes a European clearing agency (ECA) as an alternative. In such a system inflation control will be only one of several important goals.

Under the central bank system, national central banks will become operating arms of the ECB. The ECB will be headed by an appointed official who will not be accountable to any elected body. According to Arestis, this strategy relies on the assumption that appointed central bankers are more trustworthy than elected governments. But with central bankers' heavy emphasis on "sound" money, they are prone to pursuing deflationary policies at the expense of full employment and growth targets. This pursuit would heighten, rather than mitigate, financial fragility because the option of monetizing government debt will not be open to national governments. All the while independent central bankers are insulated from political pressures and as such are not accountable for their actions.

The ECB will preside over a single currency area, which the EU regards as the logical next step. But, according to Arestis, it is not the best next step to take. First, a movement to fully fixed exchange rates with the single currency would increase the difficulties faced by weak currencies and remove the ability of the governments of member nations to control inflation via sterilization. Second, recent experience has shown that in a world of free capital mobility, a fixed exchange rate regime encompassing more than a small group of very similar (in terms of

economic performance) countries will have negative effects on exchange rates and unemployment levels. Third, because there are significant differences among the EU countries with respect to labor market institutions, supply shocks will affect wages and prices differently in different parts of the single currency area, causing adjustment difficulties throughout the EU. These difficulties perhaps could be ameliorated if the EU had appropriate fiscal policy tools at its disposal, but fiscal policy is still under the control of member nations. The ECB is unlikely to provide the required stability for a successful European monetary system and can thus damage the long-term prospects for European unification.

Arestis's clearing agency proposal draws on the ideas of Keynes, Kalecki, and Paul Davidson about international monetary reform. The basic aim of the proposal is to ensure full employment. There is a clear recognition that such a commitment entails reciprocal rights and responsibilities between surplus and deficit countries. The ECA will coordinate a fixed but adjustable exchange rate system and it will be granted powers to enforce its objectives. A European investment agency will operate under the authority of the ECA to provide long-term lending, especially to the less-industrialized countries of the EU. Antispeculation measures will be instituted to mitigate instability, allowing exchange rates to be determined by forces other than erratic speculative capital movements. Such a system will have the ability to adjust macroeconomic policy to the needs of the member nations while maintaining stable exchange rates, thus encouraging long-run capital flows. The ECA will tackle any balance of payments crises that might arise and it will keep the EU on the full employment path.

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Minsky's Analysis of Financial Capitalism

Dimitri B. Papadimitriou and L. Randall Wray
Working Paper No. 275, July 1999

Hyman Minsky believed that capitalism has assumed different forms over time. He focused on the form that has been dominant in the developed countries since the end of World War II--financial capitalism. President Dimitri B. Papadimitriou and Senior Scholar L. Randall Wray discuss how Minsky's model of financial capitalism can help us to understand the increasing fragility of the modern economy, which conventional models are unable to explain.

Financial capitalism is characterized by large firms with considerable market power and a big government that can help protect the economy from crisis. According to Papadimitriou and Wray, conventional economic models cannot integrate the features of financial capitalism because they focus on households, assume perfectly competitive firms, and assume that markets have natural stabilizing tendencies. Minsky focused on how firms with market power finance

their investment, not on how households make their consumption and saving decisions. It is impossible to conceive of a perfectly competitive economy in the world of financial capitalism, in which huge financial positions must be validated to keep the economy out of recession. Minsky believed that cycles are endogenously generated and are not due to shocks. An exogenous event can precipitate a crisis but cannot generate a crisis unless the economy has already evolved into a fragile position. He credited the rational expectations school with saying that economic agents "have a model of the model" (of how the economy works), but he criticized this school for believing that the model being used by agents is the correct model. Minsky held that agents understand that the model could be flawed, which is why uncertainty plays a role in their decision making. Minsky accepted the position of the rational expectations school that agents change their expectations to take into account the actions of government.

One of the main differences between Minsky's model and the mainstream model is that, in Minsky, money is endogenously supplied and bankers live in the same expectational environment as everyone else. In such an environment, at the same time that agents attempt to take increasingly risky positions, lenders become more willing to finance such positions. The financial instability hypothesis, then, portrays financial capitalism as fundamentally flawed because each time the government successfully contains a crisis, it gives bankers and firms an incentive to engage in further risk taking, which increases the vulnerability of the economy to future crises. Two institutions are necessary to constrain the inherent instability of financial capitalism. Big government with countercyclical deficits is necessary to put a floor on aggregate demand and thus on output. Big bank (a strong central bank) must act as lender of last resort in a crisis to put a floor on asset prices to prevent debt deflation. But, because such action will encourage risk taking, the central bank must also continually regulate and supervise bank activity.

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Can Goldilocks Survive?

Wynne Godley and L. Randall Wray
Policy Note 1999/4

The United States seems to be experiencing a Goldilocks economy--not too hot to cause inflation and not too cold to cause unemployment. Many commentators predict that the Goldilocks economy will continue well into the future despite economic turmoil in the rest of the world. Distinguished Scholar Wynne Godley and Senior Scholar L. Randall Wray analyze the impetus that has driven the expansion and conclude that Goldilocks cannot survive.

According to Godley and Wray, the consolidated government budget balance (combined

federal, state, and local governments), the current balance of payments, and the private financial balance must, by accounting identity, sum to zero. Thus, if the public sector runs a surplus and the trade balance is in deficit, the private sector, by definition, must be in deficit. The fiscal ratio (the ratio of government spending to the average rate of taxation) grew nearly every year from 1960 to 1992, but since 1992 it has fallen from 14.5 percent of GDP to -3 percent in 1998. The trade ratio (the ratio of total U.S. exports and international transfers to the average import propensity, or the ratio of imports to GDP) has been increasingly negative. The combined fiscal and trade ratio clearly shows the shift after 1992 from a stimulative fiscal and trade stance to the most restrictive stance since 1961.

How can Goldilocks be so robust when both the fiscal and trade stances are so restrictive? According to Godley and Wray, the answer is the record indebtedness of the private sector. Before 1992 a private sector deficit was rare, never persisted for more than 18 months, and was never much more than 1 percent of GDP. Today it is nearly five times greater than ever before and has already persisted twice as long as any deficit in the past. It is impossible to say just when Goldilocks will succumb, but as soon as private sector spending stops expanding relative to income, GDP will stop growing. Stock market gains have fueled some of the private sector's deficit spending. But since continued economic growth requires an increasing private sector deficit, the stock market would have to climb even further for growth to continue at the same pace. Even if this climb were possible, it is not clear that the resulting growth path would be desirable.

According to Godley and Wray, given the realities of the U.S. trade imbalance, public sector surpluses are consistent with economic growth only as long as the private sector's financial situation deteriorates at an accelerating pace and this is not sustainable. Instead of attempting to run surpluses, the federal government should move toward a stimulative fiscal stance. If the trade ratio improves, a less stimulative fiscal stance could be adopted. However, the notion that a fiscal surplus is sustainable and that it promotes growth should be abandoned.

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1999 Levy Institute Survey of Small Business: An Impending Cash Flow Squeeze?

Jamee K. Moudud
Policy Note 1999/9

Limited access to bank credit and modest sales expectations may be curtailing small businesses' plans for hiring and capital investment, according to Resident Scholar Jamee K. Moudud. In response to questions in the 1999 Levy Institute Survey of Small Business about finance

requirements, almost 44 percent of firms said their expansion plans would be financed internally, 21 percent said expansion would be financed externally by bank credit, and another 20 percent said they would rely on a variety of external nonbank forms of financing. (The 1999 Levy Institute survey polled 486 firms having between 5 and 500 employees.)

Almost 42 percent of firms surveyed said that demand conditions were the most important factor determining their hiring plans for the coming year. Only 12 percent said that they plan to purchase new equipment and almost 42 percent said they do not plan to expand productive capacity. According to Moudud, these findings suggest that a large portion of small businesses expect to face some internal cash flow constraint in the coming year because both internal cash flow and access to bank credit depend largely on the strength of sales. Moudud finds that in this late phase of the business cycle small firms are relatively cautious despite the economic euphoria in the stock market. The heavy reliance by a large portion of this sector on internal finance to fund expansion raises questions about its growth potential if the U.S. economy slows in the coming year. In addition, in a downturn the cash flow squeeze would be exacerbated by tight credit markets.

If firms face a cash flow squeeze in the near future, programs to provide credit to small business might help. Also, because many small businesses are not aware of current government programs that provide credit to small businesses, improved means of disseminating information about them is also needed.

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Program: Federal Budget Policy

Can Social Security Be Saved?

Working Paper No. 270
May 1999

How Can We Provide for the Baby Boomers in Their Old Age?

Policy Note 1999/5

More Pain, No Gain: Breaux Plan Slashes Social Security Benefits Unnecessarily

Policy Note 1999/8

Dimitri B. Papadimitriou and L. Randall Wray

The news is full of proposals to "save" the Social Security system in response to estimates by

the Trustees of the Social Security Trust Funds that expenditures will fall short of revenues over the next 75 years. Because of the difficulty of making accurate forecasts that far into the future the trustees provide "low-" "intermediate-" and "high-cost" projections. Even the high-cost projection shows the Trust Funds accumulating surpluses over the next 10 years. The low-cost projection shows the funds in balance for the entire 75-year period. The intermediate-cost projection shows a positive balance for the next 25 years and a gap between expenditures and income of 2.07 percent of taxable payroll over the 75-year period as a whole. The high-cost projection shows a gap of 4.97 percent over the 75-year period. In one working paper and two policy notes, President Dimitri B. Papadimitriou and Senior Scholar L. Randall Wray demonstrate that the fears of a crisis in Social Security financing are not well-founded.

In the working paper and Policy Note 1999/5, the authors examine the financial status of the Social Security Trust Funds and discuss the true nature and scope of the problem of providing for retirees. The long-range financial shortfall arises primarily from the trustees' pessimistic assumptions of low fertility rates, increased longevity, low net immigration, low growth of real wages, a falling portion of wages that is taxable, and slow growth of the labor force and productivity. However, if only a few of these variables return to long-run trends, the gap between expenditures and revenue would be closed. Even if the trustees' assumptions prove to be correct, the "looming financial crisis" could be resolved by a 2 percent increase in the proportion of GDP devoted to Social Security, and shifts of that magnitude have been made in the past without resulting in economic disruption. Social Security increased more as a share of GDP over the 35 years from 1960 to 1995 (because of increases in benefits) than it will over the 35 years from 1995 to 2030.

As to the burden to be borne by future workers to support retirees, although the ratio of workers to retirees will decline as the baby boom generation retires, the ratio of workers to the entire dependent population, which includes children as well as retirees, will improve. Workers in 1965 supported more dependents than any generation will support through the year 2075. Because of improvements in productivity, there will be no problem in producing the goods and services required by all consumers. Finally, projections of increases in real wages indicate that even if tax rates have to rise to cover the expected shortfall, tomorrow's workers would still have a higher standard of living than they have today.

Papadimitriou and Wray argue that the accumulation of financial assets in the Trust Funds is unlikely to increase the goods and services available in the future and is not the best way to affect the distribution of goods and services in any year in the future. Only use of the tax system in that year can guarantee that result. Even if the Trust Funds hold enough Treasury securities to cover the entire cost of the Social Security system in, say, 2020, to convert those securities into cash, the Treasury will have to either issue new debt or generate new tax revenue, just as it would if there were no Trust Funds. In other words, the burden of providing real goods and services to retirees in 2020 or any other year will be borne by workers in that year regardless of the taxes imposed today. If the goal is to increase the availability of goods and services in the future, the government must do something to increase the rate of economic growth today. Based

on their findings, Papadimitriou and Wray make several recommendations. The Social Security system should gradually return to a pay-as-you-go system. Payroll taxes should be reduced today and increased as needed in the future. The tax base for the payroll tax should be increased so that more wages are covered and tax rates will not need to be increased as much in the future. The Trust Funds should be capped at no more than 100 percent of expenditures. Fiscal policy should be used to encourage faster growth, greater employment, and higher labor force participation. The trustees should abandon the use of long-range forecasts of the status of the Trust Funds. Major changes, such as partial or complete privatization, reduction of benefits, and an extension of the retirement age, have no place in the reform of Social Security.

In Policy Note 1999/8 Papadimitriou and Wray apply their analysis to the Bipartisan Social Security Reform Plan, known as the Breaux Plan, which claims to keep Social Security solvent for the next 75 years without raising taxes, and to President Clinton's proposal to "lock away" 60 percent of the general budget surplus in the Social Security Trust Funds. The Clinton plan would use 80 percent of this amount to purchase Treasury securities and would invest 20 percent in the stock market. The plan does not recognize that accumulating assets in the Trust Funds today is an accounting fiction that will not relieve the real burden of providing for retirees and that purchasing equities involves real risks.

The Breaux plan would allow a portion of Social Security funds to be invested in the stock market under privately managed mutual funds; it would create voluntary personal savings accounts for adults and children with matching contributions by the government; by slowing the adjustment of tax rates for inflation, it would, contrary to claims, substantially raise taxes; and by slowing the adjustment of benefits for inflation, raising the retirement age, and increasing the number of years of earnings used to calculate benefits, it would cut benefits.

According to Papadimitriou and Wray, the president's plan seeks a solution through accounting manipulation and luck; it provides little gain, but inflicts little pain. The Breaux plan mixes financial fixes with serious consequences for the unlucky retirees whose stock portfolio does not perform well and large benefit reductions for most retirees. It is difficult to assess whether the Breaux plan will eliminate the projected budget shortfalls or not. But it is clear that it is through tax increases and benefits cuts that any improvements might result. It inflicts real pain and still provides no real gain.

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Surplus Mania: A Reality Check

L. Randall Wray
Policy Note 1999/3

The emergence of the first federal budget surplus in a generation in 1998 and its projected persistence for the next several years have been greeted with great approval by mainstream economists. Some believe that the retirement of government debt will stimulate private investment and growth by increasing national saving and easing interest rates. President Clinton has proposed that roughly 60 percent of the surplus be locked away for future Social Security payments. Senior Scholar L. Randall Wray provides historical evidence and theoretical arguments to dispel such euphoria.

Since 1776, in the United States, there have been six periods of substantial budget surpluses and significant reduction of government debt. All these periods were followed by depressions. Since World War II, there have been no depressions, but there have been nine recessions, each of which was preceded by a reduction in the ratio of budget deficits to GDP. Thus, history suggests that, over the long run, deficits stimulate the economy and surpluses are harmful.

At a theoretical level, Wray argues that a surplus cannot be "saved" for future use or "used" to finance tax cuts or spending increases. A surplus is simply a flow, the excess of tax revenues over government spending. The balance sheet implication of a surplus is that the stock of publicly held government debt (cash, bank reserves, or government bonds) is reduced. Transferring a percentage of the surplus to the Social Security Trust Funds, that is, matching a percentage of the debt thus retired with the creation of new Treasury debt held by the funds, merely creates an accounting entry stating that the government owes itself that amount. If at any time government revenue falls short of government spending (including Social Security expenditures), the government has to issue new debt to cover the shortfall. Neither budget surpluses nor an accounting fiction such as the Social Security Trust Funds can change that fact. Wray's conclusion is that the economy cannot grow robustly while the government absorbs disposable income and wealth from the private sector by running surpluses; when the economy slows, the surpluses will disappear; and surpluses cannot be "locked away" for future use.

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Capital Income Taxes and Economic Performance

Steven M. Fazzari
Policy Note 1999/7

Supply-side economists generally believe that lower taxes on various forms of capital income will always lead to higher capital formation and higher growth. According to Senior Scholar Steven M. Fazzari, of Washington University in St. Louis, this belief ignores certain crucial problems: the impact of tax reform on the user cost of capital, the impact of the user cost on capital formation, and the impact of capital formation on economic growth. Fazzari finds that tax

reform that substantially reduces capital income tax will have only minimal effect on capital formation and growth.

The user cost of capital consists of, most simply, the depreciation rate of tangible capital assets and the financial cost of capital. Tax policies aimed at boosting investment typically are designed to lower the interest rate and thereby lower the financial cost of capital. The impact of these policies is limited by the share of the financial cost in the overall cost of capital. Typically, the share of the financial cost in the overall cost is about 23 to 33 percent. Consequently, the overall cost of capital will decline by only a relatively small amount even if capital income taxes are reduced dramatically.

Even if the cost of capital is reduced, it is not clear whether that reduction will have a significant impact on capital formation. Although economists often assume that a 1 percent cut in the cost of capital will lead to a 1 percent rise in capital stock, an empirical study using extensive firm-level data has found that the likely rise in capital stock will be only 0.25 percent. Moreover, a higher capital stock in itself is not worthy as the ultimate goal of policy if it does not lead to higher output. Most quantitative analyses assume that a 1 percent increase in capital, with labor supply remaining unchanged, will lead to a 0.3 percent increase in output.

Of course, the effect of a tax cut on output is the product of the three elasticities--the elasticity of the cost of capital with respect to tax rate, the elasticity of capital stock with respect to its cost, and the elasticity of output with respect to capital. All these elasticities are considerably less than one and therefore, when multiplied together, yield a really small number. Furthermore, contrary to the rhetoric surrounding the debate, conventional growth models predict that the cut in capital income taxes will have only a transitory effect on the growth rate of capital and output. A regressive tax policy, as implied by the lower capital income taxes, Fazzari concludes, may thus involve significant social costs without bringing about any significant gain in output.

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Social Security: Is There a Real Problem?

Dean Baker
Seminar, March 16, 1999

Dean Baker, of Preamble Center, led a seminar at the Levy Institute in which he gave evidence that the supposed looming Social Security crisis is greatly exaggerated. The Social Security Trustees estimate that, under current tax and benefit laws, the Social Security Trust Funds will be able to support 100 percent of benefits until about the year 2020, but only about 72 percent after that. The decline in support is usually blamed on the retirement of the baby boom

generation, but Baker stated that the cause is increased longevity. Social Security projections show the shortfall lasting at least until 2070, well past the demographic impact of the baby boom retirement. Baker noted that the fall of the ratio of workers to beneficiaries may not be the signal of crisis that people assume it must be. The ratio of producers to consumers in agriculture has been falling for a century, yet we are well fed. As long as productivity is rising, a fall in the ratio of producers to consumers is sustainable. Furthermore, the ratio of workers to the total dependent population, which includes both retirees and children, is changing much less. The increase in the number of people of retirement age is partially offset by the decline in the number of children and a rise in the number of women in the workforce.

The trustees estimate that Social Security spending will have to rise by a little more than 2 percent of GDP over the next 30 years. This is a significant increase, but it is smaller than the 2.5 percent increase in Social Security spending over the 30 years from 1965 to 1995, the 2.8 percent rise in education spending over 20 years from 1946 to 1966, and the 8.3 percent increase in military spending over only a two-year period (1950 to 1952) during the Korean War. All of these spending increases were large and had real effects, but none of them created a financial crisis. Therefore, Baker believes, it is unlikely that Social Security will cause a crisis either.

According to Baker, a rise of even 2 percent in Social Security spending may be exaggerated. The figure results from the trustees' rather pessimistic assumptions about immigration, the unemployment rate, labor force participation, and population growth. Advocates of Social Security privatization use these pessimistic assumptions to project the cost of maintaining the current system and then adopt rather optimistic assumptions to project future stock market earnings. But, if economic growth slows as much as the trustees assume it will, stock market returns will fall also.

The tax hike needed to eliminate the shortfall in funds is smaller than one might imagine after hearing all of the talk about crisis. A phased-in tax increase over the next 36 years would eliminate the shortfall without eliminating growth in after-tax, real wages. Baker suggested, however, that it might be better to take the money out of general revenue. Regressive Social Security taxes have already been increased in recent decades by more than enough to eliminate the budget deficit, when general income tax increases could have been used for that purpose.

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Financing Full Employment

Tony Aspromourgos and Stephanie Bell
Seminar, June 16, 1999

In a seminar at the Levy Institute, Tony Aspromourgos, of the University of Sydney, and Stephanie Bell, of New School University, discussed the financing of the employer-of-last-resort (ELR) program proposed by Senior Scholar L. Randall Wray. Aspromourgos said that he was in broad agreement with the macroeconomic goals of an ELR and with Bell's financial analysis of it, but he does not believe that Wray's claims that an ELR can be financed entirely from money creation follow from Bell's analysis. If an ELR causes the deficit to increase, it will cause an increase in bank reserves, and there will be a need to drain those reserves by selling bonds. According to Aspromourgos, it is not certain that such financing can be sustained forever. An increase in the interest rate causes a decrease in the size of a sustainable budget deficit, and one cannot be sure that the budget deficit associated with the ELR will remain in the sustainable region.

Bell replied that Wray's conclusions do follow from her analysis. Countries with flexible exchange rates, the power to tax, the authority to declare public receivability, the right to create and destroy money, and the freedom to buy and sell government bonds face no finite spending constraint. She demonstrated that there is no budget constraint for the U.S. federal government. Looking at the consolidated balance sheet of the Federal Reserve Board and the Treasury reveals that taxes are not revenues and interest payments are not costs to the government; all spending necessarily precedes taxation or bond sales, both of which are necessary only if the government wishes to drain excess reserves in order to maintain its interest rate target. Bell concluded that the government should follow Lerner's rules of functional finance by taxing and spending whatever is necessary to maintain full employment and letting the budget deficit emerge as a residual.

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Program: Psychology and Economics

Symposium on Behavioral Economics and Policy

On July 8 and 9 the Levy Institute hosted a symposium on behavioral economics and policy, organized by James Rebitzer, of Case Western Reserve University. Scholars gathered to present their latest research and to discuss the future of the field.

One important ingredient of recent civil tort reform at the federal and state levels is the setting of "damage caps," or limits on the size of trial awards. **Linda C. Babcock,** of Harvard Business School and Carnegie Mellon University, and **Lowell J. Taylor,** of Carnegie Mellon University, presented "The Scales of Justice: The Effect of Cap Magnitude on the Likelihood of Pre-Trial Settlement," which is part of a joint project with Greg Pogarsky, also of Carnegie Mellon. The researchers are examining the effectiveness of such limits in quelling litigation. Proponents of damage caps claim that their implementation increases the proportion of cases that are settled

before trial. Babcock and Taylor presented a simplified model of pre-trial bargaining that shows that in cases in which the defendant and plaintiff are free from any cognitive biases, a damage cap may increase the likelihood of settlement, but if the cap creates a cognitive bias, say, by acting as an "anchor" or a "focal point" for the plaintiff's expectations about the trial's outcome, the cap may have a result opposite to that intended by policymakers and reduce the likelihood of settlement.

Babcock stated that preliminary experimental evidence (with college students as subjects) supports the key implication of the model: When a damage cap exceeded litigants' expected settlement levels, the cap decreased the proportion of settled cases. The same conclusion is suggested by an analysis of effects (from 1979 to 1982) of a damage cap implemented in California relating to medical malpractice cases.

Punitive damages awarded by juries have been the subject of much research and debate in recent years. The observed variability in these awards runs counter to the notion that cases that are similar should be treated similarly. **David Schkade,** of the University of Texas, presented "Shared Outrage and Erratic Awards: The Psychology of Punitive Damages," which is part of a research project with Daniel Kahneman, of Princeton University, and Cass R. Sunstein, of the University of Chicago. Focusing on jurors' decision-making process, the researchers have identified the stage in that process responsible for much of the variability as the stage in which a judgment about the appropriate severity of punishment is translated into a dollar amount of compensation.

According to Schkade, people may share the same degree of outrage at a particular offense, but are quite likely to differ as to the dollar amount that should be paid to the plaintiff. The shared outrage model developed by Schkade holds that jurors' inability to translate their feelings of outrage into a commensurate dollar amount leads to high variability in awards. The award given by any actual jury (a small sample of all potential jurors) is quite likely to diverge considerably from the average award that all potential jurors together would have decided on.

In an experiment to test the model, 900 jury-eligible persons were each given descriptions of personal injury cases and asked to indicate the degree of outrage evoked by each case, intended severity of punishment, and dollar amount of punitive damages. Schkade found a marked degree of consensus among the subjects regarding their outrage and intended punishment, but high variability in dollar awards. According to Schkade, this finding implies that justice may not be well served by leaving the decision about punitive damages in the hands of a jurors without giving them some guidance in translating shared outrage into dollar amounts. Some type of conversion formula that is consistent with broad community sentiment might help.

Iris Bohnet, of the Kennedy School of Government of Harvard University, presented "More Order with Less Law: On Contract Enforcement and Crowding," written with Steffan Huck, of Humboldt University. In this paper they study the long-run effects of the enforceability of contracts on the behavior of parties to contracts. They use a game-theoretic model in which the

first player must decide whether to enter a contract with the second player without knowing if the second player will adhere to the terms of the contract. A chance move determines whether or not breaching the contract will result in a penalty for the second player. Standard economic models of the effects of laws operate on the assumption that preferences do not change and predict that the lower the expected cost of breach (that is, the lower the level of enforcement), the lower the likelihood of compliance by the second player. Bohnet's model of preference adaptation assumes that economic success, the desire to conform, and the psychological costs of breaching a contract may cause preferences to change, so that a prediction of behavior based on level of enforcement will not necessarily hold.

A low level of enforcement encourages first players to enter into contracts with second players who are trustworthy (those individuals who suffer psychological costs if they breach a contract); this preference on the part of first players brings more contracts to the trustworthy second players; and the economic success of the trustworthy individuals reinforces trustworthiness in them and in others. Honesty is crowded in and economic efficiency is promoted via the absence of contract breaching. A high level of enforcement can also reduce contract breaching, but under this condition preferences are irrelevant and the driving factor is the penalty associated with breaching. Bohnet reported that regression analysis of data from an experiment conducted with college students supports the idea that low enforcement can promote honest behavior and achieve a degree of contract breaching comparable to that achieved by high enforcement.

In "Near Rational Behavior and the Long-Run Phillips Curve," **William Dickens,** of the Brookings Institution, looked at economic behavior under conditions of low inflation. Most modern macroeconomic models of inflation and stabilization hold that when agents can safely ignore inflation in their decision making, the unemployment rate must be at its lowest feasible or "natural" level. In contrast, Dickens presented a model in which a fraction of agents do not ignore inflation while the rest do, and product and factor markets are characterized by monopolistic competition. The model suggests that low or zero inflation does not imply the natural rate of unemployment--a trade-off does exist between inflation and unemployment at low levels of inflation even when agents have perfect foresight.

According to Dickens, behavioral theory suggests that in times of low inflation some agents will tend to ignore inflation in price setting because the costs associated with ignoring it are negligible. The increase in cost-of-living-adjustment clauses in union contracts during times of relatively high inflation provides some evidence in this regard. This consideration is formalized in the model by the postulate that a certain proportion of agents take inflation into account. Calibrating the model produced a backward-bending long-run Phillips curve, and, according to Dickens, econometric evidence also lends support to the idea. The existence of such a relationship between inflation and unemployment has the policy implication that there is an optimal rate of inflation--higher than zero--at which the unemployment rate will be at its minimum. Econometric estimation for the United States suggests that the optimal inflation rate is about 3 percent (per annum) and moving to that rate from complete price stability will reduce the unemployment rate by 2 percentage points.

Sendhil Mullainathan, of Massachusetts Institute of Technology, presented "A Memory-Based Model of Bounded Rationality" in which he explores how memory may affect decision making under conditions of uncertainty. Beliefs, and ultimately preferences and behavior, are affected not only by the information contained in a current event, but also by the informational content of the memories the current event evokes. Recall may cause overreaction or underreaction to a current event because the evoked memories can shape beliefs even if they do not contain information relevant to the current situation. Which of the two effects will dominate in the formation of beliefs at any given moment depends on the weight attached to past events. Two aspects of memory make it more likely that a past event will be recalled in any given situation: rehearsal (the repeated recall of a past event) and association (the formation of a link between a current event and a past event, often on the basis of a perceived similarity between the two).

Mullainathan uses his memory-based model of decision making under uncertainty to explain the empirical finding (which contradicts the permanent income hypothesis) that consumption changes are negatively correlated with lagged income changes at the micro level, but are positively correlated at the macro level. The essence of his argument is that individual reactions to private information take precedence over information about the aggregate economy, producing the negative correlation at the micro level. However, at the macro level individual reactions cancel out and the information about the aggregate economy remains, producing the positive correlation. Mullainathan uses a similar argument to account for excessive volatility of stock prices.

Eli Berman, of Boston University, discussed behavior governed by certain religious concepts and behavior predicted by strictly economic models. The paper "Sect, Subsidy, and Sacrifice: An Economist's View of Ultra-Orthodox Jews" examines the phenomenon of the low labor force participation rate among working-age Ultra-Orthodox Jewish men in Israel. About 60 percent of these men are in yeshiva (religious schooling with no secular training component), in spite of the facts that the majority of them are members of poor and large families and they can expect low market wages upon graduation. According to Berman, draft deferment for yeshiva students does contribute to attendance, but generally yeshiva attendance continues well beyond the draft-exempt age.

Berman suggested that a "club good" model can explain the puzzle of the low employment rate. Yeshiva attendance signals commitment to the Ultra-Orthodox community (or club); in return, students receive subsidies in money from the government and other community members and subsidies in kind in the form of a variety of material, social, and medical services. These subsidies distort labor supply massively, promoting a low employment rate. The explanation for the continuing full-time yeshiva attendance, Berman argues, can be understood as an efficient sacrifice in the sense that it acts as a mechanism to filter out those individuals who stand to lose relatively more by forgone labor market participation. Furthermore, government subsidy of religious activity in the presence of efficient sacrifice can further distort the labor supply. According to Berman, this effect can be clearly seen in the case of the Sephardim, who increased their yeshiva attendance rates rapidly relative to members of other sects following increases in government subsidies.

Berman believes that the club good approach can also provide explanations for two other puzzles: first, the development of Ultra-Orthodoxy, an increasingly time-intensive form of religious practice, during a period of general economic growth when demand for labor was quite strong and real wages were on the rise and, second, the rapidly increasing birth rate among Ultra-Orthodox Jews.

George Loewenstein, of Carnegie Mellon University, presented "Projection Bias in Predicting Future Utility," written with Ted O'Donoghue, of Cornell University, and Matthew Rabin, of the University of California at Berkeley. When people make decisions, they tend to project their present preferences into the future. They also tend to underestimate how much their future preferences will depart from their present preferences, even if they can predict correctly the direction of such departures. For example, they may not take into account the transience of strong present preferences or may expect that future changes will have a greater effect on their well-being than similar changes had in the past.

Loewenstein's model of intertemporal utility maximization compares the behavior of people with projection bias and that of people assumed to be exhibiting fully rational behavior (that is, acting without such bias). Because as a result of projection bias predicted utility does not match actual utility, decisions based on projection bias do not maximize utility as much as fully rational behavior. Many decisions people make are costly and difficult to reverse (for example, the purchase of a car on impulse). Loewenstein's model suggests that imposing a "cooling-off period" before such decisions are final would involve only the cost of the short delay and might be beneficial.

Eldar Shafir, of the Department of Psychology and the Woodrow Wilson School of Public and International Affairs at Princeton University, presented "On the Pursuit and Misuse of Useless Information," written with Anthony Bastardi, of Stanford University. The authors describe what they have found to be a common phenomenon in decision making. People often attempt to resolve uncertainty about the external world by seeking information. Of the information they find, all that appears to them to be relevant may in fact not be relevant. However, once such "useless" information is available, people do use it. The pursuit of the information in itself adds greater weight to it than it would have been given had it be known initially. The outcome of the pursuit and the misuse is that people often make choices they would not have made if they had not found the information or if it had been available to them at the outset.

Shafir presented results from experiments with college students as subjects involving everyday decisions (for example, selecting a course), business decisions (evaluating a mortgage application), and consumer choices (deciding to buy a car). The results seem to be consistent with the idea that, under conditions of uncertainty, people wait to obtain irrelevant information and then make use of it in making decisions.

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The Psychology and Institutional Determinants of Foreign Exchange Rates

John T. Harvey
Seminar, April 15, 1999

The neoclassical view of decision making states that investors first forecast all possible outcomes, their payoffs, and the likelihood of each and then choose the most desirable outcome in terms of expected utility. This theory has had limited success in describing the movement of currency markets. John Harvey, of Texas Christian University, led a seminar at the Levy Institute in which he presented evidence that heuristic judgment theory explains market decision making better than expected utility theory.

Harvey's theory is based on three heuristics.

- "Availability," the more easily some class of events comes to mind (the more available it is), the more likely it is that a person will expect it to occur
- "Representativeness," the more A resembles B, the more likely it is that a person will believe that A belongs to the same class as B
- "Anchoring," given a starting value for an estimate, a person will rarely move very far from it, regardless of how it was chosen

He employs these heuristics in a decision-making model with five steps: (1) forecasting likely future states of the world, assigning probabilities to each, and determining confidence intervals for each probability; (2) defining the consequences of choices given the eventualities determined in step one, assigning probabilities, and determining confidence intervals; (3) evaluating the costs and benefits of each combination of choice and possible future state; (4) choice; (5) recollecting the decision-making process and interpreting its success.

Harvey discussed six aspects of currency markets that psychological literature can help explain. (1) The stepwise movement of foreign exchange rates in which a sustained appreciation is interrupted by frequent but smaller depreciations can be explained by people's fear of risk and their desire to take profits when winning. (2) The need for placing trading limits on currency speculators can be explained by speculators' unwillingness to cut their losses and get out of the market when they are taking a loss. (3) Volatility of currency prices can be explained by availability; markets overreact to dramatic events. (4) Trading rules based on signals created using past price series can work because of bandwagon effects caused by availability, representativeness, and anchoring. (5) Fads or fashions (sets of factors that at different times market participants believe to be determinants of exchange rates) constantly change because of availability. (6) People's belief that current prices truly reflect known market conditions is the result of availability, representativeness, and anchoring.

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Other Projects

Real Exchange Rates and the International Mobility of Capital

Anwar Shaikh
Working Paper No. 265, March 1999

International differences in production costs are the starting point for both absolute and comparative cost theories of international trade. The mainstream Heckscher-Ohlin trade model, for example, assumes that comparative costs regulate international trade and that the underlying cost differences stem from differences in factor endowments on a common international production function. A serious problem with comparative cost theory is that it is mostly at odds with observed patterns of international trade and real exchange rate movements. Anwar Shaikh, of New School University, develops an alternative, classical-Marxian model of international trade and real exchange rates based on the principle of absolute cost advantage. According to Shaikh, the alternative model is consistent with the observed persistence in trade imbalances and in real exchange rates.

To present his model, Shaikh begins with a simple example of a two-commodity, closed economy in which there are two producers for each commodity. The producers face different real wages, and competition in the product markets forces the producers of a given commodity to sell at the same price. Profit rate differentials are bound to result from differences among producers in technology and real wages, leading to interindustrial flows of capital. For each industry, production conditions of the lower-cost producer--called the regulating capital--are the target of new investment flows. Thus, interindustrial capital flows will bring about the equilibrium relative price that equalizes the profit rates among regulating capitals. Given the technological conditions of production, the equilibrium price is solely a function of real wages.

Shaikh extends the simple model to study international trade by assuming that the two producers of each commodity are located in different countries. He also assumes that the regulating capitals in the two industries are located in different countries. Under these assumptions, the relative price is the real exchange rate, or equivalently, the terms of trade. Comparative cost theory holds that, in this case, the equilibrium relative price will be determined by the condition that international trade is balanced. The equilibrium price will then no longer be determined by the costs of production. Shaikh argues that the principle applied in the case of national trade--that is, absolute cost advantage--must also be applied in the case of international trade. This implies that the real exchange rate must be such as to equalize the profit rates between the regulating capitals of the two commodities.

According to Shaikh, if the real exchange rate is determined in the above manner, there is no automatic mechanism that will ensure that trade between countries will be balanced. On the contrary, persistent imbalances are likely, reflecting structural inequalities in real wages and technological differences among countries. These imbalances cannot be remedied significantly by devaluation alone (unless they are accompanied by changes in national real wages and technologies) and will under normal circumstances lead to international indebtedness of deficit-countries.

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Association for Evolutionary Economics-Levy Institute Summer School on Institutional Economics

The Levy Institute and the Association for Evolutionary Economics (AFEE) together organized a summer school program, held on June 20 through 23, to introduce junior faculty and graduate students to institutional economics. Below are synopses of some of the individual lectures.

Day 1. Introduction to Institutional Economics
Marc Tool, of California State University, Sacramento, described institutional economics as an inclusive and theoretically sound way to look at the determination of real income. Two of its key features are the recognition that institutions change and become obsolete and a normative way of assessing and judging outcomes that is concerned with the realities of power but is not connected to any particular political ideology. Some economists, the "new institutionalists," have attempted to combine mainstream neoclassical economics with institutional economics, but, as Tool put it, there is a chasm the size of the Grand Canyon between the two. The entire neoclassical method of inquiry is incompatible with institutional economics and offers nothing instructive to economic problem solving.

Tool discussed four main differences between the two schools of thought. First, neoclassical economists claim to be free of value judgments, while institutional economists recognize that value judgments are inherent in any economic research. No one can choose A over B without some normative criteria by which A is judged to be better than B. Second, institutional economists believe assumptions are preliminary hypotheses of causal processes and that scientific inquiry is a process of creating and testing these hypotheses. Neoclassical economists believe they can assume the existence of economic laws and equilibrium tendencies without testing them. Third, institutional economists think that neoclassical value theory based on utility is a tautology. Institutional value theory is based on socialization; children learn what "wants" are acceptable in a given society. Fourth, institutional economists think that neoclassical theory, with its spontaneous efficient equilibrium and natural rate of unemployment, is an impediment to

economic change. It exists to justify the prevailing institutional structure. Institutional economics, by contrast, is not committed to any particular institutional structure and so can be a source of positive change.

Anne Mayhew, of the University of Tennessee, defined economics as the study of human provisioning. She finds the neoclassical definition (the study of the means by which scarce resources are used to meet competing ends) to be insufficient in the modern world. Another failing of mainstream economics is the belief that there are "noneconomic" factors; all factors that affect economic outcomes are economic factors and must be included in the study. Neither individuals nor social classes can be the predefined unit of economic analysis; the unit should depend on the context and the question that is being examined.

According to Mayhew, an institution is a pattern of regular, stable, and predictable behavior with some folk explanation for the behavior. There is overlap between institutions and they evolve over time. Cultures are the sum of the institutional patterns followed by a people; they also evolve and overlap. Institutional and cultural changes affect economic outcomes and therefore economics must be evolutionary as well. Humans are not simple pleasure-pain machines, but a product of accumulated traits. Social change is both a cause and a consequence of human action. But, although human action is purposeful, social evolution is not. An evolutionary theory of economics must explain the unintended cultural changes that affect individual behavior.

Institutional and Marxian economics are alike in that they examine an evolving society, but institutional economics has no grand theory of technical change or value as Marxism does. According to Mayhew, value is a product of culture and is not part of the natural order. There is no "right" set of values and therefore there can be no "exploitation" in the Marxian sense.

William Waller, of Hobart and William Smith Colleges, compared the methodology of institutional economics and of mainstream economics. He believes that the methodology of neoclassical economics is designed to validate the inequalities and injustices of a laissez-faire economy; no matter what the problem, the neoclassical solution is for the government to take no action. In contrast, the methodology of institutional economics involves identifying a problem as the difference between the way things are and the way they ought to be; exploring the existing historical and ethnographic literature on the problem; examining the relationships between different explanations, criticizing the explanations, and rewriting them; presenting new explanations to the community of researchers so that the explanations can be criticized and revised.

William M. Dugger, of the University of Tulsa, credited John R. Commons with creating the methodology of institutional economics. Dugger stressed that economists must question given categories and avoid seeking one universal theory, which will always lead them astray. Dugger applies a four-step methodology: find a social anxiety; find and compare different groups who are attempting to solve the problem; analyze case studies to find out how individuals are affected

by and reacting to a given problem; define categories based on this analysis and formulate an economic problem.

The session on day 1 ended with a roundtable on institutional methodology with Dugger, Mayhew, Waller, and Tool.

Day 2. Inequality
Janice Peterson, of the State University of New York College at Fredonia, discussed the similarity between the views of inequality held by institutional and feminist economists. Both are opposed to the prevailing neoclassical notion of a trade-off between fairness and efficiency, which is presented as a value-free fact. Inefficiency and inequality often have the same causes because inequality deprives some groups of the ability to participate and contribute to their full ability. Both feminists and institutional economists believe that social inquiry must begin with values to determine desirable ends; there is not one efficient outcome, but one for each institutional structure. Both reject the idea that all factors of production are paid the value of their marginal product; returns to factors of production are instead a function of vested status and culture. Furthermore, there is no "laissez-faire" distribution of income; the government is always involved in defining and defending the distribution of income.

Wallace C. Peterson, of the University of Nebraska, discussed the institutional explanation of the distribution of income. Markets, government, corporations, trade unions, and consumers are some of the important institutions that affect the distribution of income. Neoclassical economists take institutions such as these as given and do not consider their role in determining the distribution of income. Rather, they ascribe the source of inequality to competition.

Given the glaring inequalities in the United States today, one may ask why there is no popular movement against it. An institutional explanation is that the capitalist (or corporate) class has successfully directed attention toward issues of race, crime, and gender. To tackle any of these problems, according to Peterson, people must first confront the issue of inequality. Policies to deal with inequality include raising economic growth via expanded investment in public infrastructure, a modern full employment policy, and tax reform that increases the share of taxes paid by wealthy individuals and corporations. However, it is unlikely that any of these policies will be enacted until there is reform of the political process so that people can again see the government as a force for positive change, as they did in the World War II era.

Other sessions on day 2 were William M. Dugger's discussion of inequality and efficiency and four presentations on aspects of inequality: **Christopher J. Niggle,** of the University of Redlands, on monetary policy and the distribution of income; **Mathew Forstater,** of the Levy Institute, on racism and inequality; **Steven B. Pressman,** of Monmouth University, on gender and inequality; and **Ellen Houston,** of New School University, on demand shifts and earnings inequality. The day concluded with a roundtable on what to do about inequality. **Oren M. Levin-Waldman,** of the Levy Institute, discussed the minimum wage; **Charles M. A. Clark,** of St. John's University, and **Karl Widerquist,** of the Levy Institute, discussed the guaranteed

income; and **Marc-André Pigeon** and **L. Randall Wray,** both of the Levy Institute, discussed the government as employer of last resort.

Day 3. Financial Fragility
There were three presentations on day 3: **L. Randall Wray,** of the Levy Institute, on Minsky's analysis of financial capitalism including the financial instability hypothesis and the anti-laissez-faire theorem; **Walker F. Todd,** attorney and economic consultant, on the international financial system after the breakdown of the Bretton Woods system; and **Wynne Godley,** of the Levy Institute, and **Jan A. Kregel,** of the United Nations Conference on Trade and Development and the Levy Institute, on the medium-term prospects for the United States economy. The last session on day 3 was a roundtable on the aftereffects of the Asian crisis with **Ilene Grabel,** of the University of Denver; **David Zalewski,** of Providence College; and **Frank A. J. Veneroso,** of Veneroso Associates.

Day 4. Corporate Capitalism
Two presentations on day 4 were **Anne Mayhew** on the monetary theory of production and **Glen Atkinson,** of the University of Nevada, Reno, on corporate power and economic and political decision making. The summer school program concluded with two sessions in which participants responded to student questions.

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Institute News

Commission Vice Chairmanship for Papadimitriou

President Dimitri B. Papadimitriou has been selected as vice chairman of the Trade Deficit Review Commission, a bipartisan congressional panel that is examining the effect of the U.S. trade deficit on the economy and will propose ways to decrease the deficit. Murray Weidenbaum, of Washington University in St. Louis and a former chairman of the Council of Economic Advisers, will serve as chairman. The other members of the commission are Wayne Angell, former governor, Federal Reserve; George Baker, president, United Steelworkers of America; Richard D'Amato, Maryland state representative; Carla Hills, former U.S. trade representative; Kenneth Lewis, former shipping company president; Anne Krueger, professor of economics, Stanford University; Donald Rumsfeld, former defense secretary; Lester Thurow, economist, Massachusetts Institute of Technology; Michael Wessel, former counsel to U.S.

Representative Richard Gephardt; and Robert Zoellick, president, Center for Strategic and International Studies.

Book: *Modernizing Financial Systems*

The latest book in The Jerome Levy Economics Institute Series is Modernizing Financial Systems, edited by Dimitri B. Papadimitriou. It is to be published by St. Martin's Press and Macmillan in November.

Since the 1980s many changes have taken place in the financial system in the United States and to some extent in other countries--uniform capital requirements have been instituted, regulations have been eased, and market share consolidation of firms in the financial services business has been allowed. But more substantive reforms are necessary to avert crises such as those that occurred in Japan, Korea, and other Asian countries.

Financial and technological innovations have brought new dimensions of credit risk, requiring sophisticated skills of bank manager and regulator alike. The modernization of the financial system must reflect the changing and competitive nature of the market and be framed in a regulatory and supervisory environment that, first, ensures the safety of the payment system and, second, offers incentives for prudent risk-taking and sound portfolio investments. This book offers a number of policy avenues that merit serious consideration.

New Scholars

Michael Handel has joined the Levy Institute as a resident scholar. He is studying the relationship of the growth of wage inequality in the United States to technology, skill requirements, organizational structure, work roles and labor market institutions. Handel received a Ph.D. in economics from Harvard University.

Matthew Richards is a Cambridge University visiting scholar. While at the Levy Institute, he will be engaged in a study of ethical investment that draws on macroeconomics, political science, and ethics. Richards received a B.A. in history from Christ's College, Cambridge University.

Upcoming Conferences

The Macrodynamics of Inequality in the Industrialized and Developing Countries
October 28-29

The objectives of the conference, to be held at the Levy Institute, are to provide an overview of economic equality in the industrialized and developing countries and to exchange new research results and ideas on the measurement of equality and the relationship between inequality and unemployment, economic growth, and economic development. The conference is being coordinated by James K. Galbraith, of the University of Texas at Austin and the Levy Institute, and is sponsored jointly by the Levy Institute and the Ford Foundation through the University of Texas Inequality Project.

Tenth Annual Hyman P. Minsky Conference on Financial Structure
April 27-28, 2000

Publications and Presentations by Levy Institute Scholars

Distinguished Scholar Wynne Godley
Publication: *"Money and Credit in a Keynesian Model of Income* Determination," *Cambridge Journal of Economics,* July.
Presentation: "Strategic Prospects for the U.S. and the World," National Security Study Group, Washington, D.C., May 17.

Chairman S Jay Levy and
Senior Scholar Walter M. Cadette
Publication: "A Fiscally Responsible Plan for Public Capital Investment," *Quarterly Commentary* (Sanders Research Associates, Ltd.), Second Quarter.

Senior Scholar Walter M. Cadette
Publications: "Providing New Hope for Medically Uninsured," *Daily Record,* March 28; "With Reform, HMOs Can Deliver Both Savings and Care," Bridge News, April 12.

Senior Scholar Steven M. Fazzari
Publication: with Robert Carpenter and Bruce Petersen, "Financing Constraints and Inventory Investment: A Comparative Study with High-Frequency Panel Data," Review of Economics and Statistics 80, no. 4 (November).
Presentation: "The Macroeconomics of Minsky's Investment Theory,"
Conference: The Legacy of Hyman P. Minsky, Bergamo, Italy, April 21.

President Dimitri B. Papadimitriou
Publication: "Narrow Banks in Today's Financial World: U.S. and International Perspectives," in *Global Monetary and Economic Convergence,* edited by G. Bager and Miklos Szabo-Pelsoczi (Ashgate Press).

Senior Scholar L. Randall Wray
Publications: "Public Service Employment--Assured Jobs Program: Further Considerations," *Journal of Economic Issues,* June; "An Irreverent Overview of the History of Money from the Beginning of the Beginning through to the Present," *Journal of Post Keynesian Economics,* June.
Presentations: "Full Employment as an Alternative to Austerity," testimony before the House Committee on the Judiciary, Subcommittee on Immigration and Claims, March 11; "Full Employment as an Alternative to Austerity," Conference: Economics of Public Spending: Debt, Deficits and Economic Performance, Laurentian University, Sudbury, Ontario, March 26-27; "Government as Employer of Last Resort: Full Employment without Inflation" and "Goldilocks and the Three Bears: A Parable about the Asian Financial Crisis," Canadian Economics Association, Toronto, May 27-30; "Can We Provide for the Retiring Baby-boomers?" Drew University Wall Street Seminar, New York, April 29.

Visiting Scholar Mathew Forstater
Publications: "Symposium: The European Economic and Monetary Union: Introduction," *Eastern Economic Journal* 25, no. 1 (April); "Vision and Analysis in Heilbroner's Political Economy: Worldly Philosophy and the Nature and Logic of Capitalism," *Journal of Economic Issues* 33; with Warren Mosler, "A General Framework for the Analysis of Currencies and Commodities," in *Full Employment and Price Stability in the Global Economy,* edited by Paul Davidson and Jan Kregel (Elgar).

Senior Scholar Edward N. Wolff
Publications: "Wealth Accumulation by Age Cohort in the U.S., 1962-1992: The Role of Savings, Capital Gains and Intergenerational Transfers," *Geneva Papers on Risk and Insurance* 24, no. 1 (January); "The Economy and Philanthropy," in *Philanthropy and the Nonprofit Sector in a Changing America,* edited by Charles T. Clotfelter and Thomas Ehrlich (Indiana University Press); "The Productivity Paradox: Evidence from Indirect Indicators of Service Sector Productivity Growth," *Canadian Journal of Economics,* April; "Do We Really Live in Wonderland?" *Investor's Business Daily,* March 11.
Presentations: "Recent Trends in Wealth Ownership," Responsible Wealth Forum, New York, April 12; "Recent Trends in U.S. Profitability," Conference: Value Theory, Universidad Complutense de Madrid, May 17-20; "The Rich and Poor in North America," Canadian Economics Association, Toronto, May 27-29; "Median Wealth: Why Is It Falling?" Conference: Intergenerational Transfers, Taxes, and the Distribution of Wealth, Uppsala University, Sweden, June 18-19, and European Society for Population Economics, Turin, Italy, June 23-26.

Cambridge University Visiting Scholar James N. Miller
Presentation: "Making Foreign Economic Policy: Anglo-American Roots of Postwar Multilateralism," Society of Historians of American Foreign Relations, Princeton, N.J., June 24-26.

Resident Research Associate Lynndee Kemmet

Presentation: "The Effects of Local Fiscal Pressures on Farmland Preservation," Northeastern Agricultural and Resource Economics Association, Morgantown, W.Va., June 27-29.

Resident Research Associate Karl Widerquist
Publication: "Reciprocity and the Guaranteed Income," *Politics and Society* 33, no. 3 (September).
Presentations: "Public Choice Problems among Altruists and Moral Idealists," Pennsylvania Economic Association, Carlisle, Pa., June 4; "A Review of Recent Literature on the Guaranteed Income," Society for the Advancement of Socio-Economics, Madison, Wis., July 9-11.

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