



*Conference Proceedings*

14<sup>th</sup>  
ANNUAL  
HYMAN P. MINSKY CONFERENCE  
ON FINANCIAL STRUCTURE

*Can the Recovery Be Sustained?  
U.S. and International Perspectives*

*April 23-24, 2004 Blithewood, Annandale-on-Hudson, New York  
A conference of The Levy Economics Institute of Bard College*

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*The proceedings consist of edited transcripts of the speakers' remarks  
and summaries of session participants' presentations.*

## Foreword

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Drawing upon the public discussions of previous Minsky conferences, this year's conference examines those discussions in the context of current economic trends and their implications for the U.S. and world economies. Topics include fiscal and monetary policies for the expansion of national economies as well as the global economy; exchange rate misalignments resulting from "brutal" gyrations in the currency markets, and their possible cures; and trade and capital flows as they

might impinge upon the conduct of monetary and fiscal policies. The international economic role of the United States is examined in view of the current international economic climate.

Most analysts agree that the U.S. economy has recovered following a short-lived recession. However, the strength of the recovery, primarily the result of the swift and significant change of the federal policy stance and low interest rates, is still uncertain. Other data—the positive high growth rates accompanied by severe job losses, high deficits, and rising levels of debt in the trade, public, and private sectors—indicate that the recovery could be less than robust. Matters could become even more troubling should interest rates and inflation rise.

What are the monetary and fiscal policy prescriptions for growth, employment, and price stability? This year's participants discuss their viewpoints, policy guidelines to be considered within the context of current economic trends, and the implications for both the national and international economies. They come from business, government, and the academy and are uniquely qualified to offer their insights on these issues.

A common observation among participants was the atypical business cycle pattern associated with the 2001 recession: strong GDP growth and very little job growth. Many queried whether economic growth would continue after the presidential election in light of the possibility of a consumer-led recession (if interest rates rise) and a series of shocks that have heightened uncertainty and diminished confidence in the economy. Some suggested that there has been a structural shift in the labor market and that the public sector must be relied upon to sustain growth and rebuild employment. In spite of positive sentiments about a dynamic and flexible U.S. economy, the majority foresaw serious problems for policymakers as a result of inaccurate forecasts, economic vulnerabilities, globalization, trends in financial risk management, the outlook for profits, increasing household debt burdens, higher inflation, the wars on terrorism and in Iraq, and corporate malfeasance. There was, generally, unanimous recognition that Minsky's theses about debt dynamics and financial cycles were relevant, and that increasing private risks in a deregulated financial system pose a threat to the economy.

Your comments and suggestions are welcome.

Dimitri B. Papadimitriou

*President, Levy Economics Institute, and Jerome Levy Professor of Economics, Bard College*

# Program

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**Friday, April 23**

**9:15–10:00 a.m.**

**WELCOME AND INTRODUCTION**

Dimitri B. Papadimitriou, *President, Levy Institute*

“Is Deficit-Financed Growth Limited? Policies and Prospects in an Election Year”

**10:00–11:30 a.m.**

**SESSION 1**

**The State of the U.S. and World Economies**

*Moderator:* Dimitri B. Papadimitriou, *President, Levy Institute*

Lakshman Achuthan, *Economic Cycle Research Institute*

“The Globalization Tsunami, A Story of Unintended Consequences”

James K. Galbraith, *Levy Institute* and *University of Texas at Austin*

“The American Economy after 2004”

James W. Paulsen, *Wells Capital Management*

“Economic and Financial Market Outlook”

**11:45 a.m.–12:30 p.m.**

**SPEAKER**

Michael H. Moskow, *President, Federal Reserve Bank of Chicago*

**2:00–3:45 p.m.**

**SESSION 2**

**The Macroeconomic Prospects for the U.S. Economy**

*Moderator:* Greg Hannsgen, *Levy Institute*

Robert Z. Aliber, *University of Chicago*

“Asset Price Bubbles in Asia, the Transfer Problem, and the U.S. Economic Boom”

Robert W. Parenteau, *RCM*

“Getting It While You Can: Understanding the Peculiar Absence of a U.S. Household Balance Sheet Adjustment”

L. Randall Wray, *Levy Institute* and *University of Missouri–Kansas City*

“Those ‘D’ Words: Deficits, Debt, Deflation, and Depreciation”

**4:00–5:30 p.m.**

**SESSION 3**

**Financial Instability in a Global Economy**

*Moderator:* Philip Arestis, *Levy Institute*

Ilene Grabel, *University of Denver*

“Trip Wires and Speed Bumps: Managing Financial Risks and Reducing the Potential for Financial Crises in Developing Countries”

Dorene Isenberg, *University of Redlands*

“U.S. Financial Stability in a Globalizing Economy”

**Saturday, April 24**

**9:30–11:15 a.m.**

**SESSION 4**

**The Changing Role of Fiscal Policy**

*Moderator:* Thomas L. Hungerford, *Levy Institute*

Philip Arestis, *Levy Institute*, and Malcolm Sawyer, *Levy Institute* and  
*University of Leeds*

“Reinstating Fiscal Policy”

Stephanie Bell, *University of Missouri–Kansas City*, and L. Randall Wray,  
*Levy Institute* and *University of Missouri–Kansas City*

“The ‘War on Poverty’ after 40 Years: A Minskyan Assessment”

Steven M. Fazzari, *Levy Institute* and *Washington University in St. Louis*

“Cash Flow, Investment, and Keynes–Minsky Cycles”

**11:30 a.m.–12:45 p.m.**

**SPEAKER**

Martin Shubik, *Yale University*

“Institutions and Dynamics: Theory and Reality”

**1:00–2:30 p.m.**

**SPEAKER**

Maurice Hinchey, *U.S. House of Representatives (New York)*

“George W. Bush’s House-of-Cards Recovery”

**2:30–3:45 p.m.**

**SESSION 5**

**Money, Risk, and Policy**

*Moderator:* W. Ray Towle, *Levy Institute*

Claudio H. Dos Santos, *Levy Institute*

“A Stock-Flow Consistent General Framework for Formal Minskyan  
Analyses of Closed Economies”

Greg Hannsgen, *Levy Institute*

“Minsky’s Acceleration Channel and the Role of Money”

Robert Prasch, *Middlebury College*

“Shifting Risk: The Divorce of Risk from Reward in American Capitalism”

**3:45 p.m.**

**CLOSING REMARKS AND RECEPTION**

## Speakers

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### **MICHAEL H. MOSKOW**

*President, Federal Reserve Bank of Chicago*

#### **U.S. Economic Outlook**



(The views presented here are my own, and are not necessarily those of the Federal Open Market Committee or the Federal Reserve System.)

When I think about monetary policy, I often find it useful to think in terms of the output gap—the gap, or difference, between the levels of actual and potential output. This gap, of course, is a convenient shorthand concept. It summarizes the effect of numerous frictions in the economy that can slow the adjustment of aggregate demand and productive resources toward a sustainable equilibrium. Sometimes these frictions cause substantial underutilization of resources, and the resulting positive output gap puts downward pressure on inflation—this is the environment we’ve

been in most recently. At other times, demand exceeds the long-run sustainable productive capacity of the economy, and the resulting negative output gap generates inflationary pressures.

Unfortunately, the output gap is not something that can be measured with precision. Even the best quantitative analysis is only an estimate and needs to be supplemented with judgment. To give an example that is particularly important right now, consider the remarkable acceleration in productivity over the past couple of years. Some fraction of this acceleration represents a permanent increase in trend productivity growth, but some of it is purely transient. The more permanent the gains, the larger the output gap. But statistical analysis cannot give us more than a rough guess about how much is permanent, and how much is transient. So, in measuring the output gap, we must include a dose of good judgment as part of the mix. More generally, we always have to formulate monetary policy in an environment of irreducible uncertainty.

One way to help deal with this uncertainty is to examine a variety of statistical models and the behavior of a number of different indicators—such as inflation and labor market conditions—to gauge the size of the output gap. On balance, these suggest that the current level of actual output is still below potential. But, with the impressive growth of economic output in the past nine months, the output gap has narrowed. Part of the Fed’s current policy challenge is to help accommodate economic activity in closing the remaining gap, without—sometime down the road—overshooting the level of potential output and generating worrisome inflationary pressures.

Of course, as the economy moves toward a sustainable growth path, imbalances may develop in individual sectors or industries, and policymakers must consider whether these pose a risk to the economy at large. But monetary policy is a blunt tool. It is wholly incapable of addressing the concerns of

individual sectors of the economy—it can only be used to influence the overall economy, taking into account the aggregate impact of the individual sectors.

Today, I would like to review recent economic developments in the context of the output gap, discuss labor market conditions, talk about the outlook for economic growth and inflation, and discuss what they mean for monetary policy.

### **Recent Economic Conditions**

Our current output gap can be traced back to the recent recession, which the NBER tells us began in March 2001 and ended in November 2001. During this period, real GDP declined as businesses significantly cut back on their capital investments and inventory spending. By historical standards, the recession itself was mild, both in terms of its duration and its effect on total output. The recession ended just eight months after it began, and real GDP contracted only 1/2 percent between its peak and trough—about one-quarter the average decline during the other recessions since 1960.

The subsequent recovery began at a moderate pace, in part, because of the mild nature of the recession and, in part, because of a series of shocks that hit the economy. The start of the war on terrorism, revelations of corporate malfeasance, and the buildup to the war in Iraq all led to heightened uncertainty and diminished confidence about the economy.

As a result, while we experienced a few short bursts of strong demand growth early in the recovery, the economy failed to sustain a vigorous pace of expansion. During 2002 and the first half of 2003, real GDP growth averaged about 2.75 percent—which is below the 3 to 3.5 percent that we estimate as the potential output growth rate. So, even though the economy stopped shrinking at the end of 2001, the output gap did not close.

As we moved through 2003, we saw signs of improvement in several key sectors of the economy. Household spending, which had held up quite well throughout the recovery, posted solid gains. But, more importantly, business confidence improved and spending on capital equipment rose strongly in the second half of 2003. Inventory investment also increased.

The economy's momentum has continued, and, according to the median forecast from the latest Bloomberg survey, real GDP increased 5 percent in the first quarter of this year. If this estimate is correct, real GDP increased at more than a 5.5 percent annual rate over the past three quarters. This is a good deal stronger than even the most optimistic estimates of the rate of growth in potential output, and implies that we have made significant progress in narrowing the output gap.

### **Labor Markets**

Job growth has been the missing link for much of the recovery. True, the recent increase in demand and confidence has led to some improvement in labor markets. Unemployment insurance claims and other indicators suggest that the pace of layoffs has slowed substantially. And we have seen some job gains recently—308,000 new jobs in March and an average of 171,000 new jobs per month in the first quarter.

But even with the recent gains, payrolls are still below where they were when the recession ended. In the two years after a typical recession, employment increases by 5 percent. Even two years after the 1990–91 recession, which was the original jobless recovery, employment had not only surpassed its level at the end of that recession, but also its previous peak.

Analysts have proposed many explanations as to why we have not seen the kind of job growth we typically do early in an expansion. One we hear frequently is described as unusually high sectoral reallocation. Proponents of this explanation claim that extensive changes in the economy have resulted in a greater than normal need for workers to move among industries and occupations. As evidence, they point to the sharp declines in manufacturing employment and to the increased ability to outsource both manufacturing and service jobs to other countries. Certainly these developments are noteworthy. But do they imply that sectoral reallocation is unusually high?

After all, our economy is very dynamic—it is constantly changing due to a variety of factors. Consumers shift their demand for products and services. International markets open up new opportunities for trade. And new technologies emerge that create entire new industries. As a result, jobs disappear from industries that are shrinking and many new ones are created in industries that are expanding.

The monthly job numbers don't fully reflect the huge amount of churning that actually takes place in labor markets. The 308,000 new jobs in March was only the net change in employment. In fact, more than 2.5 million jobs are created on average each month, and approximately the same number are destroyed.

As one would expect, the gross rate of job destruction spiked during the recession but has fallen back to the low level that prevailed before then. In contrast, the gross rate of job creation fell during the recent recession and, unfortunately, has been slow to recover. But the fact that both rates are now relatively low suggests that the current pace of job reallocation is not especially high.

Furthermore, despite all of the discussion about the decline of manufacturing and the increase in international outsourcing, neither factor seems to be unusual enough to make this a period of heightened reallocation.

With regard to manufacturing, factory jobs are usually hit harder by business cycle downturns and periods of weak growth. Manufacturing's share of total employment has been trending down for decades. This long-run trend is largely due to higher productivity growth in the manufacturing sector compared to the overall economy. This evidence is consistent with research by one of our economists at the Chicago Fed, Ellen Rissman. She found that most of the recent changes in employment shares across manufacturing and other broad industries appear consistent with long-run trends and the usual changes over the business cycle. (Rissman, Ellen. 2003. "Can sectoral labor reallocation explain the jobless recovery?" Federal Reserve Bank of Chicago. *Chicago Fed Letter*. December.)

With regard to outsourcing to other countries, accurately measuring its impact is quite difficult, and we do not have good information on the number of jobs that have moved overseas. But, according to one estimate from Goldman Sachs, only 300,000 to 500,000 jobs have been lost to outsourcing since 2000. For an economy the size of ours, these are not large numbers—especially in relation to the 2.5 million jobs created and lost each month in the United States.

Also, outsourcing and other forms of international competition are not new. Over the past 50 years, we have been challenged by growing competition from Japan, the "Asian Tigers," Mexico, and, now, China and India. Yes, certain jobs are lost forever, but our economy is remarkably flexible. Technological advances often give rise to entire new industries, new products, new services, and, ultimately, new jobs that replace the jobs lost to foreign competition. That is why over the past 50 years, even while there has been a decline in the manufacturing sector's share of employment and increases in international competition, the U.S. economy has generated over 80 million net new jobs.



Because these new jobs are often the result of unforeseeable innovations in technology, it is impossible to say now what kind of jobs will be created in the future. When I was in Milwaukee recently, I learned that GE Healthcare had announced plans to expand their Information Technology and Ultrasound operations in Wauwatosa, Wisconsin. As many as 2,500 employees at the new facility will engineer and manufacture innovative medical equipment, including computed tomography, or CT, systems. These products allow doctors to readily diagnose health problems like cancer or aneurysms without exploratory surgery, and the machines are now widely available. It would have been virtually impossible to anticipate these jobs five years ago, because no one could predict how the use of CT technology would evolve.

Now, I do not want to minimize the impact of the job losses associated with changes in the economy, no matter what their source. The human costs of this process are significant and compelling. Factories or offices may close and workers lose their jobs. We must always strive to ease the transition for these workers and their families, whether it is through financial assistance, retraining programs, or other efforts. But the dynamic changes in the economy are important if we are to continue to increase overall incomes and our standard of living.

If there is not an unusual amount of reallocation taking place, what else might have caused weak employment growth? A number of other factors could be in play.

For example, new employment practices, which some call “just-in-time” hiring, have likely played some role in restraining employment growth. Firms have greater flexibility in adjusting their work forces, thanks to developments like the rise of temporary help services and consulting industries, the widespread use of the Internet for job posting and application, and the growth of businesses that match workers with firms. Take the temporary help industry for example. Twenty years ago, the temp industry was very small, representing only about one-half of 1 percent of nonfarm payroll employment. Since then, it has increased significantly and now comprises close to 2 percent of employment. At some firms, the majority of employees are temporary workers, allowing these firms to easily vary the scale of their operations. Furthermore, temp agencies now provide more light industrial and technical workers than they did 20 years ago.

To understand how just-in-time hiring could restrain overall employment, consider the staffing decisions of a firm. Initially, hiring new permanent workers takes time and money, and once they are hired, they may be expensive to lay off. When you combine these restrictions with an environment of uncertainty, the firm faces a tough choice. On the one hand, if it increases its employment and demand is weak, then high payroll costs will crimp profits. On the other hand, if the firm maintains its current level of employment and demand picks up, it may initially be unable to increase production in line with orders.

The past few years have been marked by especially heightened uncertainty, even more so than the usual uncertainties prevalent when an economy recovers from recession. At the same time, the burgeoning temp-help-services industry and the spread of consulting services gave firms greater flexibility in their hiring decisions. Before hiring workers on a permanent basis, they had the option of waiting until they were more confident that demand would strengthen, because they could rapidly increase employment when needed (Aaronson, Daniel, Ellen Rissman, and Daniel Sullivan. 2004. “Assessing the Jobless Recovery.” Federal Reserve Bank of Chicago. *Economic Perspectives*. Forthcoming).

These explanations suggest there's been a structural change in the labor market. However, we should not forget an old and pretty fundamental explanation: employment growth will be slow if aggregate demand is weak relative to gains in the productive capacity of the economy. Aggregate demand languished in 2002 and early in 2003. But firms continued to be successful in developing innovative ways to reorganize their production and distribution networks, especially by exploiting advances in technology. In addition, they were able to take advantage of the significant capital investments of the late 1990s. As a result, productivity increased rapidly and the potential productive capacity of the economy likely advanced much more sharply than demand. Since the middle of last year, however, aggregate demand outpaced even the highest estimates of potential output growth, and led to an increase in employment.

### **Growth Outlook**

Going forward, I believe that economic growth will remain solid, so I am optimistic that employment will accelerate. Why? Productivity gains, fiscal stimulus, the Federal Reserve's highly accommodative monetary policy stance, replacement demand for capital equipment, and improving conditions abroad all should contribute to continued strong economic growth. In the Fed's Monetary Policy Report to Congress in February, the central tendency forecast was for real GDP to rise 4.5 to 5 percent this year. Given the data we have seen since then, I still believe this forecast is a good one.

### **Inflation Outlook**

On the price front, the most recent readings on CPI inflation are up from the extremely low inflation rates we saw late last year. This has not just been a pick up in the volatile food and energy components—core inflation is up as well. And we are all reading more stories in the press and hearing more concerns from various contacts about rising inflation.

To be sure, there are factors in play that could boost inflation: Unused resources could fail to move efficiently to the sectors where demand is growing; or the fall in the dollar could show through more in the price of imports; or higher commodity prices could be passed through to the consumer level. Finally, as I mentioned earlier, no one can measure the output gap precisely—it may be the case that trend productivity growth is lower and, therefore, the output gap is narrower than many believe.

These are risks to watch. But even with the recent increases, the level of consumer price inflation is still very low. And, at the macro level, we have yet to see the kinds of pressure on labor and capital resources that would foreshadow a worrisome increase in inflation. Thanks to strong sustained productivity growth, unit labor costs,—that is, compensation per unit of output produced in the economy—have been falling for the past two years. Even though outright declines are unlikely to continue as labor markets tighten, I think strong productivity trends should help keep overall cost pressures in check.

Nonetheless, we must remain vigilant. As I discussed earlier, the output gap is narrowing, and part of the Fed's current policy challenge is to avoid overshooting the level of potential output and generating inflationary pressures. Currently, the federal funds rate is very low. Indeed, if recent developments have raised inflationary expectations, then the real funds rate has come down—even though we did not change the nominal funds target. Clearly, we cannot maintain this degree of policy accommodation indefinitely. As the output gap narrows further, the real funds rate will have to rise to a level more compatible with long-run sustainable economic growth.

## **Conclusion**

So, in conclusion, I would say that the outlook for growth in 2004 is encouraging. A year ago, we were worried about unwelcome disinflation; that concern has now subsided. But I do not see broad-based pressures developing that would lead to a significant increase in inflation. Moreover, our economy has begun to meet the challenge of the jobless recovery.

But this is not surprising. Time and time again our economy has proven itself resilient in the face of challenges. In spite of the jobless recovery of the early '90s, the expansion lasted a decade and created 24 million new jobs, at the same time that inflation generally continued to drift down. With its entrepreneurial culture, market-based principles, and continuing technological advances, I am confident that our economy has the ability to handle its current challenges, and the foundation to enjoy solid growth and price stability in the years ahead.

**MARTIN SHUBIK**

*Yale University*

**Institutions and Dynamics: Theory and Reality**



The conference title is, “Can the Recovery be Sustained?” Since I am surrounded by macro- and business economists, let me give you some practical, applied answers. My crystal ball says that the recovery will probably be sustained, at least until November. In Japan, the recovery is probably under way and may well be sustained; in China there is a possible bubble, and in both of these cases, my money is where my mouth happens to be. I think that the signs of a stirring in the Japanese economy are real.

There were some comments yesterday on the real estate bubble. My colleague, Bob Shiller, is very heavily involved in real estate estimation, and, much to my surprise, says that according to his instincts there is a real estate bubble, although the data does

not support this. He remains cautious in making any announcement about the real estate bubble, whereas he was not cautious concerning the stock market a year or so ago.

Let us turn to the accuracy of prediction. One problem of forecasting is that it always takes place within a specific context. Once you set up the context, the rest of the world appears as exogenous variables. I believe that, in the forecasting business, we are reasonably good at two types of forecasts. One type can be mathematically established using concepts, such as continuity. We can do very small-term forecasts by linear extrapolation. “Do I think that most of the people in this room will be alive tomorrow morning?” We can argue that, with a very high probability, all of the people in this room will be alive tomorrow morning. And yet, various opera singers have died on stage, and there was a pretty low probability that would happen. So you have to account for probability. Long-term prediction in small areas is good when you have a well-defined and understandable ongoing physical process and a long pipeline delay. But here’s an example of where it impinges.

I have two or three separate careers, and one of them happens to be military operations research. Here is some rather depressing information. I have been looking at the curve of development in nuclear warfare for many years, and the amazing thing about where we are today is not how bad things are, but how good things are. The really bad feature as far as accurate prediction is concerned is that it has become increasingly easy to miniaturize nuclear weapons. We are, roughly, at the level at which a one-megaton device can be packed into 300 pounds.

Some years ago (before September 11th), I was at the Federal Reserve in New York City to discuss security features. The topic was, “How much damage can be done (if you had to damage New York on the cheap) and how and where would you do it?” We felt that the Fed would not be worth blowing up for several reasons: the security was extremely good and the streets around the Fed were very narrow

and had very good television coverage. As I sat in the office of the vice president in charge of security, we could see everybody on the streets below. At that particular time, the miniaturization of nuclear technology was not as good as it is now. We agreed that, to get more bang for the buck, the answer was to put a nuclear device (which, at that time, weighed half a ton) into a pickup truck, drive it onto the George Washington Bridge, and abandon it. I leave you to think of the cost to the New York economy. I say this because there are nasty exogenous events, such as terrorist activity, that affect economic recovery. When you try to plan for what sort of damage can be done to the U.S. economy, you have a real problem.

When I was considerably younger and working at RAND, you knew that if there was a nuclear attack on the United States, you would not wait for “identification friend or foe (IFF)” —you would hit the Soviet Union. The question now is, “Who do you even hit?” Suppose three or four nuclear devices were smuggled into the United States: one takes out the Washington Bridge, another blows a hole in Los Angeles, and another takes out a Midwestern town. What good does it do to hit these targets and what does it do to the economy? I want to give you a literal example in context. We happily build our little macromodels that are imbedded in the reality of the world around us. There are a lot of very nasty exogenous events that can hit us at the moment and they will blow a hole in our macro projections.

I have the luxury of being primarily a micro-micromathematical economist. Many years ago, I was a General Electric operations researcher and long-range planner. So I was in the business. And being in the business, I was reminded very heavily of the importance and pressures of getting out usable product on-time, rather than doing a deep, ponderous, philosophical piece of in-depth work, which would lead to the delivery of product that would be too late to be of use to anybody. I make this point because there is a divide between useful business economics, useful macroeconomics, and basic microeconomic theory. You do not need very much basic microeconomic theory. It is a luxury. An everyday operation, such as the prediction of GNP, requires some predictions about where shortages will develop. You cannot spend your time in luxury. You worry about the control of the money supply, but you do not worry about whether money is a well-defined concept, because you do not have the time. I would argue that, in terms of the relationship between basic micro theory and operating macro theory, these theories should complement each other, but one has to realize that they have completely different time scales. I have devoted a good part of the last 30 to 40 years to worrying, at a very basic level, about the fundamental concepts in monetary theory and the theory of financial instruments.

My fundamental question is, “What are the invariants in an economy with respect to both money and financial instruments?” In other words, what are the invariant properties that you could apply to today’s economy and an economy thousands of years ago? On my website, I have what I believe to be the earliest secured debt contract (about 3000 B.C.). It is in the Yale collection of Babylonian clay artifacts. In the contract the loan is secured by the borrower’s son (you get your son back when I get my loan back). The concept of secured loans in the economic theorizing of Babylonians was in place long before the utilization of coinage (630 B.C. in Asia Minor).

I suggest that whether it is microeconomics, macroeconomics, or anything else, the question comes first. When I was with General Electric in Louisville in the 1950s, I ran one of the first corporate simulations ever built—we simulated the GE delivery system for consumer durables. What we learned is valid today.

Rule 1: There is no such thing as a general purpose simulator.

Rule 2: There are three steps in building a useful simulation: (1) the question and the selection of input; (2) the building of the formal model and the selection of output; and (3) the interpretation of output.

The correct way to build a simulation is to first define the question to be asked, for whom it is to be asked, and the time scale in which to answer it. When you get this straight, you do not build the model but design the output. Once you have designed the input and the output, then you build the model. The message is that there is no such thing as a general purpose simulation. (There is such a thing as a good ad hoc simulation directed to the question at hand, where the question is relevant because you know who is going to use it.) After realizing the name of the game, I decided that I could afford the luxury of pure micro theory.

Another item that is high on the list, in terms of the hang-up of micro- and macro theorists, is the concept of rational behavior in economics, which is a pretty good crutch to lean on. I lean on it all the time except for some important modifications—I believe heavily in political economy rather than economic theory, per se. The message of political economy to those of us doing any variety of economic theory is that we are concerned with context rational behavior rather than rational behavior. You need to make sure that you have the right context in which your behavior is taking place. We see this in the reaction currently going on in modern financial theory.

Modern financial theory has been dominated in the last 30 or 40 years by the math jocks. It has become a mass of mathematical finance and everybody is balancing portfolios or designing even more cunning derivatives. The net result has been a disconnect of theory from context. There are two dangers in that disconnect. The financial economists are getting away with a very dangerous abstraction—regarding common stock as lottery tickets. Real businesses underlay those lottery tickets, and there is meant to be a real connection between the paper ownership of the businesses and the business itself. But now we are going one step further. There is an intervening mechanism called mutual funds, which dominate over half of the market. So now we have the setup for total irresponsibility. People are not buying stock. They are buying lottery tickets on lottery tickets, which means that owners of mutual fund shares never have to know or read a 10k. We skillfully designed this into our particular system. Modern finance became dominated by portfolio balancing and the design of fancy instruments, and totally forgot that securities analysis underlays good old-fashioned finance.

About four or five years ago, modern finance suddenly caught on that rational behavior wasn't everything, and economists invented something called "behavioral finance." When I worked in New York, my rule of thumb was to read back issues of *Fortune* magazine and the *Economist*. I found that there was a reinvention cycle. The standard rule was that the new, up and coming, innovative entrepreneur on the face of *Fortune* was probably a short sell in four years. I found that, if you went back far enough, almost everything had been invented before, but was presented again because of short-term memory of the financial and business press.

Whether Keynes was right or wrong in the specific functional form of behavioral economics is totally irrelevant. What he and some others did was to cleanly get out of the mold of a tight rational-behavior description. We can argue how good or lousy the propensity to consume is, but it was reasonably well-defined by Keynes and it called attention to the item that I and Hy (Minsky) were particularly interested in—economic dynamics and, essentially, coherence. The point is, when you want to do economic dynamics, the contrast between dynamics and statics is very striking. I do not want to launch

into fancy mathematical economics but to stress that, for example, when you look at a general equilibrium system, it destroys a degree of freedom by the equilibrium conditions. Therefore, degrees of freedom that are present in a dynamic economy are not needed, and money and financial institutions disappear because they are unnecessary at the point of equilibrium. The second you are in a domain of disequilibrium, however, all money in financial institutions reappears because there are extra degrees of freedom needed to account for a mass economy disequilibrium system, whether it is tending toward equilibrium or not. You have a completely different array of degrees of freedom.

It really is an honor to talk in commemoration of my old friend, Hy. We met many years ago and I remember, most vividly, a talk on “strategic market Keynes and the price system,” in St. Louis. Hy and I just tore at each other with no holds barred, and I really came to appreciate that, with very different tools and slants, we were working on the same problem. My feeling was that he despised pure equilibrium mathematical economics for absolutely the same reason I did. The question posed by Arrow Debreu McKenzie was, “Does an efficient price system exist which clears the market?” They got the right model, but the price they paid was to bar general equilibrium theory from understanding financial control and institutions. It was a monument to careful modeling in a noninstitutional way. And Hy and I hated it, but in different ways. I say that because the way Hy hated it evolved into something extremely productive and relevant in macro theory. My concern was how to reconstruct this in a meaningful way.

Over the years, Hy and I carried on an infrequent and informal, but well-defined, debate. He had great skepticism about how far you could push mathematical economics. One part of me completely agrees with Hy. If you have an ad hoc problem that has got to be solved in the next few moments, stay away from fancy, mathematical, economic models. (If you have a big, already computerized, macro-model, see if you can modify it for your purposes, because it may be disaggregated correctly.) But, if you have a few months, try to identify the relevant variables, because they, along with a fairly primitive model, are much better than irrelevant variables with a very large model.

One of my former students in political science wrote a very good book about the track record of predictions. He found that selecting the five or six correct variables at the beginning counted far more than the statistical econometric technology.

The following is a quote from Hy from page 99 of *Stabilizing an Unstable Economy*. “In all disciplines, theory plays a double role: a lens and a blinder.” This is precisely what I am talking about—context. You really need to ask the right questions and avoid being blinded by prematurely disappearing into theory. The observations made by Hy really stressed the appreciation of mechanisms in understanding economic dynamics. And his descriptions of many of the mechanisms in the United States, which I still use today because I think that his insights were really very good, were masterfully written. I want to stress that a well-written essay is often far better than any formal model. The reason is that you do not put on blinders. The use of language and a well-turned sentence give you many more degrees of freedom (and the ability to paint nuances) than an attempt to run a three-stage, least-square method on your observations. The other feature of sticking to words, of course, is that you avoid the dangerous implications of a perfectly good mathematical theorem. For example, if you give me 18 points that are distributed at random, I can fit an 18-degree polynomial to those points. I am not going to go into the implications of what that says, but I leave it to the audience.



I actually believe that pure equilibrium theory is a snare and a delusion. The real thing to consider is what we can or cannot say about dynamics, and to ask a different set of questions. What are the invariants and the ephemerals in an economy? Take, for instance, the question, “What are the legs on the Phillips curve?” Will the Phillips curve be around in another 10 years, or will it be an interesting phenomenon that was good for a certain set of institutions and a certain length of time before it disappeared? At the same time, what can we describe in an economy that is really invariant? For example, I would argue that Social Security is an invariant of a good economy, but that it has greatly changed. Students in macro classes would tell you that Social Security came into being at the time of Bismarck during the reformation in Germany. If you asked them about Social Security in France in the 14th century, you would draw total blanks. The answer, to a reasonable degree, was the Catholic church, complete with a 10-percent wealth (or income) tax (tithing still exists today). The church currently has an auction in support of the hospital system, so it supplies health, education, and welfare. We may have an institution in our government that supplies health, education, and welfare, but fundamental properties hold for all economies at all times. What changes is the institutions delivering them, so the question is, “What are good and bad institutions?” What can they deliver to a particular society in terms of those particular invariant needs in a decent, competent, and stable way? Sometimes institutions are horrendously unstable. I think the United States’ fascination with government lotteries to raise money for the public (e.g., bingo and slot machines) is an example of a very unstable institution.

What I tried and failed to completely convince Hy about was what I call “mathematical institutional economics” and the way to push beyond formal equilibrium theory. My argument is that I refuse to believe any economic model that I cannot play as a game and build as a simulation. This stance comes from my own background in simulation game theory and experimental gaming. It means that I have removed the nonsense from the model. It is easy to destroy fine detail in general equilibrium theory and in equilibrium-oriented economics where the fine detail matters. When studying equilibrium conditions, there is a tendency to fail to observe the micro details of modeling, which are unbelievably important for macro- and disequilibrium phenomena.

Grid size is amazingly important. Physicists are insanely concerned with fine- and coarse-graining, and economists and economic predictors should be as well. A one-dimensional representative agent is anathema to me, although there are occasions where you may want to use the ad hoc question. However, when you go from the ad hoc question to grand macro theorizing, it turns into an absolute danger. For example, there is the concept of a perishable good. Is a ripe tomato a perishable good? Obviously, yes. But if the grid size of your dynamic model happens to be one second, it is not. If the grid size happens to be a year, it is.

One of my favorite books is by Walter Bagehot. If there is anybody in this room who has not read *Lombard Street*, shame on you. Although it may have been written some time ago, Bagehot says that timing, on certain occasions, may be everything. It may also be very nice to have a good policy, but a good policy not applied in an appropriate manner at the appropriate time may be even worse than no policy.

Another question is, “What do we mean by money and the velocity of money?” This question is as alive and unsolved today as it was about 50 years ago.

I want to make a few comments on the idea of mathematical institutional economics. A rule is to build a model that is a playable game. The reason is that, by taking what looks like noninstitutional



equilibrium theory, you are forced to invent every financial instrument and institution known to the profession. The reason is very simple. When you go from equilibrium theory to a playable game, you go from a single point in a space, which has already lost dimension, owing to the equilibrium conditions placed on it, to the whole state space of behavior and action that you are describing. When you go to the whole state space, the question of how you get from a disequilibrium to an equilibrium process requires that you specify the rules of the game. When you specify the rules of the game, you are specifying the minimal institutions and instruments of the particular structure, because it turns out that the rules of the game are the carriers of the process. But the carriers of the process are the instruments and institutions of society. You can then ask a question at an even deeper level.

On the board I have a very simple game tree and a formula that says  $P_j$  is the sum of  $B_{ij}$  over the sum of  $Q_{ij}$ . That is the simplest price formation mechanism that you can design, and it says (this is no great shock in macro theory) that the price of the  $j$ -th commodity is given by the amount of money chasing the amount of available goods.  $B_{ij}$  is the sum of the amounts of money bid for by that particular commodity and  $Q_{ij}$  is the sum of the amounts of the commodity offered. When I build this as a game to be played in class, I immediately get objections from the students who have been brainwashed with equilibrium theory. They ask, "How can we bid when we don't know the price?" That is exactly the fakery in rational expectations. It is the fakery in general equilibrium, where price is treated as a parameter, not as a variable. In the real world price is a variable, while yesterday's price and tomorrow's predicted price are the parameter. The thing that infuriates me when I look at banking theory is that, again in the rational expectations, you have people bidding in the market because they know the price and bankers lending because they know the price as well. However, a good banker knows that your worth today may not be the same as your worth when you pay back the loan. You should be sure that the assets are covered when the loan comes due.

My message is that, when you build process models (even at the level of general equilibrium theory), you start to invent every financial instrument. When you look at the whole state space from the point of view of the theory, you want to know the possible positions of disaster or success for the whole economy, not just the general equilibrium and equilibrium properties of the particular price system.

Here are some basic conclusions that are, to some extent, directly relevant to macroeconomics. When you look at an economic system in terms of the whole state space and in terms of the economic dynamics, then you have a fairly interesting set of questions. What is the trade-off between prediction and control? What is the role of flexibility? As macroeconomists, you should be interested in control. A question that Hy and I have discussed that is in very few textbooks is, "How big should a government of a reasonably democratic state be?" Our answer was that 20 to 30 percent of GNP should flow through the government. The answer from the right wing of pure mathematical economic or dynamic control theory is that this capacitance is big enough to dampen (control) various things in the economy (the government can be regarded as a capacitance).

My point is simply this—disequilibrium, not equilibrium. Equilibrium is one point, but with disequilibrium, you have to look at the whole state space. Here are a couple of examples about the trade-off between prediction and control. If I want to get across a rather heavily trafficked highway, there are two ways to do it: have rather poor eyesight and be very fast, or have rather good eyesight and be somewhat slow. Both of these very different propositions will solve the same problem, but the macro prob-

lem is, “Which is more expensive, having good eyesight or being very fast?” I have given you two sets of sufficient conditions, which solve the same problem. The great problem with the hand paradox in monetary theory is that it confuses necessary and sufficient conditions.

The last observation that I want to make is that if you take a look at the general theory of stochastic processes, you will find that it is beyond our current capabilities to build a decent stochastic multivariate model of the real world. The point is that, from the point of view of macroeconomic theory and government applications, the problem is control (i.e., the central bank, not forecasting).

It would appear that, once the models get high-dimensional enough and there are enough stochastic elements in them, the ability to predict a trajectory through high-dimensional space is about as good (probably worse) than weather forecasting; i.e., you are not going to do it. If there were no stochastic elements, you would still encounter literal problems of complexity (discontinuous points) and you would not get smooth trajectories. This tells us to be careful and not look for fountains of youth. Let a few mathematical economists work in this area, but remind yourself that the job of the government is to control the economy, not to predict things that cannot be predicted.

If you gave me a budget of \$2 million to prevent suicides on the Golden Gate Bridge, I would not spend the \$2 million on psychiatrists. I would spend it on putting up wire fences on both sides of the bridge to make it hard to jump. If we are going to try to control bubbles in the stock market, we should change the marginal requirements, but how? Now we have a question about how nimble and fast our bureaucracy may be.

**MAURICE HINCHEY**

*U.S. House of Representatives (D-New York)*

**George W. Bush's House-of-Cards Recovery**



As a member of the banking committee during the Humphrey Hawkins proceedings some years ago, one of the more interesting experiences I had in Congress was hearing the chairman of the Federal Reserve, before the banking committee and both houses, deny that there were any records of any meetings of the Federal Open Market Committee. After a lot of persistence and pointed questions, we finally got him to admit that there

were not any notes taken, but, in fact, it was tape recorded. And so the public now has an opportunity to get some insight into the thinking of the Federal Open Market Committee with regard to one of the most important processes that takes place in our country involving the economy and other things as well.

Thank you for the opportunity to speak at the 14th Annual Hyman P. Minsky Conference. It is a pleasure to be back here once again and an honor to address such a learned and accomplished assembly. The current recovery has been characterized by unprecedented and, seemingly, contradictory economic indicators. It has also been accompanied by a fiscal policy that is radically different from that of the 1990s. In order to judge whether our economic recovery can be sustained, it is necessary to examine what has transpired on the economic landscape since President George W. Bush took office. When George Bush assumed the presidency in January 2001, he inherited a slowing, yet fiscally sound, American economy. The federal government was running an annual budget surplus for the fourth consecutive year. The publicly held federal debt was being paid down and budget forecasters predicted federal surpluses for at least a decade. The country's fiscal situation was so strong that George Bush called for \$2 trillion worth of tax cuts during the previous year's presidential campaign (which mostly went, of course, to the wealthiest Americans, rather than to such trivial things as education and healthcare). As it became clear that the economy was slowing down, however, President Bush continued to call for massive tax cuts, but he changed his reasoning. Now the problem was that there was going to be too little money in the Treasury, but nevertheless, the same remedy was required. The cuts were necessary to stop the sliding economy and put people back to work.

In March 2001, according to the National Bureau of Economic Research, the U.S. economy entered a difficult recession. Millions of jobs (most estimates were nearly 3 million) were lost in a very short period of time. But the recession was brief and the economy began growing again, albeit slowly in the fourth quarter of 2001. And it is becoming clear that the expansion that we have witnessed is very likely to continue. Some economists are predicting at least a 4 percent increase in our gross domestic product this year. While a growing economy is always good news, most Americans have not

yet begun to feel the benefits. Historically, this is one of the most painful recoveries on record for the middle class, not to mention the lower-middle-income class and the working poor. Worse, it is built on a house of cards. Unless the White House recognizes that fact and changes course, our economic house is very likely to crumble. However, the White House is unlikely to enact the necessary change, since its policy decisions are driven by an unyielding neoconservative ideology. Be it the war in Iraq, Medicare reform, environmental protection, or the economy, this administration dogmatically ignores the reality of the circumstances we face and plows on ahead, regardless of circumstances.

We have had confirmation from a number of sources in the administration. The earliest was probably John Diulio; also Paul O'Neill and his recent book, and Richard Clark. President Bush is modeling his economic approach after his ideological ancestor, Ronald Reagan, despite known failings of the Reagan model and an ignorance of major changes that have taken place over the last 20 years. This is why we find ourselves in our current predicament: a jobless, painful recovery accompanied by a debt-laden economic expansion. Today, according to a survey of households by the Bureau of Labor Statistics, 8.4 million Americans are unemployed and 2.4 million jobs have been lost since the beginning of the Bush administration. This is the first time since the Great Depression that jobs have disappeared over the course of one presidential term and the first time in over 70 years that there has not been a net job gain at this point in the business cycle. March was the only month that witnessed any discernible or significant job creation. But our current unemployment rate (5.7 percent) remains 1.5 percent higher than it was when President Bush assumed office.

Using the unemployment figures alone is insufficient if we want a true picture of the current state of the labor market under this administration's economy. To understand the severity of the situation, we must also factor in the number of people who want to work, but gave up looking for a job, as well as the number of people working part-time who want to work full-time. According to the Bureau of Labor Statistics, the unemployment rate is up to 9.9 percent if those people are included.

It is important to note that we are discussing long-term unemployment. The number of people unemployed for more than 26 weeks has tripled under President Bush. As you know, 26 weeks is the cut-off point for regular state unemployment benefits. The president and the Republican-controlled Congress, however, refused to renew the temporary unemployment compensation program when it expired last December. As a result, people who have exhausted their regular state benefits will receive no additional federal benefits, despite the still weak labor market. And many of these people disappear. They simply drop off the statistical charts.

President Bush is on track to have the worst job-creation record of any modern president. But if that were the end of the story, most Americans could consider themselves lucky. Unfortunately, this recovery is wrought with more distressing news. According to the most recent census data, median household income dropped significantly in 2002 for the second year in a row. Poverty also increased for the second year in a row. The number of people without health insurance continues to climb. Health costs have skyrocketed and higher education is becoming less and less affordable. Median household income fell substantially in 2002 for the first time since the last recession back in 1990-91. In 2002 the average American household lost \$934, sending household income down to its 1998 level. After adjusting for inflation, the income of the typical household is down by \$1,400 since the president took office. The average annual decline in real median household income in the Bush years is the greatest

drop for any single administration since we began collecting this data almost 45 years ago. This reverses some of the gains made during the last administration in the 1990s, when family income grew in tandem with the economy. While the boom of the 1990s did not fully reverse the income inequality, which was created essentially in the 1980s, it slowed it down. Low and middle income grew more quickly and more evenly than in the 1980s or early 1990s. Last year the only real growth in income was among the richest 5 percent of American households, while all others (households) stayed even or fell.

The Bush economy mirrors the divergence that we witnessed under the Ronald Reagan economy. That is, the disparity between the wealthiest and poorest Americans is growing rapidly. Separation is increasing dramatically. The poverty level also increased for the first time in six years: 33 million Americans (almost 12 percent of the population and an increase of 1.3 million in one year) now live in poverty. The poverty rate among children reached almost 16 percent. After watching these numbers decline for so many years, this is a dramatic and discouraging shift in the living standards of the least-advantaged Americans. To make matters worse, more than 4 million people have lost their health insurance since 2001, and health insurance premiums rose at a rate that is 8 times faster than the general rate of inflation—a record pace in the absence of comprehensive reform. The average annual premium for employer-sponsored family health insurance could equal as much as \$14,000 in the near future.

Under President Bush, our country went from record budget surpluses to record budget deficits. In fiscal year 2001, we had a \$127 billion budget surplus. Three years later that surplus has turned into a \$500 billion deficit. The \$5.6 trillion 10-year surplus that was predicted three years ago has been turned into a \$2.9 trillion projected deficit. Think of it: that is a heroic achievement in the short space of a few years. Most of this turnaround is due to the president's nearly \$3 trillion in tax cuts, which required the federal government to borrow tremendous sums of money from foreign lenders. This is President Bush's economic record—failing grades across the board.

But, of course, it did not need to be that way. The Center for American Progress released a report this week that contrasts our economic growth with Canada. Although the experience of the two countries has been different in key ways, the report is illustrative. The economies of these two high-wage nations grew at about the same rate between 2000 and 2003. Canada's nominal GDP growth was 13 percent, while U.S. growth was 12 percent. But while we lost more than 2 million jobs here in the United States since 2001, Canada added a million jobs to its economy. That is a 5.6 percent increase in the number of jobs available across the northern border. If one were to apply just half this rate of increase to the United States, it would have given us more than 4 million new jobs. This disparity between our job growth and that of our neighbor to the north is traceable to the Bush economic policy. Through the period in which our president pushed through his tax cuts, Canada also passed a tax-cut package. The Canadian approach was to provide the vast majority of its tax cuts to lower-income and middle-income households: those people who comprise the backbone of the modern-day economy. We know that in the U.S. economy, the consumer drives two-thirds to 70 percent of spending, which is similar to Canada. In contrast, the Bush tax cuts strongly favored the wealthy and provided incentives for companies to invest in equipment. This allowed wealthy individuals to become wealthier and encouraged companies to raise production and profits without having to hire new workers. In the meantime, while Canada's national healthcare system removes health coverage as an impediment

to hiring, U.S. health insurance premiums have climbed at record rates and remain a major negative factor in the hiring decisions made by employers.

The Bush administration and the Republican congressional leadership have done nothing to alleviate this situation, i.e., the drag on job creation. This contrast with Canada should remove much of the mystery about the reasons behind the current jobless recovery. Notwithstanding all of the points that I have raised, our economy is expanding. But conditions for continued expansion in the medium and long term are far from ideal and, I think, highly unlikely. Consumer spending and housing have fueled the majority of growth in this country over the course of the past year. That would be fine, except for a point I have already touched on: personal income is not keeping up with inflation. As wages have remained stagnant or declined, people have only been able to keep spending by tapping the equity in their homes and running up debt on their credit cards. This phenomenon has been made possible, of course, by record low interest rates.

President Bush recently powered the increase in home ownership. Indeed, the home ownership rate, which is now at 69 percent, is a record. But that welcome statistic is accompanied by troubling news that mortgage debt in the United States is also at a record: \$6.82 trillion. Equally of concern is that almost 30 percent of new mortgages, including refinancing, are adjustable rate mortgages. Meanwhile, outstanding consumer debt, credit cards, auto loans, and other revolving lines of personal credit are at an all-time high of more than \$2 trillion. Almost \$9 trillion of personal debt is extant in America today. When combined with the rapidly rising federal debt, this record level of personal debt is creating what could be called a debt bubble. The growing annual federal deficit and resulting debt will crowd out funds for private investment as the government is forced to borrow more to cover its operating expenses. The International Monetary Fund recently reported that the Bush administration's policies have set the United States on a course to increase its net debt to 40 percent of GDP within the next few years—an unprecedented level of debt for a large industrial country. In the report, the IMF suggests that, if the United States were a third-world country, it would advocate some very strong action with regard to U.S. economic policies. So, this level of debt will inevitably lead to a rise in long-term interest rates.

Alan Greenspan recently indicated that he has no plan to increase rates at the next Federal Reserve meeting. But as the economy continues to expand and inflationary pressures increase, you can be assured that the Fed will raise short-term interest rates sometime in the near future: probably not until after a certain moment in November. As interest rates rise and personal incomes remain stalled, Americans will not be able to keep spending at the same pace. Mortgage payments, credit card payments, and car payments will all increase as rates go up and will leave little disposable income in the household budget. Thus the foundation of this house of cards—consumer spending—will obviously crumble.

It's very clear how this dangerous debt bubble was created. The Bush tax cuts account for more than three-quarters of the growing deficit. Increased spending, including the military, homeland security, and the Iraq war account for slightly less than one-quarter. Of the 10-year projected deficit of \$3.6 trillion, the revenue lost due to the tax cuts during that time will total \$3.7 trillion. Unfortunately, a debt bubble is not the only matter that we need to be concerned with. The tax cuts making up the entirety of President Bush's economic policy have amounted to tax increases at the local and state level for the majority of American citizens. Property taxes have gone up, sales taxes have gone up, and more

people find themselves paying greater net taxes now than they did before the Bush tax cuts. States and localities have just been through some of the most difficult economic times in over 50 years. At the same time, they have been forced to pay for an increasing number of federal mandates, ranging from Medicaid services to the changes required in educational programs under the No Child Left Behind act.

It would be logical to most people that the federal government would provide assistance to the states for these federal obligations. But, as we all know, that did not happen. Instead, the president passed unaffordable tax cuts. This left states and localities with little choice but to cut their own state programs, local programs, and services, and also to raise local taxes. If it were understood that the Bush tax cut represented a choice between a few hundred dollars in federal tax refunds, on one hand, or more services and lower state and local taxes, on the other, I'm quite sure that the choice most people would make would be obvious—they would choose the latter.

Interest payments on the national debt are the most obligatory item in the federal budget. As the national debt increases, American taxpayers are required to pay increasing interest payments. This effectively creates a debt tax. As each American family is assumed to pay the same share of debt services or interest on the national debt, then this year a family of four is paying a \$2,109 debt tax. This amounts to 58.7 percent of the income tax liability for a median income family of four. Under the same assumption, the debt tax rises to \$3,705 by 2008, or just over 71 percent of the typical family's tax liability. Of course, each family does not pay the same share of debt service, but the point remains valid. The debt tax is a significant cost to American taxpayers. Worse, it is money that is going solely to pay debt interest. It does not provide anything of value. It does not help with education, healthcare, medical research, or any other vital service.

The numbers that I presented do not include a fix of the alternative minimum tax (AMT). The AMT, you will remember, was passed many years ago to prevent wealthy individuals from sheltering income and avoiding taxes at all. Because the AMT was not adjusted for inflation or for the Bush income tax cuts, more families with lower incomes will pay it. A key component of the AMT calculation disallows the deduction for state and local taxes, which, of course, is an important provision for people in high tax states like New York, where you have local and state income taxes. In 1999 about 1 million taxpayers were subjected to the AMT. But by the end of this decade, that figure is expected to reach 33 million (and 97 percent of families making between \$75,000 and \$100,000 a year). It is obvious that this needs to be fixed. But will it be fixed? If it is, it will be costly. If the Bush tax cuts, which are set to expire in 2010, are made permanent, as the president has urged Congress, the cost to fix the AMT would be roughly \$780 billion. That's according to the Urban-Brookings Tax Policy Center. This money would likely be borrowed under the current fiscal conditions and will inevitably increase the debt tax.

In many ways the Bush economy is similar to the Reagan economy. Economic expansion, yes, but also combined with massive federal deficits. But while the consequences of Reagan's irresponsible fiscal policies were remedied, in part, by the first President Bush, and further when Bill Clinton took office, the same solutions that were applied by those two presidents will not work today. President Clinton and Democrats in Congress passed an economic recovery package in 1993 and laid the groundwork for the sustained economic expansion of the 1990s when most of the baby-boomer generation was still 20 years away from retirement. Now retirement is less than nine years away for most



of that generation. Instead of preparing for that eventuality, President Bush and congressional Republicans are digging us deeper and deeper into debt and trying to kill safety-net programs that we promised to current and future retirees. Long gone are the days of fiscal responsibility coupled with sound economic growth. President Bush has no plan to deal with the growing deficit, no plan to improve the weak labor market, no plan to increase wages, no plan to address the rise in poverty, no plan to address the loss of healthcare coverage and rising healthcare costs, no plan to make higher education more affordable, and no plan to fix the AMT. In fact his budget that is making its way through Congress right now (although it's having a tough time) will make many of these conditions even worse.

The Republicans have set new budget rules. These rules include this stipulation: no money can be borrowed to pay for nondefense spending increases. You cannot borrow a dime for nondefense spending increases under this budget resolution. But, they exempt defense spending and future tax cuts. You do not have to pay for the largest elements in the budget. Those, of course, are the primary causes of our deficits.

Given these realities, I am deeply worried about our economy in both the short and long term. I believe the current economic expansion will continue in its present form with all its negative aspects, but for a very limited time. President Bush's failure to address the myriad problems that I have laid before you this afternoon will set us up for massive economic distress. That distress is likely to express itself as early as the second quarter of next year. It is a dismal picture, but it is a very realistic one. And these are circumstances that have been put in place, consciously, by people who believe in them religiously. We are living now in a kind of faith-based economy. And it has set us on a track for some very serious and very difficult problems.

Now, of course, the second quarter of next year could be a time when there is a different person in the White House and some steps could have been taken to deal with these multiple problems. Even so, we do not have the kind of conditions that we had back in 1993, when that budget resolution was passed and set us on the path for economic stability. It did so by cutting spending in some areas, raising taxes, and dealing with the budget deficit. And when people saw that the budget deficit was being dealt with and that we were not going to continue to have deficit after deficit as far out as possible, they began to realize that there was a reason to have faith in the economy, and the whole set of circumstances changed materially and psychologically. Whether or not that is going to happen, even with a new administration, is a very serious question and we will just have to see.



## Sessions

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### SESSION 1

#### *The State of the U.S. and World Economies*



James K. Galbraith; Lakshman Achuthan; Dimitri B. Papadimitriou; James W. Paulsen

#### **MODERATOR:**

#### **DIMITRI B. PAPADIMITRIOU**

President, The Levy Economics Institute

#### **LAKSHMAN ACHUTHAN**

Managing Director, Economic Cycle Research Institute

#### **JAMES K. GALBRAITH**

Senior Scholar, The Levy Economics Institute and University of Texas at Austin

#### **JAMES W. PAULSEN**

Chief Investment Strategist, Wells Capital Management

In his introduction to the session, **DIMITRI B. PAPADIMITRIOU** noted that the purpose of the conference—to assess the many cheerful yet cautionary forecasts that good times are here again—reflected Hyman Minsky’s insight about the economy as expressed in a tribute by Leon Levy in his book *The Mind of Wall Street*: “...prosperity leads to its own decline by ultimately producing speculative excesses.” Papadimitriou further noted that recovery from the short-lived recession and stabilization is unlikely to regain the GDP and employment growth rates of the 1990s.

Papadimitriou outlined the results of the latest Levy Institute Strategic Analysis report. The April 2004 report shows that fiscal policy has made a swift and significant comeback in terms of deficit spending, which contributed to real GDP growth rates of 8.2 percent and 4.1 percent in the third and fourth quarters of 2003. While profits and productivity soared, growth in employment and wage income lagged far behind. Total job cre-

ation in the period between December 2003 and March 2004 was behind by 77,000 jobs in terms of absorbing workforce growth, and increasingly encompassed low-quality, low-wage employment. The weakness of the labor market also shows up in the stagnation of hourly earnings and employee compensation.

Papadimitriou stated that the return of large and growing fiscal deficits was the first striking element of recent times. Moreover, twin deficits (current account and government) are back as unprecedented private sector deficits recede. This event has generated growth, enhanced profitability, and pulled the economy out of the 2001 downturn. The consensus view expects moderate productivity growth in the near future, along with an improvement in employment and total wage income. The current average rate of growth and productivity is close to the historical average (1.6 percent), which defines the medium-term growth rate needed to maintain the current level of unemployment.

While the Federal Reserve is optimistic about higher growth and lower unemployment in 2004, as well as the prospects for sustained expansion of the U.S. economy, Papadimitriou stated that the concerns at the Levy Institute are somewhat different. He noted that Levy scholars have argued for some time that the pace of consumer spending cannot continue in light of near record debt-service payments (13.1 percent of disposable income) and debt and debt-service burdens (in spite of low interest rates), a record financial obligations ratio, and an unprecedented number of consumer bankruptcies. There is a significant danger of higher debt-service burdens and bankruptcies now that interest rates have bottomed out, a point that is missing from the official view, Papadimitriou said. The Institute is more concerned about a possible drop in demand of U.S. assets by foreign creditors, such as China and Japan, than large government deficits, inflationary pressures, and rising interest rates.

Papadimitriou outlined the results of the medium-term consequences of three alternative policy scenarios. The authors of the report found that rolling back tax cuts is preferable to curtailing government expenditures in terms of growth and employment. This result suggests that the sharp rise in actual GDP growth from 2001 to 2003 was the result of government expenditures rather than a reduction in tax rates.

Continued devaluation of the dollar after 2004 would improve the current account balance and accelerate growth if interest rates did not rise. On the other hand, rising interest rates would cause the U.S. economy to worsen significantly as a result of rising interest burdens for the private sector and higher government deficits (i.e., larger cutbacks in government spending and higher tax rates would be required to keep the budget deficit in line). Papadimitriou concluded with a quote by Distinguished Scholar Wynne Godley: "A chronic balance-of-payments deficit will make it impossible to balance the budget. Either the target of the budget must be changed or effective steps must be taken to improve the balance of payments."

**LAKSHMAN ACHUTHAN** noted that his comments were rooted in a cyclical worldview. He acknowledged that there were noncyclical (abnormal) things happening today and that a sea change was under way. Achuthan pointed out that manufacturing accounted for 11 percent of U.S. jobs but 134 percent of net job losses since the beginning of the last recession. The pattern is decidedly different from past recession and recovery periods, and from the rest of the world, which suggests a structural

shift. From 1995 to 2002, China lost 15 percent of its manufacturing jobs even as the U.S. economy was adding them; since 2001, the United States has lost 15 percent of its manufacturing jobs.

Following the initial conflict in Iraq, some people expected continued weakness in the U.S. economy, while others expected a return to strong GDP and job growth. However, a lopsided recovery unfolded—strong GDP growth and very little job growth. Achuthan presented examples of similar trends in South Africa and New Zealand during periods of structural change. In South Africa, as GDP grew from 1994 to 2003, industries shed workers who were no longer deemed “productive” enough to employ under the higher wage schemes promoted by the Mandela government in an effort to close the apartheid wage gap. In New Zealand, the loss of major agricultural exports to the United Kingdom in the early 1970s resulted in sharply rising unemployment accompanied by rising GDP. These patterns can also apply to larger market economies. Periods of structural change can show a divergence between things that we think should move together, like output and jobs.

There are two basic reasons for the divergence: a subpar recovery and a period of structural change. The evidence points to a story of unintended consequences, suggested Achuthan. Longer-term trends, such as the Federal Reserve’s success in fighting inflation and globalization, overlapped the 2001 recession, which also affected inflation. A business that lacks pricing power has to cut costs through productivity gains and outsourcing, or profits will be hurt. The insistence that productivity growth is the primary culprit for the lack of job growth, however, misses the point because nobody really knows the precise number of jobs lost to productivity gains. Achuthan suspected that job losses stemmed from a greatly accelerated structural change. The 2001 recession was global and came at a time of virtual price stability, which resulted in deflationary pressures for tradable goods. The manufacturing sector ramped up productivity growth through cheap financing, record low interest rates, and tax incentives, but it also had more options than before. China was integrating into the global supply chain and there was a new-found wealth of credible Indian firms. These events helped to cut costs in the wake of the 2001 recession. Rather than a cyclical or exaggerated cycle of some sort, there was a structural shift.

The implications for the United States are that intellectual property is going to play a critical role in the longer term (things that require local and highly specialized knowledge cannot be outsourced). Achuthan expected that comparative advantage, which might be defined in increasingly more fine-grained terms as tasks are broken down and redistributed globally, was essentially driving the economic shift, and he noted that globalization brings both opportunities and threats. Wage growth will slow in the West, particularly in manufacturing, and the supply of employees will rise in the service sector, which implies some downward pressure on wage growth. The United States is best suited to be a center of operations in the new global world as it will continue to attract the best and the brightest individuals. The challenge is to own intellectual property, speak a number of different languages, and have a highly integrated system of managing production and clients. The United States is in a good position for that challenge, but it is going to take a long time to play out, observed Achuthan.

According to **JAMES K. GALBRAITH**, it is no surprise that military purchases and restocking of equipment following the Iraq war have resulted in a growing economy. Poor job performance, however, is a surprise. He then posed the following questions. Will jobs pick up and will the economic expansion continue after the presidential election?

Galbraith believes that there are a number of reasons to be cautious. One reason is that we are in the turbulent wake of the largest private sector boom and bubble in modern times, so we should not expect an ordinary recovery of the business cycle. This reason is reinforced by a fairly low level of capacity utilization, particularly in such sectors as telecommunications. A second reason is that household debt burdens have continued to rise in a period of recession, in spite of extraordinarily low interest rates, so households are unlikely to drive the next phase of economic expansion. A third reason is the fiscal difficulties of state and local governments, which are adding an extra drag on the economy. A fourth reason is the future of interest rates, which are likely to rise in the face of pressure from internal and external sources and current signals from Alan Greenspan. A fifth reason is that the United States faces a cumulative decline in its trade performance that puts its current account and (full) employment in a worse position than at any time in U.S. history. The trade deficit impedes a strong expansion and induces policies that may generate restraint or contraction. The final and most intangible reason is fear and uncertainty in response to the international situation (e.g, the war on terror and uncertain progress in Iraq). The Bush administration has not been forthcoming about the extent of future budget demands for Iraq, and preoccupation with these matters will interfere with the decisions of private U.S. businesses related to long-term investments, particularly in new areas.

Galbraith stated that it was not prudent to assume, as does the administration, that there will be a smooth recovery based upon existing policies or that a program of deficit reduction will generate an expansion. He noted that interest rates rose following the enactment of a deficit reduction package in 1993. The banking sector, which was in a position of very low deposit rates and very high interest rates on government bonds, was able to borrow from the public and lend to the government at essentially no risk and cover its costs and rebuild its balance sheets. The sector was pushed by the rise in deposit rates to seek riskier customers (an explanation that would likely please Minsky). Commercial and industrial loans grew almost immediately following the rise in interest rates in February 1994, suggesting that willing borrowers existed at that time. We do not face this situation today, Galbraith said, because there are few dissatisfied borrowers and the problem is a general uncertainty about the prospects for profitability and the expansion of private business. The bubble in housing prices is much more likely to unravel than accelerate, so private credit cannot be relied upon for an economic expansion.

The Iraq war may continue to have some positive effect on spending in the short run, but it may also generate some inflationary consequences for our economy, surmised Galbraith. Little attention has been directed to this consequence, but it is historically characteristic of warfare as a result of profiteering and bottlenecks in specific sectors. The supply and price of oil may be affected because war is import intensive and tends to draw resources away from sectors that feed growth, such as advanced technology. Wars tend to put upward pressure on pricing and downward pressure on the international financial position of the country, and the effects should be feared.

Galbraith agreed with Papadimitriou that prudent policy to sustain growth and rebuild employment must rely on the public sector. He proposed that we think in terms of a public strategy with a significant medium-term economic objective aimed at building a new climate of security so that the private economy can regain its confidence. This strategy should include public leadership in the fields of energy diversification, conservation, housing, and alternative transportation in order to reduce our vulnerability in the world economy and the peculiar geopolitics of oil. He also proposed that we address

our enormous dependence on a strong financial sector to preserve our position in the world as the supplier of currency reserves and the consumer of last resort. One step is to broaden and deepen our technological base and improve a range of industries that serve the domestic market and can be competitively exported. We should also slow the growth of certain imports and consider the strategic orientation of trading policy, such as buying steel from the domestic market. Galbraith highly recommended a policy strategy that mobilizes our resources and is not subordinate to arbitrary financial objectives.

According to **JAMES W. PAULSEN**, the developed world is facing a long-term, deflationary-biased environment. However, in the next few years of the business cycle, he expects inflation to be a central issue, especially in light of surprising strength in the U.S. economy. He foresees three years of higher optimism and a return to a policy-tightening stance, likely followed by serious economic problems.

Paulsen noted that nobody bought into the good news during the current recovery cycle, in spite of one of the best economies in the last 15 years. He surmised that the traumatic experiences of the past three to four years have changed the way we approach and evaluate the same data and information. He further surmised that cautiousness and doubt were huge positives for the future because the Fed and other policy officials have stayed “over easy,” which could result in more growth later on. Moreover, the U.S. economy will benefit from such stimuli as accelerated money growth, wide lending margins, a massive fiscal stimulus, a weak dollar, and low mortgage rates. No one is stepping on the brakes in the United States, he observed, and there is growth in China and Japan.

Paulsen combined all policies as a percent of GDP and reviewed the results historically. He found that this technique explained the major economic expansions and contractions in terms of policy. He believed that lack of pricing has been the main problem for the past seven years, and noted that pricing has started to rise. Corporations, then, have some flexibility again, the stock market has recovered, capital spending is back, jobs are emerging, inventories have started to rise, and the Fed is no longer impotent. Although the consumer is the weakest link, Paulsen expected consumer spending to be adequate in 2004. Jobs will replace the stimulants of refinancing and real wage increases, and the composition of spending will change from durable to nondurable goods and from housing to services, which will generate more jobs. If interest rates rise, the vulnerabilities of the household sector related to debt will become troublesome in about three years and will probably lead to a consumer-led recession.

Paulsen produced evidence of higher inflation throughout the economic system. Within the last 18 months, every index changed from year-on-year deflation to inflation, and core consumer prices have risen. He noted that much of the character of the 1990s has changed, and said he expects that our number one obsession—deflation—will be solved by policy. He further noted that our other obsessions—jobs and the war on terror—call for massive policy ease. He expects that these obsessions will be solved in the next few years, but with some unintended consequences.

In the United States, money grew slower than nominal activity from the mid-1980s to mid-1990s, a trend that produced deflation. In the last three to four years, however, the money supply grew faster than nominal activity, a trend that is a recipe for inflation. Paulsen found the same inflationary trends in terms of fiscal policy, the value of the dollar, real yields, debt growth, and industrial capacity.

Paulsen observed that the decade of the 1990s was the only economic expansion in the postwar period in which supply led demand. The situation today, however, resembles the economic expansions

of old, where demand led supply. In addition, global competition is much less significant today because of the decline of the dollar, which had risen 50 percent between the mid-1990s and 2002, a period when we imported international price competition. A significant amount of deflationary pressure came from high traded durable goods, but durable prices may flatten out as the dollar continues to weaken, he said. For the first time in a long time, Paulsen expected positive manufacturing job growth in May.

## SESSION 2

### *The Macroeconomic Prospects for the U.S. Economy*



Clockwise from bottom: L. Randall Wray; Robert W. Parenteau;  
Robert Z. Aliber; Greg Hannsgen

#### **MODERATOR:**

##### **GREG HANNSGEN**

Resident Research Associate, The Levy  
Economics Institute

##### **ROBERT Z. ALIBER**

Professor of International Finance, University  
of Chicago

##### **ROBERT W. PARENTEAU**

Director and Economic Strategist, RCM

##### **L. RANDALL WRAY**

Senior Scholar, The Levy Economics Institute,  
and Professor and Research Director of the  
Center for Full Employment and Price Stability,  
University of Missouri–Kansas City

**ROBERT Z. ALIBER** reflected on his business trip to Hong Kong and Bangkok in March 1997, the year he became aware of the real estate bubble in Asia. His subsequent forecast of exchange rates was correct, although his prediction for asset prices was not. The theme of his remarks focused on the transfer problem and asset prices.

Aliber concluded that we have lived through 30 of the most tumultuous years in international finance in the last two centuries. As evidence, he noted the highest peacetime inflation rate in the 1970s, the very large swings in commodity prices, the overshooting and undershooting of real exchange rates, the massive collapses of national banking systems, and the fact that the United States was the world's largest creditor country in the 1980s and its largest debtor country by 2000. He also noted that the Japanese bubble caused other real estate bubbles, and that the robust change in current account balances in Asia was reflected in the U.S. credit accounts (when the trade deficit increased by \$150 billion). He argued that part of the U.S. asset and stock price bubble was associated with a surge in capital inflows—the transfer problem.

Aliber outlined shocks on both sides of the balance sheet. On the asset side, a predominant shock was financial liberalization, which explained much about the Japanese and Scandinavian cases. He observed that Brady bonds formalized the bankruptcy proceedings of developing countries and made them eager recipients of foreign capital. There were good news shocks from the point of view of Mexico, Brazil, and Argentina, when the U.S. money supply and growth rate surged and there was rapid growth in offshore dollar deposits that could be used by banks as a resource



for loans. Mexican government policy (privatization, macrostabilization, and liberalization) led to tremendous growth in Latin American investments, but some countries developed high current account deficits (7 percent of GDP). When the inflow of hard capital ceased, these countries did not have the funds to finance their trade deficits. On the liability side, these monetary shocks caused debt growth rates that were 2.5 times the interest rate, so countries resorted to Ponzi finance.

In Japan, when industry demand for loans eased, the banks competed for prime real estate and stock loans. There was also a surge in foreign banking. When banks made loans to generate income and cover operating expenses, they focused on real estate. When the Bank of Japan began to limit economic growth and real estate loans in the early 1990s, it was bad news for Japan but marvelous news for Asia. The slowdown in the rate of growth led to a real appreciation of the yen, so Japanese firms invested in other parts of Asia. Very rapid direct investment supported the Japanese banking system and caused a surge in capital inflows for other Asian countries, which developed very large current account deficits and overvalued currencies.

Aliber noted that good news shocks for one country might be bad news shocks for another (e.g., the surge in demand for hard assets and a significant real depreciation of the dollar in the 1970s was good news for Americans interested in a low inflation rate, but bad news for banks in the U.S. farmland and Mexico). In many cases, a very rapid growth in the supply of credit to a particular group of borrowers induces an exceptional increase in the rate of growth of the monetary base. Although countries do very well when they secure foreign capital, a large part of the increase in productivity is due to the terms of trade effect. Real appreciation of currencies only makes it appear that national productivity rates have shifted.

Aliber noted that speculation in currencies can be destabilizing and he suggested that real exchange rates are endemic as long as there are variable cross-border flows of capital. Therefore, the market exchange rate has to change in order to affect the current account. Macrofundamentals and international equity traders are essentially coattail riders, he said. He further noted that transitory phenomena can have very large permanent effects.

In terms of the transfer problem, Aliber outlined the process that countered his 1997 forecast of asset prices in Asia. The change in the current account (\$150 billion) resulted in a change in the capital account. When their currencies depreciated, Asians bought \$150 billion of U.S. dollar securities from Americans, who in turn bought securities from other Americans, which resulted in asset price escalation. Wealth increased, so Americans reduced their savings out of current income. In the adjustment process, asset prices have to increase enough so that the increase in the household consumption rate as a percentage of income (or a decrease in the domestic saving rate) is more or less equal to the increase in the inflow of foreign savings. Asset prices continue to increase until the domestic saving rate declines. This process was responsible for massive bank failures in many countries (with the exception of Japan), where domestic borrowers were on an unsustainable borrowing trajectory. Shocks such as a change in interest rates, capital inflows of stocks, or currency depreciations caused the banking system to collapse.

Aliber noted that, with respect to explaining the change in the U.S. international investment position, our external payments position is unique because it adjusts passively to events in other countries. Domestic credit growth is highly correlated with the real exchange rate; the transfer problem stems



from cross-border flows of capital (e.g., China experienced capital inflows in the past year in anticipation of revaluation gains from its currency).

**ROBERT W. PARENTEAU** focused on the household sector and warned of real problems following the removal of policy steroids or during the onset of another recession, as policymakers would be faced with difficult containment problems. He believes that the Washington consensus view is to let a bubble run its course, unless it threatens price stability, and to inject liquidity into the economic system if the bubble bursts. He noted that the reasons behind the very shallow recession in 2001 include the presence of a very resilient financial system and the distribution of risk through new financial instruments. In addition, the fiscal response (tax cuts) helped Wall Street, as did greater government surveillance and transparency. However, the consensus view suggests that the fiscal deficit is the only worry—ignoring the accumulation of household debt or the current account deficit—and that policy should monitor inflation risks and the output gap.

Parenteau outlined three flaws in the consensus view: (1) the financial balance equation shows that the private sector balance will widen and return to deficit if the fiscal deficit is reduced before the current account deficit has improved (the sequencing problem must be recognized); (2) the private sector has adjusted on the business side, but the household sector has persistently engaged in deficit spending, which is very unusual; and (3) the flow of funds data suggests that households have grossly exceeded debt accumulation expectations and that they have managed finances like a hedge fund operation.

After the bubble burst in 2000, the household saving rate and the trade deficit did not meet Parenteau's expectations and he was puzzled by three things: Why did the business sector restrict its expenditures while the household sector continued its deficit-spending behavior? Why did household debt explode relative to its financing gap? And why is there an enormous gap among changes in household debt, total debt, and the externally-financed sector? The collapse in the equity market did not result in a rebound in the gross saving rate and a decline of net debt. Parenteau observed that 78 percent of the U.S. economy is now accounted for by personal consumption and residential investment (a record high).

Parenteau believes that U.S. government policy was designed to keep the consumer in play (e.g., multiyear tax cuts and low mortgage rates). Since corporate bond yields did not decline until 2003, there was a difference in the cost of capital between the two components of the private sector (household and corporate). He proposed that the components had different expenditure behaviors in response to policy. The household debt-to-income ratio is significantly off trend, noted Parenteau, and he asserted that proposals of balance-sheet adjustments in the household sector miss the point.

Two possible explanations for the increase in household debt are that households may have leveraged their real estate holdings in order to reposition their financial assets, or that there have been large intrasectoral flows between creditor and debtor households (highly concentrated equity and bond ownership suggest that upper-income households may have successfully raised their saving rate, while middle-income households have increased their debt). He noted that some monthly data give a sense of liquidity-preferred shifts on the margin. Parenteau was not comfortable with these explanations because, in his view, households should not act as hedge funds nor should the middle-income household sector greatly increase its debt.

Parenteau foresaw some risk associated with the Washington consensus's asymmetric response to a bubble because it may recreate a bubble in another asset class that could burst and create a larger problem. A variety of private agents seem to be gaming the Fed's policy response, an action that could lead to exit strategy problems for policymakers. There is a moral hazard, he noted, when policymakers are perceived to place a floor on financial asset prices or to encourage risk taking within the private sector. What appears to be stabilization in the post-bubble period has been bought with a Faustian bargain, he asserted, since households are encouraged to act abnormally and change their portfolio behavior (the "Greenspan doctrine" may have distorted investor behavior). There is likely to be some financial market rockiness when it becomes clear that the Fed is heading toward a more normal federal funds rate.

Economic commentary has recently described the dangers faced by the U.S. economy in terms of deficits, debt, deflation, and depreciation. **L. RANDALL WRAY** of the University of Missouri–Kansas City outlined his views of the "D" words and their dangers and took exception to many of the concerns and arguments. He emphasized that from the vantage point of the U.S. economy as a whole, imports are a benefit while exports are a cost (net imports mean that we consume more than we produce). The claim that the United States needs foreign savings in order to finance its persistent trade deficit makes no sense for a sovereign nation operating on a flexible exchange rate, he said. Wray concluded that current relationships among the three sectoral balances of the U.S. economy are more sustainable now than in 2000, and that the government's deficit- and debt-to-GDP ratios are not high compared with past ratios, or those achieved in other nations.

Wray examined the "triple threat" of U.S. deficits—private sector, federal budget, and trade deficits—and noted that an expansion driven by private deficits is unsustainable. He warned that a simple return to the historical average for private sector balances (a surplus of 2 to 3 percent of GDP) would lead to an aggregate demand gap of \$300 to \$400 billion and a deep recession with double-digit unemployment. He further noted that there is no purely objective way to gauge whether the ratios related to the level of debt (the portion of income flows required to service outstanding debt and the ratio of debt-to-income flows) or the debt ratios for the federal government (government interest payments or sovereign debt relative to GDP) are excessive. Things are no clearer when it comes to external debt, he said, but two distinctions should be made: (1) there is a difference between public sector and private sector debt; and (2) it matters whether the external debt is denominated in the domestic currency. The second distinction does not apply to the United States because all federal government debt and almost all private sector debt are denominated in dollars.

Wray said he believed that deflationary pressures at home and abroad are real and that falling prices and wages can quickly generate rising debt burdens. He did not believe that the likelihood of a 1930s-style debt deflation process is high or that fears about the dangers of inflation and uncontrolled depreciation of the dollar should be taken seriously.

The author argued that the government budget balance is, to a large extent, nondiscretionary, and that the best indicator of the necessary budget adjustment is involuntary unemployment. By this measure, the Clinton budget surplus was less restrictive at the peak of the economic boom than Bush's current deficit at 5 percent of GDP. He advocated that direct job creation that puts people to work doing

useful things can add to national output and raise living standards without generating much inflationary pressure (as opposed to a stimulus package that promotes “hiring off the top”). High employment can be maintained with lower levels of government spending and lower aggregate demand, he says. Wray agreed with Hyman Minsky that a direct job-creation program can provide full employment, even in a low-growth economy, and he supported a low-growth strategy because a high-growth strategy favors private investment and generates growing financial fragility and instability.

Wray recommended that future tax cuts target lower-income families; therefore, he supported a reduction of the payroll tax. Since the types of spending programs by government make a difference (e.g., direct job creation, such as public service employment programs, create more jobs for the buck than alternative programs), policymakers should consider the fact that government spending and tax policies can be distortionary when formulating fiscal stimulus programs. The best policy response to a trade deficit is to create jobs, not to block imports. When the rest of the world decides that it has sufficient stock of dollar assets, then the U.S. trade deficit will disappear, he added. Wray advocated a substantial increase in federal funding for state and local governments (as large as \$150 billion per year) with a countercyclical component, since the federal government can spend without regard to its revenues.

A further recommendation by Wray was that the U.S. government should reassure its senior citizens about supporting them during retirement. Otherwise, in a climate of uncertainty and fear about the future, private savings can never be high enough, and this reaction would depress economic growth, as exemplified by the situation in Japan.

### SESSION 3

#### *Financial Instability in a Global Economy*



Dorene Isenberg; Philip Arestis; Ilene Grabel

**MODERATOR:**

**PHILIP ARESTIS**

Institute Professor and Senior Scholar,  
The Levy Economics Institute

**ILENE GRABEL**

University of Denver

**DORENE ISENBERG**

University of Redlands

Under the assumption that it is in the interest of developing countries to curtail financial risk, **ILENE GRABEL** proposed a system of trip wires and speed bumps that reduce risk, as well as the frequency and depth of financial crises. Trip wires measure the types of financial risk that confront individual economies, while speed bumps are narrowly targeted and gradual changes in policies and regulations that are activated whenever trip wires reveal economic vulnerabilities. Grabel noted that her system is very strongly indebted to Minsky's understanding of the root causes of financial instability and is much better than early-warning models, such as the International Monetary Fund special data dissemination standard, that fail to predict crises in the developing world.

Grabel outlined various early-warning models in the public and private sectors, especially the Goldstein/Kaminski/Reinhardt model. These models were based on the idea that financial crisis prevention required both good predictors that fill in the information gaps and an open, liberalized regime, so that agents (self-regulating actions

of rational private actors) could reallocate portfolios in response to apparent problems. She noted that the empirical performance of these models has been dismal.

Grabel outlined six underlying problems of early-warning models: (1) they depend on the availability and accuracy of information; (2) they presume that the interpretation of predictors is a science rather than an art; (3) they are predicated on the false notion that financial crises in all developing countries have the same root causes; (4) model refinements assume that crises are a consequence of informational inadequacy rather than a fundamental feature of liberalized financial environments; (5) economists often fail to predict economic turning points, and developing economies cannot afford the cost of failed efforts; and (6) we do not know whether investors will respond to predictions in a manner that is market stabilizing or destabilizing.

The trip wire approach tries to target particular financial risks by country and it recognizes that national policymakers are in the best position to design trip wires for their unique economic vulnerabilities. Grabel outlined various financial risks and ways to identify them. For example, currency risk could be revealed by the ratio of official reserves to short-term external obligations, or by the ratio of official reserves to the current account deficit. Fragility risks are associated with shocks that jeopardize the ability of private and public borrowers to meet current obligations (e.g., maturity or location mismatches). She suggested that financial regulators in developing countries should consider banning the use of off-balance sheet activities, since their economies cannot afford to bear the risk of nontransparent financial activities.

Flight risks include lender flight risk (e.g., the ratio of official reserves to private and multilateral foreign currency-denominated debt) and portfolio investment flight risk (e.g., the ratio of total accumulated foreign portfolio investment to gross equity market capitalization). Cross-border contagion risk (falling victim to instability in another country) was another risk that had a great deal of empirical relevance given recent events in the developing world. Grabel proposed trip wires activated in one country in response to crises or speed bumps implemented in another, and she recommended that national policymakers establish and periodically revise appropriate trip-wire thresholds that account for particular characteristics, vulnerabilities, and technical capacities.

Grabel also recommended that speed bumps should be modestly transparent, implemented gradually, and designed so that they govern inflows rather than outflows (to reduce investor panic). She noted the advantages and disadvantages of automatic versus discretionary speed bumps, and concluded that there was no ideal single strategy that could be applied to all developing countries. She suggested that speed bumps should be mainly automatic, but did not rule out the use of discretion by regulators. An important difference between the trip wire/speed bump approach and the Goldstein/Kaminsky/Reinhardt model is that a successful approach does not depend, to the same extent, on the adequacy of information.

**DORENE ISENBERG** focused on the transformation in banking regulations and the United States' financial stability in a globalizing economy as a result of the new Basel 2 capital accord. She outlined the recent history of financial restructuring, which promoted an increase in price competition among different types of financial institutions by allowing them to offer the same services and a level financial playing field. She argued that Basel 2 was the next big step in global transformation of financial

markets and noted that it was actively supported by the United States. Basel 2 proposes to transform the current supervisory and regulatory structure of depository institutions worldwide, similar to Basel 1 in 1988. Basel 2 also proposes to alter the capital adequacy requirements, increase regulatory flexibility, and promote a greater reliance on market decision making and discipline. Part of the process involves moving toward a reliance upon risk management models, she said.

Isenberg focused her presentation on credit risk management, expected changes in macroeconomic financial stability, and the question of whether Basel 2 would pass a Minskyan test of financial stability. She noted that Basel 1 induced banks to hold more capital and was considered to be a very successful transformation. She further noted that the objectives of Basel 1 and Basel 2 appear to be the same—to level the international playing field and promote greater financial stability in the international arena. However, Basel 2 approaches its goal of stability from a very different perspective: it accepts risk taking rather than moving away from riskier activities and assets. The objective of supervision is to assist the management of risk, and the focus of Basel 2 is to strengthen the regulatory capital framework for large, internationally active banking organizations.

Isenberg outlined three pillars of Basel 2: credit and operational risk management, the supervisory process, and market discipline as regulation. She noted that the standardization of credit risk targets small banks, while the foundation and internal risk-based (IRB) approaches are aimed at very large banking institutions. She further noted that Basel 1 resulted in regulators providing the information, while Basel 2 targets banks for more information. The Basel Committee for Banking Supervision (BCBS), however, will continue to provide data and information in order to assist small banks.

Using the foundation approach, the probability of default is provided by banks, while the supervisory values are provided by the BCBS. In the advanced IRB approaches, information is provided by banks. Isenberg wondered what would happen to credit-risk weights, which are associated with different kinds of debts and assets and are very important as lending incentives derived from this kind of structure. She observed that Basel 1 had its biases so that there were privileged debts, such as short-term debts and the debts of OECD borrowers. She further observed that the transformation of incentives in Basel 2 would be positive because longer-term debt would be given a lighter weight than short-term debt, and non-OECD borrowers would not necessarily be assigned a 100-percent-risk weight. These changes are better from the perspective of developing countries.

According to Isenberg, the real controversy is the adoption of the advanced IRB approaches, whose rate group includes banks with assets in excess of \$250 billion or total foreign expenditures of \$10 billion or more. In the United States, there are 10 banks in this group and they represent 99 percent of foreign assets and more than 65 percent of total assets held by U.S. banks. She expected an additional 10 banks would adopt the IRB approach and that this response would be followed by smaller banks over time.

If the first pillar (credit and operational risk management) passed, Isenberg foresaw four possible sectoral and macroeconomic effects in terms of cost reduction, sectoral concentration, procyclical lending, and regulators as managers. A significant reduction in the minimum capital requirements for large banks—without sacrificing risk ratings—would place small banks at a competitive disadvantage, she said. A Fed study showed that the reduction would result in a 33 percent lowering of marginal costs, which would, initially, accrue only to large banks. Moreover, as the innovations in risk management that

lie at the heart of Basel 2 are very costly, small and medium-sized banks are not expected to adopt them. This response would result in eventual failure or merger with larger institutions and even greater concentration in the financial sector. What will happen to the markets that are served by small banks, asked Isenberg?

Banking is a procyclical industry, but financial regulations have helped to counter the boom/bust banking cycle. Isenberg noted that risk management programs and external credit rating agencies are implicated in the amplification of the procyclical nature of Basel 2. She further noted that the best practices arising from Basel 2 would encourage banks to develop and use better risk management techniques, so the unique element of Basel 2—an internal risk-based approach—would therefore encourage regulators to rely on industry for valid approaches and new insights. There is increased pressure for regulators to insure that the banks' actions and decisions are correct, stated Isenberg.

In the Minskyan perspective, Isenberg noted, financial relations are an integral part of capitalism, which is defined as a web of uncertainties held together with a series of promises, and the capital system is driven by profits, which depend on investing. Market restructuring is important, since one set of regulations does not always apply, particularly in light of the evolution of risk perceptions that change over time. Therefore, in terms of Basel 2, the adoption of a sound, internally determined banking system, without regard for its external, industry-wide connections, is a problem. Isenberg pointed out that risk is not readily identifiable, categorically consistent, or quantifiable, but econometric models are used to manage risk. She further noted that, according to Minsky, increasing bank size and concentration within the sector would be destabilizing. Moreover, a small fracture in one part of a highly concentrated banking sector could amplify the impact in the entire financial system.



## SESSION 4

### *The Changing Role of Fiscal Policy*



Steven M. Fazzari; L. Randall Wray; Philip Arestis; Thomas L. Hungerford

#### **MODERATOR:**

##### **THOMAS L. HUNGERFORD**

Senior Scholar, The Levy Economics Institute

##### **PHILIP ARESTIS**

Institute Professor and Senior Scholar, The Levy Economics Institute

##### **L. RANDALL WRAY**

Senior Scholar, The Levy Economics Institute, and Professor and Research Director of the Center for Full Employment and Price Stability, University of Missouri–Kansas City

##### **STEVEN M. FAZZARI**

Washington University in St. Louis, and Research Associate, The Levy Economics Institute

In a coauthored study with Senior Scholar Malcolm Sawyer of the University of Leeds, **PHILIP ARESTIS** noted that over the past two decades, macroeconomic policy has focused on monetary policy (with interest rates as the key policy instrument) rather than fiscal policy. He disagreed with economic theories such as the “new consensus” that suggest fiscal policy has a limited role to play in influencing aggregate demand. Fiscal policy should be reinstated as a tool of macroeconomic policy, an action with which Minsky would agree, asserted Arestis.

The fiscal policy norm is to allow automatic stabilizers to operate in an environment of balanced budgets over the business cycle. Arestis stated that the incorporation of supply-side equilibrium in econometric models, combined with policy regimes that push economies toward supply-side equilibrium, leads to empirical conclusions that fiscal policy is ineffective, since any fiscal stimulus is quickly dissipated within the context of the models. He observed that fiscal policy is not accounted for in the new consensus



model and that the model's proponents suggest using discretionary fiscal policy as the exception rather than the rule.

The authors expanded the new consensus model by explicitly introducing fiscal policy into its equations, by way of consumer and investment demand, the income tax rate, and government expenditures. The equilibrium rate of interest—there is no unique natural rate of interest—depends on government expenditures as well as on the parameters of consumption and investment functions. Arestis noted that, based on evidence from the United States and the United Kingdom during the 1990s, raising the propensity to consume and invest can cause these parameters to change substantially.

The four main factors cited by some economists to support their stance against discretionary fiscal policy and long-term budget deficits relate to “crowding out” and the Ricardian Equivalence Theorem (RET). The factors are: (1) the Central Bank raises interest rates following a fiscal expansion; (2) higher aggregate demand caused by an increase in the deficit absorbs savings and reduces investment; (3) aggregate demand adjusts to the supply-side equilibrium (e.g., the nonaccelerating inflation rate of unemployment [NAIRU]); and (4) the RET assumes equivalence between debt and taxes (consumers are aware of the government's intertemporal budget and the direction of future tax rates and adjust their saving accordingly), so permanent income and aggregate demand do not change and the fiscal multiplier is zero.

The authors believed that arguments based on the four factors are flawed. They asserted that crowding out would not occur if expansionary fiscal policy raised interest rates; that, since saving responds to changes in government expenditures (e.g., expansionary fiscal policy raises income, investment and saving), domestic saving should be treated endogenously rather than exogenously; that it is not clear that the effectiveness of fiscal policy is short-lived and damaging in the long run; and that fiscal policy affects aggregate demand (it should not be assumed that a supply-side equilibrium must be attained).

The authors particularly objected to the RET argument. They believed lower taxation could make people feel wealthier and spending could increase as a result. If the RET proposition held, then the size of the budget deficit would be irrelevant to the level of aggregate demand and there would be no need for fiscal policy. This is because a balanced budget would be compatible with full employment and, in a closed economy, saving and investment would be equal. If fiscal policy is approached in functional finance terms—as in instances where a budget deficit is created by the difference between private saving and investment at a desired income level, and the government, therefore, wishes to increase economic activity—then saving cannot exceed investment. Also, under such circumstances, the budget deficit does not necessarily put upward pressure on the interest rate. The authors agreed that the response to an increase in government expenditure that is not matched by a change in taxation would include a commensurate increase in saving, but they noted that the increase in saving can come either from a change in the level of income (the Keynesian view) or a change in saving behavior (the RET view). They asserted that fiscal policy, appropriately applied, does not lead to crowding out.

The authors outlined other causes that may lead to ineffective fiscal policy. Their list of possible causes included: (1) model uncertainty and infrequent decisions can trigger inaccurate forecasts, which hamper decision making and create significant lags between policy decisions and implementation; (2) fiscal policy is procyclical rather than countercyclical and is affected by inside lags (caused by policymakers and the political process) and outside lags (the time it takes fiscal measures to affect

aggregate demand); and (3) fiscal policy may entail a “deficit bias” from institutional factors (e.g., it may be politically unrealistic to increase taxes or decrease government expenditures during economic upswings). The authors noted that fiscal policy is more subject to democratic decision making than is monetary policy.

The persistence of unemployment in market economies suggests a general lack of aggregate demand and a need for fiscal stimulus, said Arestis. The tendency for saving to exceed investment also requires a budget deficit to counter any excess net private saving.

The authors noted that there is, as yet, no empirical validation for the notion that supply-side inefficiencies are associated with tax-rate volatility—as when tax changes affect labor supply, saving, and investment—or that the inefficiencies have an impact on the mobility of international labor and capital. They also observed that some studies show that fiscal policy, as a tool of demand management, is used less frequently in developing countries, where the availability and cost of domestic and external finance is a major constraint. The authors’ analysis suggested that deficit bias may be relatively higher in developing countries.

Studies showed that fiscal multipliers, while overwhelmingly positive, are small; long-term multipliers are smaller than short-term multipliers; fiscal policy during recession is effective in closed economies but not in open economies with flexible exchange rates; and fiscal expansions are more effective when they are expenditure based, associated with big government and excess capacity, and accompanied by monetary expansion. There is little evidence of direct crowding out or crowding out through interest or exchange rates. The authors were encouraged by the empirical evidence of the effectiveness of fiscal policy.

In a coauthored paper with Stephanie A. Bell of the University of Missouri–Kansas City, **L. RANDALL WRAY** outlined a Minskyan assessment of the War on Poverty (WOP) after 40 years. An unconditional WOP was declared in Lyndon B. Johnson’s first State of the Union address and submitted to Congress as the Economic Opportunity Act. The authors reviewed the track record of the WOP in terms of Hyman Minsky’s early criticisms of the program. They found that the WOP has failed because it was based on economic theories that misunderstood the nature of poverty. The critical component missing today was also missing in 1964; i.e., a government commitment to full employment. According to the authors, only a targeted jobs program that pays decent wages will successfully fight poverty among the non-aged in a politically acceptable manner.

Wray noted that the Johnson administration sought to change poor people by emphasizing education and job training rather than changing the system that leads to their impoverishment. Minsky’s suggestion was to create jobs suited to the people’s existing educational and skill levels so that it would be possible to reduce, rather than redistribute, poverty. He surmised that joblessness, insufficient hours of work, and low pay combined to create poverty among the able-bodied and therefore insisted that a comprehensive jobs program together with an effective and adequate minimum wage would go a long way toward eliminating poverty. Minsky called for “tight full employment,” with a 2.5 percent unemployment rate.

In the post–WWII era, the preferred means for generating fiscal expansion was to shift resources to private consumption and investment (with the exception of defense spending). Policies were

designed to stimulate investment spending by increasing after-tax profits. Policymakers also tried to increase the certainty of capital income by using government contracts with guaranteed profits, such as those granted to the defense, transportation, and housing industries. Minsky argued that this kind of investment strategy tended to exacerbate income inequality and generate inflation, and could lead to a debt-financed investment boom, thereby undermining the stability of the financial system. His proposed alternative approach stressed policies that favored high consumption and increased wages and incomes at the bottom of the income distribution. He believed that the government should play a major role in generating growth (and become an employer of last resort), because growth relying on private sector deficits was ultimately unsustainable. Minsky expected that a tight-labor-market strategy would eliminate poverty that was due solely to joblessness, would increase the number of workers per family, and would improve the distribution of income by raising wages of low-income workers faster than high-income workers. He argued in 1965 that achieving tight full employment would generate more than enough additional production to bring all Americans out of poverty (an argument tested by the authors, who found it still true today).

Minsky believed that welfare and other “transfers” raised income and aggregate demand without increasing output. Hence, an inflationary bias was built into the system and hurt the weakest groups who could not get their incomes indexed. To avoid an inflationary rise in prices and wages, Minsky envisioned effective profit and price constraints along with tight full employment. Bell and Wray noted that inflation is not much of a concern in today’s global economy as a result of substantial deflationary wage and price pressures and floating exchange rate regimes. The primary barrier to attaining and sustaining tight full employment is political will, they say.

In sum, Minsky’s fundamental argument is that poverty is largely an employment problem, tight full employment improves income at the bottom of the wage spectrum, and a program of direct job creation is necessary to sustain tight full employment. He believed that tight full employment should be followed by programs to upgrade workers rather than the reverse sequence, which characterized the poverty campaign of the WOP.

In a coauthored paper with Piero Ferri of the University of Bergamo, Italy, and Edward Greenberg of Washington University in St. Louis, **STEVEN M. FAZZARI** presented a cycle model that focuses on the financing of investment and formalizes a part of Minsky’s theory. The model links two themes: the Minsky cycle (the macroeconomic cycle is driven by finance) and the linkage between investment and finance (the microeconomic empirical evidence). The engine of the first theme is finance and the accumulation of debt, so one objective was to find out how this process is relevant in the current U.S. economy. The second theme is central to Minsky’s theory of financial instability and cyclical analysis. The microeconomic analysis looks at the impact of financial constraints, cash flows, and financial effects on investment at the level of the firm.

Fazzari summarized the Minsky financial cycle and noted that each cycle has its own special characteristics and is specific to a particular historical period. He also noted that firms with more internal funds will invest more, but that this common-sense idea was difficult to show empirically and was not a focus of mainstream economists. He further noted that the empirical challenge was to identify the financial implications of cash flows and profits as a proxy for investment opportunities and demand,

and that research has successfully shown the effects of financing. Approximately \$0.35 of every dollar of cash flow goes toward fixed capital investment and, since firms also engage in inventory adjustment and working capital, the effects are significant.

According to Minsky, today's investment generates a set of financial commitments over time that imposes an inherent dynamic in the economic system. The main question for the authors was whether or not a formal model would generate economic cycles, and a key aspect was linking interest rates with the cycle. The central dynamic is that higher interest rates in a boom raise debt-service costs and squeeze cash flows, so the model's purpose was to determine how this dynamic comes about.

Key features of the model include an investment function calibrated to recent empirical results and embedded in a Keynesian macroeconomic model in which cash flow is determined endogenously. The basic dynamic process is driven by: (1) the Phillips-curve effect of unemployment on inflation; (2) the effect of changing inflation on inflation expectations and nominal interest rates; (3) the impact of nominal interest rates on debt service; and (4) the effect of debt service on cash flow and investment. A careful accounting of debt dynamics is difficult from a technical point of view, Fazzari noted, so it is important to pay attention to the stock-flow relationships in order to correctly forecast debt. Since debt dynamics generate certain nonlinearities in the model, simulations were applied to analyze and predict macro behavior. Therefore, the authors chose some realistic parameter values and linked the analysis with solid empirical work, especially on the investment side. They were careful to match the Phillips curve inflation/interest rate dynamics with the empirical evidence so that their model design was realistic.

The authors found that their set of basic investment–cash flow relationships generated well-defined, cyclical output fluctuations (Minsky-style cycles), which were empirically robust and very persistent. They also found that the cash-flow term in the investment function (the internal finance effect on investment) generated the cycles. Interest rates and debt service costs are key, said Fazzari, and debt levels also followed the Minsky pattern. Contrary to the notion that frictions are the problem (i.e., if prices were more flexible, things would be fine), a quicker response of prices and wages to unemployment (larger values for the slope of the Phillips curve) increased the model's volatility because it accelerated inflation/interest rate/debt service dynamics. This finding contrasted sharply with the New Keynesian macroeconomic perspective. Consistent with the conclusion that debt and financial effects on investment generate the cycles of the model, an increase in the real interest rate made the economy more volatile and shortened the cycle period.

The authors also found that the amplitude and frequency of the cycles depend on how nominal interest rates respond to stages of the business cycle. The dynamic process identified a fundamental non-neutrality of money and monetary policy operating through the financing of investment. If investment depends on cash flow, nominal interest rates drive real investment. Endogenous aggregate cycles are driven by demand-side rather than supply-side factors, which are emphasized in real business cycle models. Fazzari noted that the cycles do not rely on stochastic shocks.

The implications of these findings are that Minsky's debt dynamics are relevant and that setting interest rates procyclically is destabilizing. Fazzari expressed an interest in gaining insight into how financial factors spill over onto the consumption side, which seems to be increasingly important in the current economic situation. The authors' observations suggest important possible extensions of their work to the analysis of the monetary transmission mechanism and monetary policy.

## SESSION 5

### *Money, Risk, and Policy*



Robert Prasch; Greg Hannsgen; Claudio H. Dos Santos

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**CLAUDIO H. DOS SANTOS**

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**ROBERT PRASCH**

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According to **CLAUDIO H. DOS SANTOS**, models associated with the formal Minskyan literature (FML) present underdeveloped financial structures and treat financing issues with oversimplified hypotheses that do not do justice to the richness of Minsky's analyses. There have been various attempts to model Hyman Minsky's views of the economy, particularly the observation that an economy becomes increasingly fragile and unstable over time. Using the tools associated with stock-flow consistent (SFC) models, which integrate a financial flow of funds with a full set of balance sheets, Dos Santos clarified the advantages and weaknesses of the FML models. Such a systemization, he argued, is a first and necessary step toward a consensual "formal Minskyan model."

Dos Santos reviewed the main steps associated with the SFC methodology and divided the Minskyan literature into three main groups: (1) literary and exegetical analyses; (2) new Keynesian analyses; and (3) a smaller group of analyses that embeds financial variables into standard macroeconomic frameworks that produce

results imagined, but not modeled, by Minsky. According to the author, the FML consists of papers in the third group.

After reviewing the general tenets of FML and SFC models, Dos Santos analyzed a representative sample of formal Minskyan models (particularly the Taylor-O’Connel model) within the context of a consistent “Minskyan artificial economy.” He reviewed the models’ common features, their simplifying assumptions, and the internal logical consistency of their specifications. He found that the FML has focused on modeling only the core Minskyan insight—that capitalist economies left on their own are prone to “financial fragility” and recurrent financial crises—and is, therefore, biased. FML models simplify the role of banks, government, and the stock market and do not address the role of inflation. These roles are crucial in Minsky’s literary writings, said the author. Moreover, the models do not consider the aggregate budget constraints faced by the macroeconomic sectors and do not incorporate various interest rates or the price of equities that affect the financing decisions of firms. These omissions often have unnoticed and unintended consequences, observed Dos Santos. As evidence of this main point, he cited the fact that the specific formalization used by Taylor and O’Connel (the first and most influential FML paper) only holds under a number of “hidden” hypotheses, all related to stock-flow consistency issues.

**GREG HANNSGEN** used Minsky’s financial fragility hypothesis and financial theory of the business cycle to formulate a model and study the effects of monetary policy, while simultaneously omitting those elements that Minsky’s critics find objectionable. He found that it was possible to adhere to Minsky’s theory of investment even if one assumes that many of the critiques of his post-Keynesian antagonists are correct.

Hyman Minsky’s financial fragility hypothesis states that a growing economy becomes unstable over time, as companies and investors engage increasingly in risky investments, so an economy is unstable at full employment. His financial theory of the business cycle suggests that monetary factors could contribute to an economic cycle of boom and bust and be mitigated only through government intervention. Minsky’s critics allege that his theory fails to account for the business cycle. It cannot account for cyclical phenomena, income growth may keep debt-equity ratios from rising, and there is no inverse relationship between the quantity of investment and the rate of return.

Hannsgen used Minsky’s financial fragility hypothesis and financial theory of the business cycle to formulate a model and study the effects of monetary policy, while simultaneously omitting those elements that Minsky’s critics find objectionable. Because GDP depends on the pace of change in the interest rate, only the acceleration channel (interest rates change at an increasing rate over time) is capable of affecting output, said Hannsgen. The closest counterpart, in the mainstream literature, to Hannsgen’s model is the balance-sheet channel posited by some new Keynesians. The model and empirical evidence confirm Minsky’s argument that an economy can be destabilized when agents with speculative and Ponzi positions (using borrowed money to make interest payments in addition to principal payments) face an environment of changing short-term interest rates caused by an activist anti-inflationary monetary policy. It is possible to adhere to Minsky’s theory of investment, said the author, even if one assumes that many of the critiques of his post-Keynesian antagonists are correct.



Hannsgen's paper represented an effort to establish a role for money, while satisfying the belief of some economists that the money supply is completely endogenous (the banking system is completely accommodative) and that the usual account of the channels through which monetary policy affects the economy is subject to fatal objections. In one interpretation of Minsky's model, changes in the interest rate are generated endogenously by the interaction of the demand and supply of money, and higher interest rates affect investment by raising the cost of financing the production of capital goods and by lowering the present discounted value of the income streams that result from the use of the capital goods. Minsky did not mean to argue that leverage and interest rates increase throughout an economic expansion, said Hannsgen.

Hannsgen noted that, after the Fed-Treasury Accord of 1951, the Fed attempted to counter inflationary pressures during booms by tightening monetary policy. This policy regime caused interest rates to rise late in economic expansions, which eroded the financial strength of firms. The cycle of financial boom and bust is the product of a specific form of macroeconomic policy rather than a natural law, so it is possible to alleviate instability by changing the activities of the monetary authorities, he said. Minsky's theory of investment is clearly meant as a critique of the Fed's strategy for fighting inflation and is consistent with the observation that interest rates are not procyclical in some economies.

Hannsgen pursued two strategies to address the critics of Minsky's model: (1) make the interest rate a function of policy only, and (2) avoid dubious assumptions about the dynamics of leverage ratios. He attempted to show that one can be a Minskyan and simultaneously believe that the money supply is completely endogenous, the interest rate is policy determined, the Cambridge critiques are valid, and a boom can partially provide its own financing and avoid the perils of rising indebtedness by generating strong cash flows.

In Minsky's view rising (changing) interest rates, rather than high interest rates per se, harm the economy. Hannsgen noted that there is much psychological evidence that people are as concerned with changes in variables as with absolute levels (and investment depends upon the perceptions of executives and stockholders). He showed that the variables in the aggregate demand function capture three effects: (1) the expectations and animal spirits of entrepreneurs are influenced by sales and capital utilization in the previous period; (2) lagged output affects the cash flow of the firm; and (3) consumption is partly driven by past income. These effects tend to cause a persistence of boom or bust conditions. Hannsgen incorporated these effects into his model, using a central bank reaction function (the central bank increases interest rates proportionately as inflation rises) to determine if these effects can offset the acceleration effect, as claimed by Minsky's critics. Rising interest rates in a boom would be a result of a policy response by the central bank.

Few studies consider the impact of the pace of change in interest rates, and the business cycle component of cash flow variations are often deemphasized. Hannsgen used a vector autoregression (VAR) analysis, which assumes, conservatively, that all variables are endogenous, to construct impulse-response functions (the reaction of a variable to a random shock in another variable) and variance decompositions (the percentage of variability in one variable due to random variation in another variable). He used such data as the federal funds rate, the pace of growth of the federal funds rate, industrial production, the consumer price index, and the M1 money supply for the period from April 1960 to June 2002. His analysis showed that the pace of change of the interest rate influences the level of output



in a relationship that resembles the aggregate demand function. The results justify the claim that corporate balance sheets, under some circumstances, deteriorate during an economic boom, even as cash flow rises.

The findings suggested that a regime of interest rate targeting provides the greatest stability and that expansionary monetary policies are unsustainable over the long term. The downward trend of interest rates must accelerate in order for output (and inflation) to rise. Hannsgen proposed institutional reforms to the banking systems, aimed at reducing the mismatch between the maturities of assets and liabilities (related to the speculative and Ponzi financing implicated in Minsky's theory), which can make the economy vulnerable to increases in short-term interest rates.

The presentation illustrated the dangers associated with setting monetary policy according to its dubious connections with economic outcomes. Future research recommendations by the author are to factor, explicitly, the level of debt into the investment model, as it clearly interacts with the effects of changing interest rates, and to explore the asymmetry of changing interest rates (i.e., the effects of falling interest rates may not counterbalance equally the adverse impact of rising interest rates).

After 25 years of privatization and deregulation, Americans are left with an increasingly risky economic structure, asserted **ROBERT PRASCH**. He presented a number of recent examples that showed that we, as consumers, employees, and savers, are forced to accept ever-increasing quantities of price and quality risk. For example, the senior executives of Delta Airlines quietly funded a special account to ensure that their own pensions would be completely protected in the event of bankruptcy. Who are the risk-takers, he asked, and are they being compensated with additional rewards for the increased risks that they routinely undertake?

Prasch noted that in the event of unequal bargaining power, legalized protection, and asymmetric information, there is a tendency to separate risk from reward. He expected that the systemic shifting of risk toward those who cannot afford, control, or want it would continue (e.g., deregulation of the electricity market), and that this trend is contributing a higher sense of insecurity among middle- and working-class Americans. He also noted that deregulation, particularly financial deregulation, is valued by its beneficiaries, partly because of the ability to separate risk from reward.

Prasch outlined four main reasons why risk is shifted toward smaller parties and less informed stockholders, customers, and the general public. One reason is that decision makers in the U.S. capitalist system enjoy legal protection from full responsibility for the risks that they generate (e.g., legal limited liability). This tendency has been exacerbated by the limited liability partnership, which has been adopted by the law and accounting professions. For example, former Arthur Andersen partners, who were in a position to understand and act on the developing crisis at Enron, were fully protected, while company shareholders, pensioners, and creditors were left in penury.

A second reason relates to asymmetric information, which occurs when one party ("insiders") has privileged access to the specific characteristics of a situation, while another party ("outsiders") does not. Insiders can create new risks without the knowledge or understanding of outsiders. For example, financial products and markets have misrepresented the qualities of overly risky assets in order to sell them to customers. Prasch believes that theoretical and policy conclusions derived from such premises as free

entry and exit, perfect information, and costless mobility—all of which lie behind the ideal situation (i.e., markets ensure a linkage between risks and rewards)—should be viewed with some skepticism.

A third reason is externalities, such as contagion or the shifting of risk to third parties who are not a party to the original contract. Prasch questioned whether decision makers account for the full impact of their actions, in terms of the level of systemic risk, when they act (e.g., purchase or sell assets, or increase leverage). He noted that markets reflect the private calculation of risk, but that they tend to underprice the risk faced by society as a whole. He observed that past ideas and laws that protected the general public have been deemed outdated without reason or argument. Totally free financial markets induce risks that pose a threat to the economy, asserted Prasch.

A fourth reason is that security might be a normal good. Since the wealthy are the decision makers in our largely deregulated financial markets, they could be presumed to make arrangements for a substantial degree of economic security for themselves. Moreover, they could be expected to use this security to generate more than the socially desirable quantity of risk for the market as a whole. Markets tend to concentrate risk in the hands of those who cannot afford it, so an increase in private risks contributes to passing along the full cost of risk to society as a whole. Prasch concurred with Minsky's observation that in a deregulated financial system risk has a tendency to shift to those least able to handle it, all things being equal.

## Participants

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**LAKSHMAN ACHUTHAN** is the managing director of the Economic Cycle Research Institute (ECRI), an independent organization focused on business-cycle research and forecasting in the tradition established by Geoffrey H. Moore. Achuthan plays a key role in helping asset managers, corporate strategists, and policy makers regularly use cyclical forecasts in their decision making process. He is the managing editor of ECRI's publications and participates regularly in a wide range of public economic discussions on television, radio, and in the financial press. He is coauthor of *Beating the Business Cycle*, which will be published by Doubleday in mid-May. He is a member of *Time* magazine's board of economists and the New York City Economic Advisory Panel, as well as being the treasurer of the Downtown Economists Club. Achuthan earned a B.S. degree in economics and finance from Fairleigh Dickinson University and an M.B.A. in international business from Long Island University.

**ROBERT Z. ALIBER** teaches international finance at the University of Chicago. Previously, he was senior economic adviser at the Agency for International Development of the U.S. Department of State and staff economist for the Committee for Economic Development and the Commission on Money and Credit. He developed the University of Chicago's Program of International Studies in Business and the Center for Studies in International Finance. Aliber has been a consultant to the Board of Governors of the Federal Reserve System and other U.S. government agencies, the World Bank, the International Monetary Fund, research institutions, and private firms. Aliber's publications include *The International Money Game* and *Money, Banking, and the Economy* with Mayer and Dusenberry. He has an A.B. degree from Williams College and Cambridge University, an A.M. from Cambridge University, and a Ph.D. from Yale University.

**PHILIP ARESTIS** is Institute Professor and Senior Scholar at The Levy Economics Institute of Bard College. His recent research has addressed, among other topics, the current state of the U.S. economy, financial issues in economic growth, inflation targeting, the 1520 to 1640 "Great Inflation," financial crises in Southeast Asia, and issues related to the Economic and Monetary Union. His recent work has appeared in the *Cambridge Journal of Economics*; *Eastern Economic Journal*; *Economic Journal*; *Economic Inquiry*; *International Review of Applied Economics*; *Journal of Money, Credit, and Banking*; *Journal of Post Keynesian Economics*; *Scottish Journal of Political Economy*; and *Manchester School of Economic and Social Research*. Arestis received a B.A. from the Athens Graduate School of Economics and Business Studies, an M.Sc. from the London School of Economics, and a Ph.D. from the University of Surrey.

**STEPHANIE BELL** holds a B.S. degree in business administration and a B.A. in economics, from California State University–Sacramento, and an M.Phil. from Cambridge University. She completed her Ph.D. dissertation at the New School University. Currently, she is an assistant professor at the University of Missouri–Kansas City and a research scholar at the Center for Full Employment and Price Stability. Her new book, *The State, the Market, and the Euro: Chartalism versus Metallism in the Theory of Money* (edited with E. J. Nell), is available through Edward Elgar Press. She has published articles in the *Journal of Economic Issues*, *Cambridge Journal of Economics*, *Journal of Post Keynesian*

*Economics*, and *Review of Social Economy*. Her research interests include monetary theory, international economics, employment policy, social security, and European monetary integration.

**CLAUDIO H. DOS SANTOS**, Levy Institute Research Scholar, is working with a team of Institute scholars on the Levy macroeconometric models, originally developed for the Institute under the direction of Distinguished Scholar Wynne Godley and published under our Strategic Analysis series. His areas of research interest are in macroeconomics and macroeconometrics. He received B.A. and M.Sc. degrees from Rio de Janeiro's Federal University, and a Ph.D. from the Graduate School of Political and Social Science, New School University.

**STEVEN M. FAZZARI** is chair of the Department of Economics at Washington University in St. Louis and a research associate at the Levy Institute. His research explores the link between macroeconomic activity and finance—particularly the financial determinants of investment spending—and the foundations of Keynesian macroeconomics. Fazzari's policy work on deficit reduction and capital gains taxation has been highlighted in the national press. His recent publications include *Financial Conditions and Macroeconomic Performance: Essays in Honor of Hyman P. Minsky*, coedited with D. B. Papadimitriou, and articles in such academic journals as the *Brookings Papers on Economic Activity*, *Rand Journal of Economics*, *Journal of Post Keynesian Economics*, *Review of Economics and Statistics*, *Journal of Public Economics*, and *Quarterly Journal of Economics*. Fazzari received a Ph.D. from Stanford University.

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