LEVY INSTITUTE

Conference Proceedings

9th Annual Hyman P. Minsky Conference on Financial Structure

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

April 21–23, 1999 Annandale-on-Hudson, New York

The Jerome Levy Economics Institute of Bard College

Contents

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

Foreword

For more than three decades, Hyman P. Minsky studied the financial fragility inherent in advanced economies with complex financial systems. He analyzed the Great Depression to determine the conditions under which such instability occurs—the conditions under which "it" could happen again—and he focused on the link between the financial system and the real economy.

Minsky's lifelong work has particular relevance and significance for the global system in which today's interconnected economies operate. In trying to find out what went wrong in Asia, we started with the questions recent textbooks tell us to ask: Did these economies run large budget deficits? Did they have expansionary monetary policies? Analysis of relevant statistics showed us that neither of these presented a problem. There now is a consensus that Minsky's concept of financial instability is a more fruitful starting point for analysis and that it contains insights applicable to an international system. The Asian crisis can then be seen as developing out of vulnerabilities in the financial system itself—information not always available or attended to, regulators not doing their job properly, inappropriate behavior based on an incorrect appraisal of risks, the economics of euphoria, moral hazard created by government and central bank policies, and the spillover effects of all these problems in the financial system on the real economy.

We all talk about "globalization," recognizing that markets have become global in scope and that economies have become interdependent. However, governments are not global. And this, as Danny Roderick of the Kennedy School at Harvard has said, "creates a dilemma that we need to deal with." The presentations made at this ninth annual conference named for Minsky deal with selected aspects of Minsky's work. (His proposals were not limited to reforming the financial system, but included policies to achieve full employment, rising living standards, and income security for the average household.) His work on instability and the link between the financial system and the real economy provides a foundation on which we can begin to construct a coherent policy on which nations can agree that will enable them to contain instability in the international framework of the global economy.

Dimitri B. Papadimitriou

President

Program

Wednesday, April 21

8:30–9:30 A.M.	Breakfast and Registration
9:30–10:00 A.M.	Welcome and Introduction Dimitri B. Papadimitriou, *President, Levy Institute*
10:00–10:45 A.M.	Speaker Wynne Godley, *Distinguished Scholar, Levy Institute* "Unsustainable Processes: Prospects and Policies for the United States and the World"
10:45 A.M.–12:15 P.M.	Session 1. Minsky and the Good Society Moderator: Mathew Forstater, *Levy Institute* Murray Weidenbaum, *Washington University in St. Louis* "Reconsidering Minsky's View on Transfer Payments and Government Intervention" Charles J. Whalen, *Cornell University; Zhongshan University* "Hyman Minsky's Theory of Capitalist Development" Edward J. Nell, *New School University* "The Simple Theory of Unemployment"
12:15–1:45 P.M.	Luncheon Speaker: S Jay Levy, *Chairman, Levy Institute* "Poor Grandma and Grandpa Baby Boomer"
1:45–3:15 P.M.	Session 2. Monetary and Financial Policies Moderator: Dimitri B. Papadimitriou, *Levy Institute* James Tobin, *Yale University* "On Minsky's Agenda for Reform" C. A. E. Goodhart, *London School of Economics* "Monetary Policy Adjustments with Asset Price Fluctuations" Jan Toporowski, *South Bank University* "Monetary Policy in an Era of Capital Market Inflation"
3:15–4:45 P.M.	Session 3. Interrelationships between Finance and Investment Moderator: Jamee K. Moudud, *Levy Institute* Robert Pollin, *University of Massachusetts Amherst* "Securities Transactions Tax for U.S. Financial Markets" Steven M. Fazzari, *Levy Institute; Washington University in St. Louis* "Minsky and the Mainstream: Has Research Rediscovered Financial Keynesianism?" Perry Mehrling, *Barnard College* "Instability and the Distribution of Corporate Debt"

4:45–5:00 P.M.	BREAK
5:00–6:30 P.M.	SESSION 4. IRRATIONAL EXUBERANCE Moderator: L. Randall Wray, *Levy Institute* Robert J. Barbera, *Hoenig & Co.* "The Federal Reserve Goes Global" Frank A. J. Veneroso, *Veneroso Associates,* and Robert W. Parenteau, *Dresdner RCM Global Investors* "Irrational Exuberance: A Minsky Model of Financial Instability with an Equity Market and Adaptive Expectations Behavior"
6:30 P.M.	RECEPTION AND DINNER Speaker: David A. Levy, *Vice Chairman and Director of Forecasting, Levy Institute* "Nothing Is Inevitable, But If It Looks Like Rain, Bring Your Umbrella"

THURSDAY, APRIL 22

9:00–9:30 A.M.	BREAKFAST
9:30–11:30 A.M.	SESSION 5. INTERNATIONAL INSTITUTIONAL RESTRUCTURING Moderator: Walter M. Cadette, *Levy Institute* Thomas I. Palley, *AFL-CIO* "International Finance and Problems of Capital Account Governance" Andrew Cornford, *United Nations Conference on Trade and Development* "Regulation and Supervision in the New Financial Architecture" Lawrence R. Uhlick, *Institute of International Bankers* "Banking and Regulatory Supervision in Terms of the Global Financial Crisis"
11:30–11:45 A.M.	BREAK
11:45 A.M.–1:00 P.M.	SPEAKER The Honorable Laurence H. Meyer, *Member, Board of Governors, Federal Reserve System* "Lessons from the Asian Crisis: A Central Banker's Perspective"
1:00–2:30 P.M.	LUNCHEON

2:30–5:00 P.M.	SESSION 6. THE FINANCIAL INSTABILITY HYPOTHESIS Moderator: L. Randall Wray, *Levy Institute* Piero Ferri, *University of Bergamo* "Political Economy of Hyman P. Minsky" Paul Davidson, *University of Tennessee* "The Role of Financial Markets: Efficiency versus Liquidity and the Financial Fragility Hypothesis" H. Peter Gray, *Rutgers University* "The Minsky Theorem in a World of Integrated Financial Markets" Stephen Rousseas, *Vassar College* "Minsky's Optimism about 'It' Not Happening Again"
5:00–6:30 P.M.	SPEAKER Martin Mayer, Guest Scholar, *Brookings Institution* "Derivatives, Contagion, and Fragility"
6:30 P.M.	RECEPTION AND DINNER

FRIDAY, APRIL 23

8:30–9:00 A.M.	BREAKFAST
9:00–11:00 A.M.	SESSION 7. GLOBAL FINANCIAL CRISES: "IT" HAPPENED AGAIN IN LATIN AMERICA Moderator: Dimitri B. Papadimitriou, *Levy Institute* Jan A. Kregel, *Levy Institute; United Nations Conference on Trade and Development* "The Brazilian Crisis: From Inertial Inflation to Fiscal Fragility" David Felix, *Washington University in St. Louis* "Open Economy Minsky-Keynes and Global Financial Crises" Norman Gall, *Fernand Braudel Institute of World Economics* "Brazil: Fiscal Federalism, Financial Markets, and Social Contracts"
11:00–11:15 A.M.	BREAK
11:15 A.M.–12:30 P.M.	SPEAKER The Honorable Edward M. Gramlich, *Member, Board of Governors, Federal Reserve System* "Stabilization Policy Strategies"

12:30–2:00 P.M.	LUNCHEON
2:00–3:00 P.M.	SPEAKER Richard S. Carnell, *Assistant Secretary for Financial Institutions, U.S. Department of the Treasury* "Short-Term Financial Stability Versus Long-Term Instability"
3:00–3:15 P.M.	BREAK
3:15–5:15 P.M.	SESSION 8. GLOBAL FINANCIAL CRISES: "IT" HAPPENED AGAIN IN ASIA Moderator: Frances M. Spring, *Levy Institute* Martin H. Wolfson, *University of Notre Dame* "The Asian Financial Crisis: A New Phenomenon?" Gary Dymski, *University of California, Riverside* "Asset Bubbles and Minsky Crises in East Asia" Robert Z. Aliber, *University of Chicago* "The Implosion of Asian Asset Values and Their Effect on Asian Trading Partners" Philip F. Bartholomew, *Democratic Staff, Committee on Banking and Financial Services, U.S. House of Representatives* "Systemic Risk, Contagion, and the Southeast Asian Financial Crisis"
5:15 P.M.	CONCLUDING REMARKS Dimitri B. Papadimitriou, *Levy Institute*
6:00 P.M.	RECEPTION AND DINNER

S Jay Levy
Chairman, Levy Institute

Poor Grandma and Grandpa Baby Boomer

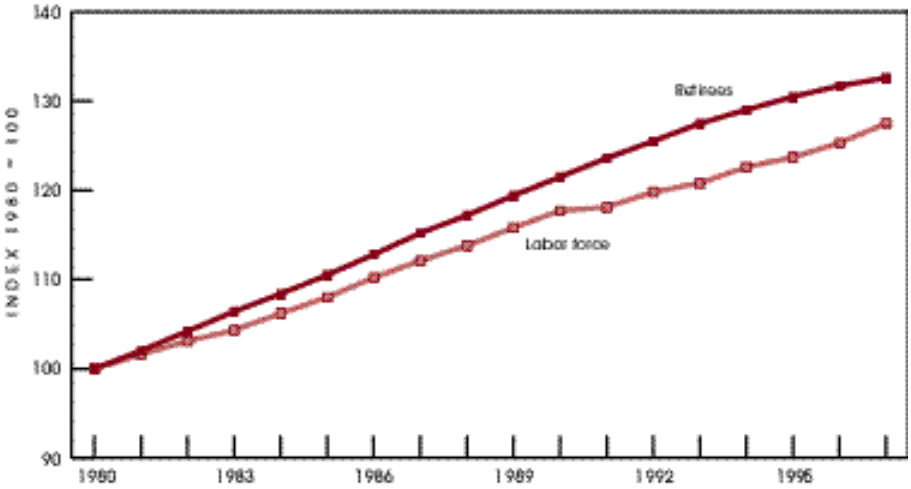
Many members of the generation that will reach age 65 by 2020 now entertain visions of pleasant dwellings adjacent to fine golf courses, access to streams running with hungry trout, and travels to exotic lands. These visions of joyful retirement are brightly colored by financial advisers who have divined the path to life without monetary concerns, real estate firms selling homes in sunny climes, travel agents marketing luxurious cruises, and alternative medicine folk offering recipes for extended longevity. No one has a pecuniary interest in worry about the future.

A great many of the people who will retire in 2020 will discover that the advertisements were misleading, especially those that promised financial comfort. Much of the expected purchasing power will be wiped away by inflation; the income and benefits from pension plans, IRAs, and even indexed Social Security will not be able to pay for the services that retirees will want and need. By the third decade of the twenty-first century, retirees' income will not be redeemable in the goods and services they now expect to get. At the heart of the problem will be an insufficient number of workers to satisfy the wants and expectations of a burgeoning retiree population.

Predicting what will happen in the future, even in six months, is hazardous yet inevitable. Roads and airports anticipating future needs are being built. Individuals are making plans for their retirement in 20 or 30 years. Governments are enacting laws to assure their citizens' welfare when they retire. Any plans for the future can turn out to be a journey up the wrong road. However, looking ahead to the 2020s brings us face to face with the question, Can a population with only five potential workers for every two retirees produce enough goods and services to maintain satisfactory standards of living for all?

Who are retirees? They are not easy to classify. Not all Social Security beneficiaries who are identified as retired have stopped working, and many people who have retired are not eligible for Social Security benefits. Is a 71-year-old person who takes an occasional consulting assignment but spends most waking hours on a golf course retired? In

FIGURE 1
Growth of the Population Aged 65 and Over
Compared to Growth of the Population Aged 18 to 64



SOURCE: Bureau of the Census, Current Population Reports; Bureau of Labor Statistics, Household Series

general, we use the population aged 65 and over as a proxy for retirees, but that proxy understates their number because many more people retire before age 65 than remain in the labor force beyond that birthday. (I use the pronoun we because I have a collaborator in my research, Joanne Averill.)

The quantity of goods and services an economy produces is commonly measured as GDP in dollars. The output for consumers' personal consumption we will call the economic pie. In an idyllic economy, this dessert would be scooped out of a bottomless pie plate, but in reality the pie has a definite size. The larger the portion consumed by a leisure class, the less remaining for those who are producing the goods and services. Many retirees hardly lead lives of leisure. They are busy with community, child care, religious, and philanthropic activities. But such constructive and commendable work does not add to GDP, that is, it does not add to the size of the economic pie.

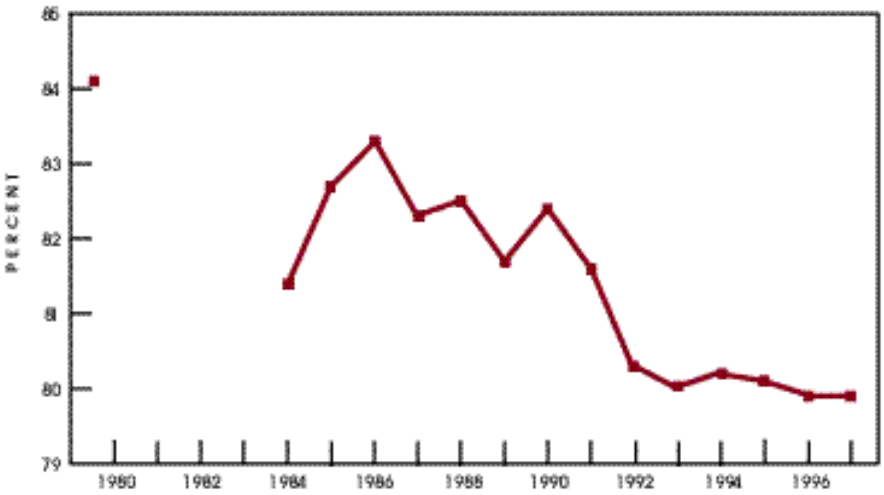
The cost of retirees to producers was starkly clear in an earlier period, before Social Security and private pensions. In those days, grandma and grandpa often lived with one of their children. If you look at what the workers paid for the food their parents ate and for their parents' other needs, the cost of the retired part of the population to the employed part of the population is painfully clear.

Nowadays, most retirees are living on their savings, be these funds Social Security benefits, a private pension, or money frugally set aside during their working years. They seem to be benefiting from consumption forgone in earlier years. In our ideal economy, in the course of a year, some workers would defer consumption until their retirement years and an equivalent amount of goods and services would be purchased by retirees from their savings. The saving and dissaving processes would be in balance, and dissaving would not, in some largely invisible, even insidious way, reduce the purchasing power of (the share of goods and services available to) the working portion of the population.

But demographic trends have caused an imbalance between workers' deferred consumption and retirees' consumption. Because of the notable stretching of the life span and low birth rates, the aged portion of the population is increasing far faster than the working portion (Figure 1). By sheer weight of numbers, retirees are enlarging their bite out of the economic pie faster than the pie is growing. Moreover, rising retirement incomes are contributing to an ever bigger bite.

In 1980 retirees—"consuming units" who are age 65 and over (there may be more than one consuming unit in a household)—took 15.9 percent of all the goods and services that were bought by consumers. By 1996 that percentage, after an unsteady climb, reached 20.1 percent, where it stayed in 1997. Figure 2 illustrates this in reverse, that is, it shows the decline in the percentage of the economic pie available to consumers under 65. (On Figure 2 you will notice a small square on the upper left and then a gap. The Bureau of Labor Statistics series on which the data are based has a different

FIGURE 2
Workers' Share of the Economic Pie
(Percentage of Total Consumer Unit Consumption)



SOURCE: Bureau of Labor Statistics, Consumer Expenditure Series

universe for three years, and those three years are not comparable to the previous and subsequent years.)

At present the retiree cohort's appetite is being checked. Its bite is being restrained by events beginning six decades ago. The decline in the birthrate associated with the years of staggering unemployment during the Great Depression, low immigration in the 1930s and 1940s, and the sending of men to World War II is now temporarily reducing the ratio of retirees to persons of working age. In 1998 the population of persons 65 and over was 20.6 percent as large as the population of those 18 to 64, down from 20.9 percent three years earlier (Figure 3). This small and temporary decline in the ratio of retirees to workers will continue only until 2005. (It will then level off until it starts its precipitous climb with the aging of the baby boomers.)

The slower growth of the elderly population has coincided with an improvement in the standard of living of the population aged 18 to 64. The aggregate consumption of the age 18 to 64 consumer units increased 6.4 percent from 1995 to 1997, the largest two-year gain in more than a decade. At the same time the retiree cohort's appetite for goods and services kept growing heartily, despite its relative decline in size. The toll on workers' standard of living that retirees have been exacting was overcome primarily by a rising rate of employment and rapid growth in GDP.

During the 2020s the economy will produce enough goods—gadgets, appliances, automobiles, and so forth—to take care of the needs and to meet the expectations of most people, both working and retired. The supply of goods seems assured by the well-established trend of rising productivity. For decades the nation's factories, farms, mines, and construction sites—the goods-producing sector—have continually increased production per worker.

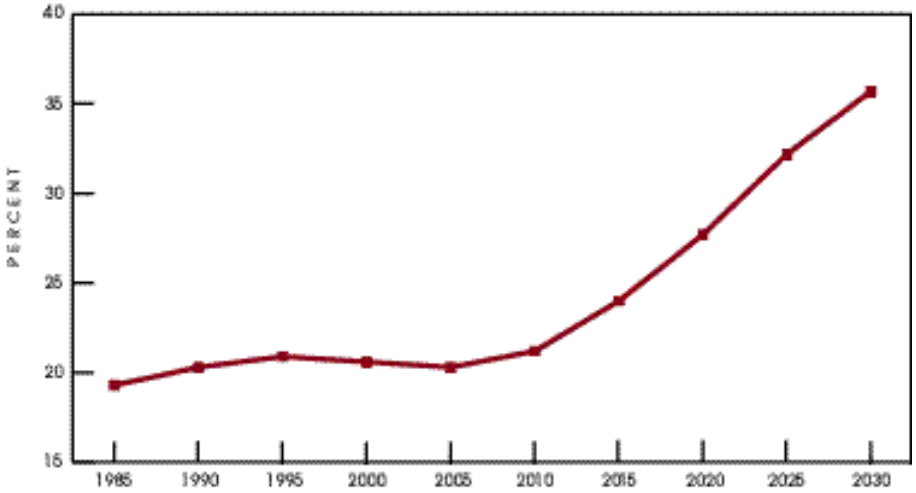
In the rest of the economy—the broad services sector—output per worker has been almost stagnant (Figure 4). The rapidly expanding demand for services in recent decades was met not by improving productivity but by increasing employment in the services. Part of the expanding demand for services resulted from greater longevity and the consequent growth of the 65 and over population. There are more older people to consume services, especially health care services. We are concerned about the availability after 2020 of a sufficient number of services workers and therefore the availability of adequate services for all, but especially for the elderly.

Should there be a significant birthrate decline in the early decades of the twenty-first century, it would reduce the economic burden of raising children for many working people, but Americans' seemingly unbridled propensity to consume suggests strongly that total spending and saving would be barely affected. In any event, the number of children in the typical household is unlikely to affect the services available to persons of retirement age in the decades ahead.

For all we know robots may be able to provide many of the services sought by retirees of the 2020s, and the concern here expressed will prove to be

FIGURE 3

Retirees as a Percentage of the Working-Age Population



SOURCE: Bureau of the Census, Population Projections, Report P25

irrelevant. But, the chances that robots will play anything more than a limited role are slim. I think we must anticipate that sentient beings will still have to meet the demand for services.

Fears of the future are often focused on fiscal matters, especially government deficits, but these apprehensions rarely arise from the scarcities and stresses that will be caused by the low number of workers relative to the population of consumers. Seemingly, the belief prevails that rising productivity will prevent any chronic gap between demand and supply.

In our research we focus on GDP per full-time equivalent worker. (Using the number of FTE employees adjusts for any differences between output per worker and output per hour associated with the recent pattern of increasing part-time work.) We take the GDP figures for goods, for services provided by government, and for services provided by the private sector (the balance of the nation's output). We divide these figures by the number of FTE employees in, respectively, goods-producing industries, government, and private services-producing industries. We use these terms in the same way they are used in the national income and product gross product originating accounts and in the widely watched Bureau of Labor Statistics data on employment and its establishment series.

During the two decades ending in 1997 the goods-producing sector's GDP per worker increased at the average rate of 2.3 percent a year (Figure 4). Government GDP per worker increased 0.2 percent annually. It tends not to change, because GDP in the case of government usually equates output with input. The private services-producing sector's GDP per worker crawled upward at the average rate of 0.2 percent a year. Between 1992 and 1997 it declined slightly, 0.1 percent a year.

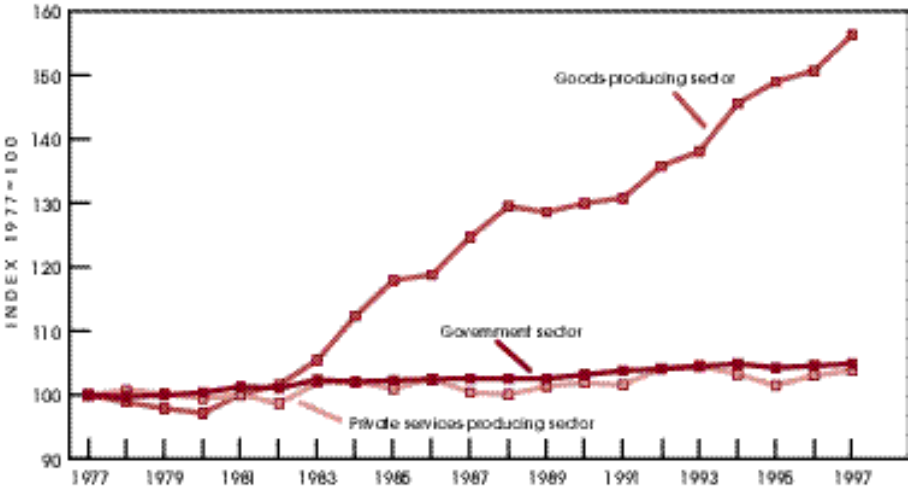
We are projecting a continuation of the 20-year trend of a 0.2 percent average annual gain in services GDP per worker. Past performance, including the five-year decline in GDP per worker, does not argue for future improvement. We have no evidence of a change that will increase the services GDP per worker. Moreover, the growing need for services, especially health care for the elderly and education, is an argument for less than the 0.2 percent increase that we are projecting.

Despite the slow rise in services GDP per worker, services GDP in 1992 dollars grew quite steadily at the average rate of 3.2 percent per year from 1977 to 1997. Services were 47 percent of personal consumption in 1977 and 59 percent in 1997. Even though the services GDP per worker was close to stagnating, the demand for services was met by the 3 percent average annual increase in services sector employment. The sector's expansion exceeded the growth of the total labor force by almost 100 percent; the labor force grew at 1.6 percent annually.

In order for the services GDP per worker to increase at the rate of the past decade, the labor force would have to include 35 million more people in 2030 than can be foreseen under our optimistic assumptions. Only if the economy's per capita consumption of services stopped increasing and held

FIGURE 4

GDP per Worker by Sector



SOURCE: Bureau of the Census, Current Population Reports; Bureau of Labor Statistics, Household Series

steady would the labor force be able to meet the demand, and then only if labor force participation continued to increase and the unemployment rate averaged 3.5 percent in the 2020s.

The higher the rate of employment, the more workers there will be in the services sector. In view of the enormous federal outlays for Social Security, including Medicare benefits, and unprecedented dissaving from pension funds and other repositories, we are projecting prosperity and an average unemployment rate for the next 30 years that will not exceed last March's 4.2 percent. Unemployment in the 2020s is assumed to be 3.5 percent. If these projections materialize, private services employment will grow at only one-third of the average rate of the past two decades.

The working-age population increased at an average annual rate of 0.9 percent from 1985 to 1998. The labor force, fed by the continuing trend to higher female participation, grew faster, 1.4 percent per year. In the years to 2030, the working-age population will grow 0.5 percent annually, a reduction of almost 50 percent from its rate from 1985 to 1998. Our projection for labor force growth is 0.6 percent annually. Thus we anticipate that labor force growth will be at a slightly higher rate than the increase in the working-age population.

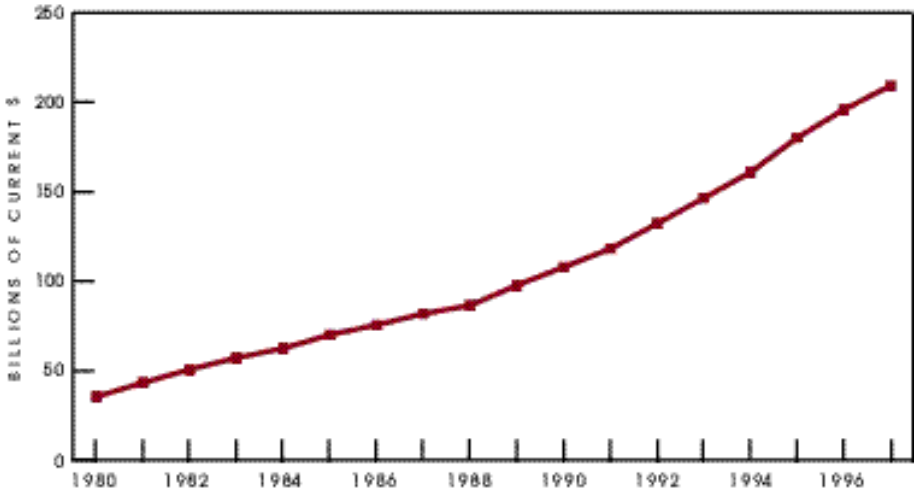
We have projected that between 2000 and 2030, government employment will grow at the same rate as in recent decades, and goods-producing employment will decline a trifle rather than increasing slightly. That leaves services employment, which accounts for the balance of the labor force. Its growth rate may barely exceed the growth rate of the total adult population (aged 18 and over). The average annual increase in the services GDP per worker will be close to zero. Any gain will result from increases in services output between 2000 and 2015. During the succeeding 15 years, when the 65 and older cohort will increase 52 percent and the 18 to 64 population 2.1 percent, the need for services, especially health care, will be surging (see Figure 5), and the services GDP per worker will decline. Our employment projections assume that the percentage of persons 18 to 64 in the labor force will increase from 83.1 percent in 1997 to 84.5 percent in 2010, and then remain there.

As work calls increasingly for people with postsecondary education, a growing proportion of the young population will attend two- and four-year colleges. Indeed, persons between the ages of 16 and 24 have been shunning the labor force in favor of education. The percentage of school attendees aged 20 to 24 years rose from 22.3 in 1980 to 32.5 in 1996. The proportion of young persons attending some kind of postsecondary school will continue to increase. Educational services will be a strongly growing industry.

While youth have been shunning the labor force, participation by people aged 55 to 64 has been rising, more among women than among men. The proportion of men over age 55 in the labor force has been almost stagnant in recent years, despite intensifying prosperity. In 1993 the percentage was 66.5,

FIGURE 5

Soaring Health Care Costs, Measured by Medicare Outlays



SOURCE: NIPA

in 1997 67.6. The 1999 report of the Council of Economic Advisers states, "Older men's hours of work are still falling, even if the percentage of older men working is not, because of the shift from full-time to part-time work."

The upward trend of women's labor force participation continues, but it appears to have at least as much to do with the job opportunities created by the expanding economy as with an expansion of the trend of females leaving home for the workplace. That shift seems largely to have been completed.

Although observers repeatedly note that many of those old enough to receive Social Security benefits are well able to continue to work, the trend has been toward early retirement. The labor force participation rate in 1997 of people aged 55 to 64 was 59 percent, considerably lower than the 83 percent of workers aged 45 to 54. Some of this early retirement results from prejudice against older workers, but much of it arises from the anticipated joys of not having to show up regularly at the workplace. We are estimating a small increase in the labor force participation rates of people over 65, and of those between 55 and 64 as well, between now and 2015. Thereafter, we are assuming no further change.

To visualize what retiring baby boomers will do to the economy, we return for a moment to the 1980 to 1995 period, when wage earners, especially low-paid ones, bore the brunt of retirees' expanding appetite for economic pie. The growing cost of supporting this rising leisure class occurred when the ratio of producers to retirees held quite steady at 4 to 1 (in spite of the temporary decline in the older cohort). This ratio will be maintained until 2010, but by 2030 it will have decreased to about 2.5 to 1. The baby boomers who will have become beloved, gray-haired grandmas and grandpas certainly will be a challenge to society's productive capabilities.

Seemingly, the financial preparedness for the retirement of the baby boom generation—the funds going into Social Security and various public and private pension plans, including IRAs and 401(K)s—may enable consumers of 2030 to buy the products of 177 million full-time workers, but only 139 million persons will be available for work. Demand for personnel will far exceed supply. The results will be soaring wages and a tidal wave of inflation. Indeed, the baby boomers will not be able to redeem their earnings for the standard of living that they, with a certain degree of legitimacy, expect. This failure is a new aspect of Ponzi finance. Hy Minsky's insight into financial instability provides us with much more than a description of how finance almost inevitably moves from hedge to Ponzi; it provides us with a broad theory of behavior and offers us a basis for analyzing and confronting these critical issues.

Hy implicitly gave us a general theory of people's propensity to lose a sense of reality as they pursue wealth. One has only to pay some attention to the ubiquitous advertisements of financial firms selling affluent retirement, what Jerome Levy would have called "something for nothing." No concern about the future availability of desired goods and especially services mars these sales efforts. Hy stressed the importance of such safety nets as lender of last resorts and deposit insurance. Where will the aging baby boomers find the supplier of services of last resort?

The money that fuels the frenzied inflationary economy of the 2020s will be pouring in from the Social Security system and other pension programs. The growth in Social Security trust fund assets, $101 billion in 1998, is on an upward trend that will peak around 2010 at about $180 billion, according to the intermediate projections of the Social Security Administration. This flow of funds into the U.S. Treasury will then begin to shrink and after a while disappear. In 2025 the net outflow will be $226 billion. In another five years this torrent will have surged to $602 billion, and the fund's assets will fall back to where they will have been at the end of 2000.

Since the $70 billion federal surplus in 1998 would have been a deficit were it not for the Social Security surplus, what will happen to the budget when over $200 billion and then $600 billion are being drawn from the Social Security account? The federal deficit will be a 16-cylinder turbocharged stimulus to the economy, and household negative saving will be giving the economy a further high-powered boost.

Net private pension fund flows will follow the same general pattern as Social Security: money will pour into them at a rising rate until about 2010 (when the earnings of the baby boom generation will be nearing a peak), this flow will subside, and then it will become negative. Pension funds typically have been about 35 or 40 percent in stocks and more recently 60 percent. Pensions will be liquidating billions of dollars of stock. Similarly, individuals who have been saving for retirement through IRAs, 401(K)s, and other plans will be drawing down these assets. The Federal Reserve calculated that households, including not-for-profit organizations, held about $7.5 trillion of corporate and mutual fund shares at the end of 1997, plus another

$7.4 trillion in pension reserves. Retiring baby boomers may well need or want to turn some of these assets into cash, but consequent sales of shares may precipitate a bear stock market unlike any before. Still, the soaring corporate profits resulting from the massive dissaving will make equities alluring.

The federal deficits, consumer dissaving, surging profits, and uncontrollable inflation will hardly contribute to financial stability. If there are still doubters, Hy Minsky's stress on the necessity of coping with the eccentricities of the financial sector will be emphatically validated. In the retiring baby boomers' frenzied economy, demand will far outstrip supply. Almost surely the Federal Reserve will tighten, but no matter how high it raises interest rates, its efforts will be like engaging a colony of beavers to stem the Jonestown flood.

To alleviate the future mismatch between demand and supply, we must raise the retirement age and increase immigration. We might also encourage retirees to take advantage of foreign labor by spending their latter years abroad (the inducement for living abroad often has been a much lower cost of living than in the United States).

Medical research might change its emphasis. It seems to emphasize prolonging life while only incidentally improving the quality of the lives of the elderly. The distinction may be murky at best. Still, we continually hear that the medical profession and, indeed, our laws governing the use of various substances neglect people who suffer from both psychic and physical pain.

The hazards of forecasting behoove us to consider some of the ways that our projections might not happen. Almost certainly the future will be changed by developments that we now are unable to imagine. In the United States and other developed economies, although most people expect to retire, some people 70 and older, whose work does not require physical exertions beyond their capabilities, have no intention of retiring. Perhaps this attitude, despite the flood of propaganda glorifying retirement, will become dominant in a decade or two, and the majority of people will be active members of the labor force well past the age of 70.

And robots may still save the economy of the 2020s from the shortage of services-sector labor that we have described. Some inventors and scientists visualize robots performing almost every task, from cooking oatmeal for breakfast to tucking their owners into bed at night. Such a prospect seems tantamount to sentencing many infirm persons to solitary confinement for the rest of their lives, yet by the time physical limitations make such a robot or team of robots necessary for many aging baby boomers, people may have adapted to using the latest communications devices as a substitute for personal contact. Telephones will transmit not only the voices of their users, but also their pictures and even the scent of their perfume or aftershave lotion. Surely, every now and then one of these devices will break down, usually on a weekend. But don't worry, a repair robot will show up to get it running.

DAVID A. LEVY
Vice Chairman and Director of Forecasting,
Levy Institute

Nothing Is Inevitable, But If It Looks Like Rain, Bring Your Umbrella

This conference honors Hyman Minsky in two ways: first, by giving special attention to his work, rethinking it, and trying to understand and learn from it; and, second, by continuing what he felt was the never-ending task of studying the financial system, its changes, and how it interrelates with the rest of the economy. Tonight I would like to try to do a little bit of each.

There are five points that I will make tonight. First, that Minsky's work is more profound than the sum of its parts; second, that the aggregate profits identity is a linchpin in Minsky's model that often is overlooked; and, third, to show what my title says, that nothing is inevitable. Turning from theoretical issues to current practical issues, I will, fourth, talk about the global crisis and why it is not over and, fifth, explain why the U.S. economy, despite its recent growth, is far more fragile than it may appear, and point out reasons for concern.

Minsky's Work

The contributions of Hyman Minsky are very much like an elephant. The elephant I have in mind is the one made famous by poet John Godfrey Sachs in "The Blind Men and the Elephant." The poem is based on a fable about six blind men and how each interprets an elephant depending on what part of the elephant he encounters: one touches the side and says it is like a wall, another the trunk and says it is like a snake, and so forth. The poem concludes,

And so these men of Indostan disputed loud and long
Each in his opinion exceeding stiff and strong
Though each was partly in the right and all were in the wrong.

It seemed to me that someone could write a similar poem substituting Hy's work for the elephant. Recently, while leafing through a book of poems about famous economists, I came across something called "The Blind Economists and the Economics of Hyman Minsky."

'Twas six scholars of Economics
To learning much inclined
Who set about reading Minsky
To see what was on his mind
That each might discover Minsky's meaning
And reveal to the world his find.

The first one read a little while
Then cried out, "Here's the gist.
Here's what Minsky is about.
Here's what others missed.
Equilibrium does assume
Financial markets in good repair.
When someone borrows and someone lends
Intermediaries must be there.
This Minsky is like a warning flare
Something could go wrong—beware!"

The second read, "Hedge to Ponzi,
The risk level relentlessly rises.
This is a recipe for default
And quite unhappy surprises.
When banks give firms credit rope
Firms often ask for more
And given enough, they hang themselves
And the creditor shuts its door.
Minsky worries about unsound banks.
He is like a bank regulator."

The third, who was a Darwin fan,
Read Minsky on financial evolution.
"Now here's an idea worthy of note
An intellectual revolution.
Regulators set the rules
For financial firms to obey.
Then some innovate to circumvent
To sneak 'round the back way.
Minsky knows that misbehavior
Will arise one way or another.
Now I see it plain as day:
He's very like a mother."

The fourth economist read and read
Then "Eureka!" he finally called.
"Mathematical simplicity bothered Hy
And left him quite appalled.
'Math is math,' the orthodox claim,
'And equations do not lie.
When several equations must all be true
X must equal Y.'
'But wait a minute,' Minsky says,
'The process isn't like that.
As X changes, so do other things
It's not so neat and pat.
Time dynamics, nonlinearity,
Chaos and the like

Suggest that simplistic economics
Should go and take a hike.'
The mathematics of simplification
Represent an intellectual blooper.
To those who believe in perpetual stability
Minsky is a party-pooper."

The fifth found yet another truth
And asserted it quite rudely.
"You my friends have missed the boat
So I'll explain it to ye.
The common model is built on probability
On people playing odds shrewdly.
But Hy says often folks just don't know
And make decisions crudely.
Estimatable risk is one thing;
Uncertainty is another.
Minsky is very like Frank Knight.
He could be his brother."

The sixth, who voted GOP,
Found Minsky most disturbing.
"What's this talk of big government?
I do not like his wording.
He says a depression is possible
Big government he requires.
Yet that sounds like taking leaps
From frying pans to fires.
Minsky is hard to argue with,
I will give him that
But I think that he is very much
Like a Democrat."

And so the six economists
Disputed loud and long
Each in his own opinions
Exceeding stiff and strong
Though each was partly in the right,
And all were in the wrong!

Moral:
They all explained Minsky
And thought their coverage sublime.
But Minsky was too deep for them
To cover in so little time.
I hope this poem does illustrate
Their superficiality was a crime
But not as bad as a worse offense
The construction of this rhyme.

The importance of Minsky's work is indeed greater than the sum of its many parts. He generated or revived numerous ideas about the behavior of various parts of the economic system. Generally, those behaviors were different and more complicated than those assumed in the orthodox textbook model that he critiqued. Each of his ideas was important in its own right, and many economists adopted some of them and integrated them as additional details or pieces of their own visions of how the economy worked.

More important is what happens when all the pieces of the model are assembled to make a whole. The interactions of these pieces introduce so many possibilities that the system is elevated to a new level of complexity. The very character of the system changes: it is no longer a machine but an organism. A machine runs predictably, consistently, monotonously. Unless a part breaks down or there is some outside interference, it will keep running without fail. The formal orthodox model is very much a machine. An organism, on the other hand, is highly complex, changing, unpredictable, adaptable, and subject to problems of both internal and external origin. Minsky's model is in that way an organism.

In the mechanical model, investors make rational decisions about the assets they purchase based on risk-adjusted discounted cash flows or statistically unbiased estimates. In the organic Minsky model, investors have limited rationality, they have psychological urges, they follow herds, they face great uncertainties, and they may make systematic and cumulative errors. They are people like today's online Internet stock speculators, who have discovered that they are investment prodigies because they have bought and sold shares of you-name-it.com. For example, the January 25 issue of *Forbes* reports that Nancy Sy, a credit specialist for a pharmaceutical distributor, began trading web stocks in 1997 through E*Trade and made up to $100,000 in a two-year period. She paid off her Honda and changed her career goals. "Over the next five years, she figures she can grow her nest egg by at least 25 percent a year and become a millionaire," writes the reporter.

Barry Plotkin, a 51-year-old personal injury attorney, took out a $300,000 home equity loan and began trading, but he rapidly got bored with Home Depot and Walgreens and started trading stocks like Amazon and Yahoo. He says, "My philosophy is to buy high and sell higher and not be afraid to take risks. I use no research tool or software. I just surf the message boards and look for volume." He predicts he will build his nest egg to $15 million by his sixtieth birthday. Finally, Dorine Essey, a 75-year-old woman who lives with her husband in Miami Lakes, Florida, buys and sells only such stocks as Skymall

and Egghead.com. When asked how high a multiple of earnings she is willing to pay for a company, she responded, "I pay no attention to PE's."

Although these individuals may seem a bit extreme, they illustrate the kinds of human processes that can occur in Minsky's world. And we can find traces of some of the same gut feelings and emotions in the most skilled and highly sophisticated portfolio manager. In Minsky's model, these occurrences are a natural part of the landscape. But because agents in the orthodox model make rational decisions about their asset purchases, that model cannot account for these occurrences or such occurrences as the savings and loan crisis, the failure of the Bank of New England, or credit crunches.

An analogy for the Minskian economy is Jurassic Park. The failure of the planners of this fictional theme park for genetically engineered dinosaurs was rooted in the belief that their system—the genetic engineering process, the electric fences, the computers, the back-up systems—was composed of manageable components that together made a clockwork system. However, as we are reminded by one character in the story, a mathematician whose field is chaos theory, the creators of the park failed to recognize the complexity of the various parts of the system (the flawed and corrupt human beings, the unexpected genetic consequences, and so forth). The parts of the system were then capable of providing surprises, and the surprises could interact and cause the system to become something very different from what was expected. Nightmarish scenarios, therefore, came out of what was supposed to be a clockwork system.

In my mind, such results are very similar to the process by which a capitalist economy can enter a Fisher debt deflation in which the various components that are supposed to act as checks and balances in markets can break down and the behavior of the mechanisms in the market can become something totally different from what it had been.

The Profits Identity

Minsky not only had important microeconomic observations, but macroeconomic observations as well. Both types departed from conventional thinking dramatically. Linking micro and macro was the profits identity, the derivation of which is simple.

Start with the equation that saving equals investment (Figure 1). Saving can be divided into business saving and nonbusiness saving. Therefore, business saving equals investment minus nonbusiness saving. Business saving is profits after taxes and dividends; nonbusiness saving is saving by households (personal saving), government, and the foreign sector. If, for simplicity, dividends are dropped, profits after taxes equal investment minus saving by the nonbusiness sectors: households, government, and foreigners. Deriving this identity is an algebraic exercise. It does not prove causality. What it does say is that the wealth acquired by the business sector (profits) is equal to the total value of new assets created in the economy less the wealth accumulated by the nonbusiness sectors.

A dynamic explanation also can be offered. Without going into details, the argument is based on the decisions that are made, who makes those

FIGURE 1

The Profits Identity

Investment	=	Saving*		
Investment	=	+Business saving +Nonbusiness saving	=	+Personal saving +Government saving +Foreign saving
Business saving	=	Investment – Nonbusiness saving		
Profits (– taxes – dividends)	=	+Fixed investment +Inventory investment –Personal saving –Government saving –Foreign saving		

*All terms are net of depreciation

decisions, and the time line involved. In the short run, causality runs largely to profits from the other items, which we call profit sources. There are several articles by Tom Asimakopulos (as well as writings by Hyman Minsky, Jerome Levy, Jay Levy, and me) that explain these dynamics more fully.

This dynamic view was critical to Minsky because it means that investment booms generate unusually high profits and those high profits lead to expectations of higher future profits, higher future cash flows. The investment boom, therefore, generates excessive optimism via a positive feedback mechanism. Of course, this mechanism could work in the opposite direction: if disappointing conditions tended to discourage investment, the drop in investment would hurt profits, which would further aggravate the initial problems, and a vicious cycle could result. The most extreme case of that was between 1929 and 1933 when investment (net of depreciation) declined from 6.0 percent of GDP in 1929 to –6.4 percent in 1933 (with the negative figure the result of investment falling below depreciation). When that happened, wealth creation in essence was negative; profits also were negative—not only falling, as in a regular recession—throughout the whole business sector.

As Minsky put the pieces of his ideas together, he took the idea of the profits identity from Michal Kalecki. It wasn't until late in his career that he found out that Jerome Levy, a physics student turned businessman, had derived the same identity in almost complete obscurity several decades before Kalecki. Hy wrote, "Jerome Levy's insight leads to the proposition that the math of profit is determined by macroeconomic relations, in particular by the structure of demands and the availability of financing. Individual profit-seeking businesses compete for shares in this aggregate."

Three generations of my family have employed this framework to analyze the economy over almost the entire twentieth century and I believe, based on that experience, that the framework has important implications, which I will discuss shortly. It was this common perception about the importance of this identity that connected Minsky and the economics of Jerome Levy and eventually led to his spending his final years at the Institute.

Nothing Is Inevitable

I once asked Hy what, according to the financial instability hypothesis, causes the eventual crisis. I understood that debt levels could rise and markets would evolve and regulatory changes could be made and perception of risk would diminish, and that all this would make the system vulnerable. But what caused a crisis to finally unfold?

"Nothing is inevitable," he replied. He explained that as time passes, changes in the economy can increase both the financial system's fragility and the economy's overall vulnerability to demand interruptions or financial shocks, but that doesn't mean that the system is headed necessarily or directly or inexorably toward a crisis. The apparent probability of that crisis may rise and might even be close to 100 percent, but there can always be some new development that will move the system away from crisis.

Nothing is inevitable, but sometimes the forces moving the system toward crises seem rather formidable relative to any visible forces for stability. At such times, it's wise to be prepared. If it looks like rain, you want to take your umbrella, just in case.

The Global Crisis

According to the descriptions in what I will call the pop financial press, a financial crisis evolved in a few fairly small Asian economies in 1997 because of circumstances peculiar to those economies: poor transparency, an otherwise unsound banking system, too much monetary growth, corruption, and massive inflows and outflows of hot, short-term portfolio money. These circumstances caused nasty problems over there, but they now are all on the mend.

There are two problems with this view. First, there never really was an "Asian" crisis; second, it's not over. There never was an Asian crisis because all along it has been a global crisis that happened to begin in Asia. It began as financial strains around the globe, manifest in overcapacity and deflation in many commodities and other manufactured goods, which began to put more and more stress on the financial system. The first crack appeared in the most overextended and vulnerable of the world economies. As the problems deepened, they affected the global economy and the whole financial environment, with the spread due to existing strains on a global basis. The crisis was not something that showed up like a virus in one spot and then spread.

I believe the underlying reason for the financial strains that caused this global crisis was long-term overinvestment, which does not occur in a neoclassical economy. It can happen in a Minskian economy. Overcapacity has been a creeping menace to the

global economy over the past two decades. It first appeared in the United States in the early 1980s and seemed to virtually everybody to be a manifestation of the severe recession and trade problems in the United States at that time.

But downsizing seemed to be an ongoing theme through the 1980s and, by the early 1990s, suddenly Europe, Japan, the entire world was struggling with too much capacity, a problem that was not related to a momentary downturn but appeared to be a major problem looking to the years ahead.

As overcapacity has increasingly placed a drag on the global economy, falling interest rates have at various times counteracted it. This certainly was the case during the major declines of the early 1980s, the middle 1980s, and the early 1990s. I think the main reason these drops had strong stimulative effects was not because they lowered the cost of capital—thereby inducing people who had too much capacity to add even more capacity—but for another reason, namely, the effect they had on portfolios. These sharp declines in interest rates had tremendous wealth effects in terms of refinancing bonanzas, which produced cash flow booms for households and the corporate sector and for the real estate and equity markets. The household sector in particular, as can be seen by looking at the personal saving rate, changed its behavior dramatically over those 20 years as wealth accumulated; households became increasingly willing to spend more and more income. The personal saving rate is now zero, at least on a national private account basis. Of course, that is not the whole story; there are other factors and a lot of questions still unanswered about this behavior. But I think it's very hard to deny that these wealth effects had an important impact.

We can see from the profits identity that the falling saving rate provides a direct injection to profit. In essence, the fall in personal saving supercharged consumer demand and helped us cope with overcapacity. Yet despite the rise in demand, overcapacity has increased further. The most recent episode focused in the emerging markets. Enormous margin pressures caused by overcapacity provided incentives to, for example, build a factory in those markets in order to lower labor costs, environmental costs, tax costs, and so forth. The move to a more global environment resulted in building more capacity to solve the problems of overcapacity. And ultimately world overcapacity became larger.

By 1997, when the global economy was purring along about as well as at any time in the 1990s, we started to see across-the-board deflation in commodity prices and intensifying in manufactured goods prices. If we step back and ask what happens to financial conditions after a long period during which capacity rises faster than demand, several answers come to mind. First, there is a large accumulation of debt to pay for all these new assets. And, when a lot of assets are being built, prices of existing assets also are being bid up, causing financial debt and debt service obligations to rise rapidly so that corporations require rising cash flows.

Second, when capacity outpaces demand over a long period of time, the capacity utilization rate falls and prices start to fall. Revenue streams, therefore, don't look as favorable and cash flow will be disappointing. Disappointing cash flow plus rising debt obligations is not a good combination: loan defaults increase, banks begin to experience increasing portfolio problems, financing conditions begin to tighten. This situation clearly adds up to trouble. Overcapacity discourages investment, deflation discourages investment, reduced credit availability retards investment, and falling cash flow reduces the ability to finance investment. Guess what happens to investment? It slows down. Our profits identity tells us this is bad news for profits. If profits weaken, not only does that aggravate the cash flow problem, but it also probably leads to cutbacks in labor, which will lead to income declines and further demand declines. A very nasty vicious cycle can occur unless some other development offsets the process. This dynamic is not like a typical inventory cycle or a short-term recession or a disturbance, but reflects many years of building up imbalances.

This describes how the so-called Asian crisis spread. Even if a few small countries in a situation of overcapacity crash, in essence, and their demand goes down a bit, this aggravates the general overcapacity and deflationary environment that tends to put pressure on other countries. At the same time, some countries have to defend their currencies by raising interest rates or taking fiscal actions to try to cut back on spending, which further reduces their demand. All the consequences of the initial crisis reduce demand. In an overcapacity situation, it only aggravates the deflation and the cash flow problems.

This process has been to some extent reversed, at least in terms of financial panic (the pressures put on widening interest rate spreads on loans to developing countries, for example). I certainly think that the Fed did a remarkably good job—better than I thought possible. But the fundamental problem is not fixed;

there is no way to fix the fundamental problem of having too much capacity, too many assets that too many people pay too much for by taking on too much debt that they have to service with inadequate cash flows. If you compare where we are now to where we were in 1997, commodity prices are lower and capacity utilization rates are lower, so the situation has advanced. We should not be too reassured by the bounce. In fact, because investment lags behind general economic conditions, we are now starting to see more signs of investment weakening in countries beyond the Asian countries that already have been hit. Japan is still suffering a major decline in investment and now we are beginning to see a lot of signs that investment is getting ready to top out in the United States. It's interesting that Germany, the hardest hit of all the European countries, has a major source of strength in its exports of capital equipment, which made it vulnerable when demand for capital equipment started to weaken.

The Fragility of the U.S. Economy

Are conditions slowing in the United States? Wasn't there 6 percent growth in the fourth quarter of 1998 and a tremendous surge in consumption in the first quarter of 1999? This does not sound like an economy that is bogging down in any way. There is tremendous momentum, but I would like to make a few points. First, when you see a period of strong GDP growth, as in 1998, with profits falling—which means margins are being squeezed—it is not a comfortable situation for business and will impact its decisions on future capital spending. We have seen a lot of evidence of that, whether it's in hard-hit areas like industrial, agriculture, mining, or oil, or in areas in which demand has been so high that there is no pent-up demand left. We can look at everything from aircraft to heavy trucks, even computers, where, across the board, things are bogging down. I think we are going to see a peak in capital spending—not a falling off, a leveling off—probably by midyear.

The second point is that there were a lot of strange things that happened to the pattern of growth in 1998. We had the warmest winter ever recorded in the United States, thanks to El Niño, which caused a booming first quarter and then a weak-looking second quarter. Then there was the General Motors strike, which had enormous impact. And then we had the financial crisis, which skewed activity. This is an imperfect art, but if we try to remove all those effects, the growth rate of GDP was very strong, over 4 percent for about three quarters before it fell to closer to 3 percent in the fourth quarter of 1998. It's worth noting that in the fourth quarter more than 2 percentage points of the 6 percent growth rate can be accounted for by the bounce back to above-trend production from the reduced automotive production caused by the strike.

Finally, while the global financial Band-Aid applied by the Fed, the other central banks, the IMF, and others prevented a severe financial breakdown and allowed a bounce back in some areas that the crisis had stalled, we still have a fundamental problem. We tried to come up with a term to describe this and settled on "the garden hose effect," which describes a temporary and very misleading burst of activity. If you are watering your flowers and someone steps on the hose, the stream suddenly slows to a trickle. We can compare that event to a financial crisis: a plunge in the stock market, currency market turmoil, et cetera, cause people to freeze up. "Hold off on that order." "I'm not sure I want to make that payment." "Before I buy that house, let me see; I'm not sure what's happening with the stock market." But then, when someone lifts that foot off the hose, not only does the stream return to normal, but the built-up pressure causes the water to spurt ahead a bit before it returns to its original trajectory. Moving from that trickle to that spurt, you get a sense of tremendous movement.

I am concerned that the statistics that show a lot of bounce back are really not much more than a jiggle in the trend. We certainly have moved back from crisis. There has been a tremendous improvement in confidence, but that's not entirely a good thing if it further inflates the bubble. We are going to see increasing pressure on the situation this year.

I agree with what Wynne Godley said this morning. I, too, think that there is a lot going on that is not sustainable. Unlike Wynne, who said he would not be crucified by being held to a short-term forecast, I am the Institute's resident masochist. I have a lot of trouble seeing how this episode can end smoothly and believe that there is a very high probability that it will begin to come apart in 1999.

In U.S. fixed investments, even housing, which is very strong, probably will hit a plateau midyear. Construction is bogging down. The contract award data look poor, the financing conditions have worsened.

Figure 2 provides a schematic of what is happening from the perspective of the profits identity. Listed are profit sources—the turns in the profits equation—and what their influence is on the trend in profits for each period. In the first row is a "+" for personal saving in 1997, which means that from the end of 1996 to the end of 1997 changes in personal saving tended to boost profits. It does not mean saving rose; in fact, saving fell, but since saving is a negative term in the profits identity, its decline caused profits to rise.

There were a lot of pluses in 1997. An important one, inventories, went negative in 1998. Yet even with the pluses—strong investment and falling personal saving—there was a modest decline in profits. Looking ahead, while there is some momentum carrying into the first half of 1999, even when assuming the economy stays pretty even, a lot of these trends start to die. A pent-up demand for investment has weakened; the profit squeeze has been enough to slow things down. The trade deficit is getting worse. Housing is leveling off, even though at a very high level. And suddenly the growth in profits is entirely dependent, if all of our assumptions are right, on a continued drop in personal saving.

This result takes us back to the supercharged consumer. Unless consumers continue to drop the saving rate lower and lower, profits are going to erode in the United States. This raises all kinds of questions about the sustainability of the stock market. It can also have implications for cash flows and raises the likelihood of even weaker investment than we've expected.

The U.S. economy is counting on the global economy, which is weak enough as it is, even with the stimulation of foreign demand by the United States. The foreign economy is, in turn, depending on a supercharged U.S. economy: a supercharged consumer and a stock market where price/earnings ratios are already more than 50 percent above the highest levels seen prior to the 1990s (and not just in Internet stocks, but the S&P 500). That's a fairly frightening set of circumstances.

Although nothing is inevitable, I think it looks like heavy rain, maybe even a monsoon. So forget the umbrella, I think a life raft might be in order. However, I am an optimist. I believe in Minskian stabilizers, at least in the United States, so I don't suggest you need to build an ark.

FIGURE 2

Changing Contributions to Profits

PROFIT SOURCES	1997	1998	1999I-II	1999III - IV
Personal saving	+	+	+	?
Inventory investment	+	–	–	–
Residential investment	+	+	+	0
Equipment investment	+	+	+	–
Investment in nonresidential structures	+	+	0	–
Depreciation	–	–	–	–
Net foreign saving	–	–	–	–
Government surplus/deficit	–	–	–	–

NOTES: The table shows the influence each profit source had on the trend of profits during the indicated period. For example, the "+" for personal saving in 1997 means that between 1996IV and 1997IV, changes in personal saving increased profits because personal saving, a negative term in the profits equation, was falling. The table ignores dividends, an omission that has virtually no impact on the profits trend during the years displayed.

THE HONORABLE LAURENCE H. MEYER
Member, Board of Governors,
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Lessons from the Asian Crisis: A Central Banker's Perspective

This paper has its origin in a request by Don Brash, governor of the Reserve Bank of New Zealand, to present a central banker's perspective on the Asian crisis to a group of Southeast Asian central bankers. So the central banker's perspective remains an organizing theme.

Central banks have two core missions: the pursuit of monetary policy to achieve broad macroeconomic objectives and the maintenance of financial stability, including the management of financial crises. The latter mission is closely connected to regulation and supervision of the banking system, so I include this within the central banker's perspective, as well as broader issues related to systemic risk in the financial sector. Central banks also often have or share with finance ministries control over exchange rate policy, including the choice of an exchange rate regime and the management of that regime. So, today, I consider the role of exchange rate policy, macroeconomic policy, and bank supervision and regulation in the crises and suggest some lessons in each case.

As I was writing the paper, it became clear that my interpretation of the sources of and appropriate policy responses to the crises among the emerging Asian economies drew heavily upon the work of Hy Minsky. Perhaps that should not be surprising since Hy and I were colleagues for more than two decades at Washington University. But the truth is, in many respects, Hy and I came from different worlds. My highly traditional background in economic theory was in rather stark contrast to Hy's self-proclaimed war on neoclassical economics. While it is true that I never lost my commitment to traditional models—not a surprise to those who still hear me talk about the critical importance of the NAIRU framework to understanding inflation dynamics—I have often found words coming out of my mouth that reflect the distinct and powerful influence that Hy has had on my thinking. The truth is there are few who have influenced my thinking about economics more than Hy. Indeed, he had so much to offer that if I accepted only a small dose, it was still enough to be a powerful complement, and perhaps antidote, to my otherwise conventional upbringing.

Hy's analysis of the sources of financial crises—his "financial instability hypothesis" (Minsky 1977)—is the foundation for my interpretation of the sources of the Asian crisis. In addition, his work on how policies and institutions in advanced capitalist economies have evolved over time to mitigate the risks and attenuate the effect of financial disturbances—as developed in "Can 'It' Happen Again?" (Minsky 1963)—is central to my discussion of how to mitigate the risks of such serious financial and banking crises in the future.

Sources

Recessions in general, and especially when accompanied by financial crises, are the product of a coincidence of adverse shocks on an already vulnerable economy. External shocks that would have been shrugged off by a robust economy can lead to seemingly disproportionate declines in economic activity when they fall on an economy characterized by excessive leverage, speculative excesses in asset markets, poor risk management, and inadequate regulation and supervision in the banking sector. The adverse shocks that appeared to trigger the crises in Asia included the slowdown in export revenue due to a slump in the semiconductor market; the slump in Japan in the spring of 1997, which removed a source of demand for the region; and the appreciation of the dollar relative to the yen, which undermined international competitiveness in the region. These shocks—individually and collectively—did not seem large enough to account for the dimension of the crises, thus the importance of understanding the vulnerabilities that I believe were instrumental in transforming a series of modest shocks into disproportionate effects on these economies.

Hy's work focused particularly on the endogenous nature of evolving vulnerabilities. Indeed, he often viewed his major contribution as the explanation of the upper turning point in the business cycle. I have often described his views as suggesting that "stability is destabilizing." That is, a period of stability induces behavioral responses that erode margins of safety, reduce liquidity, raise cash flow commitments relative to income and profits, and raise the price of risky relative to safe assets—all combining to weaken the ability of the economy to withstand even modest adverse shocks. This is, at least in my

interpretation, the substance of Hy's "financial instability hypothesis."

In the case of the emerging Asian economies, there was evidence of speculative excesses in financial and real estate markets in some of the countries. There was, in addition, an extraordinary taking on of risk in the form of enormous leverage in the nonfinancial sector and in the financing of longer-term domestic investment projects with shorter-term foreign-denominated borrowing. The failure to respect risks was evident not only in financial markets and financing practices but also in the investment decisions themselves. These risks were compounded by poor risk management and inadequate bank supervision and regulation. It should be noted, however, that not all the countries were affected by all of these vulnerabilities or to the same degree.

Financial sector vulnerabilities often increase during a cyclical upswing, as Minsky emphasized so often, setting the stage for the subsequent downturn. But in the case of the developing Asian economies, there was also a systemic source of these vulnerabilities: weaknesses in corporate governance and moral hazard associated with implicit or explicit government guarantees. The result was incentives for excessive risk taking.

To understand the dimension and spread of the crisis among the developing Asian economies, we also have to take account of the vulnerability generated by fixed exchange rates in the presence of volatile international capital flows, the role of market psychology, and the role of contagion effects.

Financial sector weaknesses, pegged exchange rate regimes, and volatile capital flows combined to yield a highly combustible mixture that, with the spark of adverse shocks, resulted in the igniting of currency and debt crises, including the collapse of banking systems throughout the region. The result was both a particularly sharp economic downturn and significant obstacles to recovery, specifically the joint problem of restructuring the banking systems and resolving the excessive debt in the nonfinancial corporate sectors.

The dramatic declines in currency and equity markets in this case were also affected by the sharp swing in market psychology. In part due to a lack of transparency, markets had a hard time sorting out what the fundamentals dictated in terms of exchange rates and equity prices. That made the markets very sensitive to factors that affected confidence in the policies followed by the countries. This meant that prompt and decisive policy action in advance of IMF programs was very important and that a perception of government commitment to IMF programs, once in place, was imperative.

Hy's work helps us to bring a balanced perspective to the debate that still rages about the Asian crisis. Was it due to vulnerabilities in the Asian economies or was it an illustration of the inherent instabilities of global capitalism? Hy, I expect, would have concluded that the answer is both. Capitalism, in its domestic or global form, brought great potential for higher living standards but also the potential for instability, including occasional financial and banking crises. The key was to maximize the opportunity to take advantage of the benefits while mitigating the risks.

Still, it is important to appreciate the interplay between developments in the industrial countries and in the emerging market economies leading up to the crisis. The weakness in Japan certainly took its toll on the emerging Asian economies. The extraordinary inflow of capital into emerging Asian economies from the industrial countries contributed to possible overheating and set the stage for the abrupt and dramatic reversal of capital flows that was a defining feature of the crises. Contributing to the surge in capital inflows to the region were shortfalls in risk management by financial institutions in these countries, misperceptions about the riskiness of such investments, and attempts to diversify portfolios in these economies following a run-up in domestic equity prices.

In "Can 'It' Happen Again?" Hy argued that advanced capitalist economies have found ways to mitigate the risks of financial and banking crises, or at least to attenuate their adverse effects. He emphasized the central bank's role as lender of last resort and the stabilizing role of a large government as the central features of this policy and institutional evolution. I'll take a somewhat broader view of the nature of the policy and institutional evolution in capitalist economies and of the structural reforms that would mitigate risks of future crises in the emerging market economies. This broader view might also extend to the appropriate evolution of international financial institutions and cooperation to keep pace with the increasingly global form of capitalism.

The importance of robust institutions and sound policies in mitigating the risks associated with inherent instabilities in capitalism suggests a role for policy "sequencing" in emerging market economies. It is widely argued, for example, that capital account liberalization in emerging market economies should

be preceded by improvements to the institutional infrastructure to make the economies less exposed to risks associated with the volatility of capital flows. These improvements include both appropriate exchange rate and financial regimes.

But, in fact, we seem to only pay lip service to such an optimal sequencing of policies. Some worry, perhaps with reason, that sequencing might become an excuse for not moving ahead with capital account liberalization. What we really seem to encourage is rapid liberalization, independent of the state of the banking and financial sector, hoping that financial liberalization will pressure the authorities to move more quickly with improvement in supervision and regulation. The Asian crisis is, I believe, a test of this approach. At the very least, we have to match the pace of capital account liberalization with careful consideration of exchange rate regimes and efforts to improve corporate governance and bank regulation and supervision.

The sequencing perspective also suggests that the story behind the crisis in emerging Asian economies may have less to do with the inherent instabilities of global capitalism than with a mismatch between the evolution of institutions and policies and the pace of liberalization of financial markets and the capital account, the critical entry points to global capitalism. What may be in play, therefore, are the transition costs of a rapid increase in globalization and especially the transition costs associated with the entry of emerging market economies into the global economy.

A third theme in my interpretation of the Asian crisis is perhaps a lesser focus in Hy's work, but nevertheless one that was quite prophetic. He warned that the ability of a central bank to act as a lender of last resort is limited to debts denominated in the country's own currency (Minsky 1984). When countries finance their domestic projects with foreign-denominated debt, therefore, they lose the stabilizing potential of their central bank's lender of last resort power and confront a far more challenging and potentially unstable environment. In the case of the Asian crisis, the financing of domestic projects with foreign-denominated debt—either directly or through the banking system—created an important vulnerability, one that was dramatically aggravated by the sharp depreciation of the currencies in the crisis countries and one that domestic central banks had limited power to arrest.

So, what are the lessons from this framework for thinking about recessions in general and the Asian crisis in particular? It would be tempting to encourage countries to avoid adverse shocks. But, of course, shocks are by definition unavoidable. To be sure, risks can be avoided or mitigated by limiting vulnerabilities. It is especially important not to become complacent during a period of excellent macroeconomic performance about the underlying strength of balance sheet positions, debt-income ratios, credit quality, quality of bank credit risk management, and adequacy of prudential supervision. This experience only reinforces the wisdom of the adage "Bad loans are made on good times." Normal times may also be opportunities to make the transition from pegged to more flexible exchange rate regimes. But, to an important degree, there is an almost inexorable tendency for vulnerabilities to build to some degree during expansions. Therefore, another key lesson is the importance of policies and institutions that mitigate the risks that evolving vulnerabilities will trigger serious crises. This episode emphasizes the importance of robust institutions—such as exchange rate regimes, bank regulation and supervision, and corporate governance—as well as sound policies in promoting good economic performance.

Exchange Rate Policy

Exchange Rate Policy Prior to a Crisis: The Case for Flexible Exchange Rates Many countries have tried to run exchange rate regimes that fall somewhere between fully flexible exchange rates and "very fixed" exchange rates, meaning a well-designed currency board arrangement or even, in the extreme, dollarization. However, arrangements between the extremes are often difficult to sustain indefinitely and when such arrangements break down, the result can be very painful. Whether or not currency boards are a viable option remains controversial. Such arrangements may increase the durability of fixed exchange rate systems, but perhaps at great expense to the real economy. Therefore, I conclude that one of the lessons from the Asian crisis is that a flexible exchange rate regime is, in general, preferable to a pegged exchange rate regime as a means of minimizing vulnerability to adverse shocks.

Exchange Rate Policy during Currency Crises In principle a devaluation or float of the exchange rate, by allowing the exchange rate to reach a more sustainable level, should lead to a subsequent easing of interest rates and other financial pressures. But, during the Mexican crisis of 1994–95 and the

more recent crises in Asia and Russia, devaluations have served to intensify downward pressures on financial markets: currency values plummeted, interest rates skyrocketed, capital outflows intensified, and economic activity dropped off sharply. The adverse consequences of devaluing or floating during speculative attacks represent all the more reason for countries to exit from a pegged exchange rate regime into a more flexible regime during periods of normalcy.

If a country has failed to exit from its pegged exchange rate regime during normal times and is confronted by a speculative attack, then the key question becomes whether and when to abandon the peg. The answer depends on whether or not a successful defense is possible. If the country's position is strong enough (i.e., the financial sector is sound, output gaps are not already large, and foreign exchange reserves are large) to avoid devaluing during a financially volatile period, it probably should endeavor to do so through some combination of monetary tightening, structural reform, and foreign exchange rate intervention. Defending the peg in this way may entail costly increases in interest rates and declines in economic activity, but these costs might be substantially less than in the alternative case of an uncontrolled devaluation spiral.

Of course, this leaves the key practical problem of identifying the probability that a peg can be defended. This is an extremely difficult proposition, even for a completely objective analyst. Not-so-objective players, such as national governments, have often been excessively optimistic about their chances of defending a peg. And, it was also the case in this episode that the pegs were not strongly defended during the early stages of the crisis. The increases in interest rates were too timid and the willingness to take other preemptive moves to restore investor confidence too limited.

Conversely, recent experience could suggest that, in the face of a speculative attack, an exchange rate peg should be abandoned as soon as it is clearly unsustainable. The sooner the peg is abandoned in this circumstance the better, since the government is likely to have more reserves remaining, financial institutions will have incurred fewer losses from high interest rates, the maturity structure of the debt will have had less time to shorten, and expectations are less likely to have galvanized around the exchange rate. Still, the lessons from this period are not always so clear. Indonesia and Malaysia gave up their pegs within a month after the Thai baht floated, but suffered consequences comparable to those of Thailand. Another lesson from this episode is that early devaluations are not a cure-all.

Macroeconomic Policy

Macroeconomic Policy prior to the Crisis By conventional standards, the monetary and fiscal policies of the developing Asian economies prior to the crisis were largely disciplined and appropriate. In all of these countries, consumer price inflation—the prime metric for the success of monetary policy—was relatively subdued, especially by emerging market standards. By the metric of public sector deficits, fiscal policy also appears to have been disciplined. Therefore, another important lesson of the Asian crisis is that sound macroeconomic policies alone do not preclude crises. This experience also suggests that sound macroeconomic policy must be complemented by sound financial practices, effective bank supervision, and effective corporate governance.

I suspect, however, that Hy might have raised a serious question about this favorable assessment of pre-crisis policy. There was, as I noted earlier, some evidence of speculative excesses in financial and real estate markets in some of the countries and, despite the relatively good inflation performance, an argument could be made that the speculative excesses were evidence of overheating and could have been remedied by macroeconomic policy. Higher interest rates, on the other hand, would have encouraged still more capital inflows and appreciation of the currencies at a time of increasing current account deficits. Fiscal restraint, in retrospect, would have been desirable, but, at least on the spending side, would have to be weighed against the substantial infrastructure and other priorities.

While the inflation performance was good by developing economy standards, it was consistently higher than inflation in the United States, the country to which exchange rates were pegged. As a result, there was a tendency toward real appreciation, which contributed to the deteriorating current account deficit in several of the crisis countries.

Monetary Policy During the Speculative Attack While monetary policies may not have been inappropriate in the years prior to 1997, they were probably not tightened sufficiently or for long enough in the immediate pre-devaluation phase of the

emerging crises in the developing Asian economies. Had monetary policy been tightened adequately in order to defend exchange rates in the first part of 1997, it is possible that the crises might have been moderated, if not avoided.

Monetary Policy after Exchange Rates Were Floated One of the most controversial aspects of post-float policy has been the appropriate stance of monetary policy. From a theoretical standpoint, the jury is still out on the usefulness of monetary policy tightening once the exchange rate is floated after a speculative attack. Proponents of tightening point to the usefulness of keeping rates high in order to make domestic assets attractive and to help contain inflation expectations following a nominal depreciation. Detractors argue that by weakening the financial system and corporate balance sheets and by depressing economic activity, higher rates may further reduce country creditworthiness and thereby heighten downward pressures in the currency. Both positions have merit and economic theory offers little guidance as to which deserves greater weight.

Recent experience also fails to offer decisive guidance on the most appropriate monetary policy immediately following a float forced by a speculative attack. There is little in the Asian post-float experience to convincingly support the view that higher domestic interest rates did help to support the exchange rate. Currency values, for example, fell as much in countries that raised interest rates sharply (Thailand and Korea) as in countries where interest rates were raised by less (such as Malaysia). These trends, of course, mostly reflect the endogeneity of both the exchange rate and interest rates to swings in investor confidence. Countries where investor sentiment declined most strongly experienced sharper falls in currency values and were required to raise interest rates higher to prevent even sharper depreciation. This suggests that, during the months following devaluation, exchange rates were driven as much by broad concerns about creditworthiness as by concerns about interest rate differentials.

These considerations suggest that, once the exchange rate is floated and broader concerns about an economy's financial position emerge, there is a limited contribution that monetary policy can make to stabilize the situation. Of course, by abandoning an exchange rate peg, a reliable nominal anchor is lost at a time when the devaluation threatens higher inflation; it is essential that monetary policy be conducted with appropriate attention to controlling inflation. Striving to keep real *ex ante* interest rates positive may be a reasonable benchmark for post-devaluation monetary policy. Once the exchange rate stabilizes and inflation expectations moderate and pressure on the capital account eases, it may be useful and appropriate to lower interest rates. The interest rate policies eventually followed by the Asian countries roughly followed this pattern. At present, in fact, nominal and real interest rates are below their pre-devaluation levels. At the same time, the increase in inflation has been very modest.

Fiscal Policy during the Financial Crisis In retrospect, it seems clear that the initial objectives for tightening fiscal policy set by the IMF for the affected Asian countries were inappropriate. The markets clearly recognized that fiscal profligacy was not behind the crisis and did not view fiscal austerity as a policy that was likely to resolve the crisis. Output in these countries has declined by more than anyone anticipated, and so fiscal loosening rather than fiscal tightening is required.

An important source of initially inappropriate fiscal targets may have been poor forecasts. As forecasts were adjusted, new fiscal targets had to be negotiated because the targets themselves were set in terms of the overall rather than the structural deficit. This renegotiation took time and often appeared to put the Asian economies in the position of asking for relief from IMF conditionality, undermining investor confidence, rather than as a disciplined and appropriate response to changing conditions and more realistic forecasts. This suggests setting targets in terms of structural deficits, or at least allowing built-in fiscal stabilizers to continue to operate. However, estimates of structural deficits are only now being developed for Asian countries and such estimates may not be straightforward enough to form the basis for IMF performance criteria. But the principle should be respected.

Banking and Corporate Debt Problems

Weaknesses in the financial sector and excessive leverage in the corporate sector clearly contributed to the crises in the emerging Asian economies. Indeed, the defining character of these crises was the intersection of currency, banking, and corporate debt crises. The weakness in the financial sector, in turn, was encouraged by the moral hazard associated with perceived wide-ranging government guarantees and political

interference in lending decisions by banks. As a result, banks had insufficient incentives to manage their credit risks and firms had inadequate incentives to limit their leverage and make sound investments.

There are two broad lessons that emerge from this episode and earlier experiences involving financial crises. First, to reduce the vulnerability of an economy to banking and financial crises, a high priority should be given to sound corporate governance, narrow and explicit government guarantees, and adequate prudential supervision of banks. Second, while it is of course desirable to encourage robust institutions to minimize the likelihood of such problems in the future, once a crisis has occurred, the first priority should be to repair the damage done by the crisis to banking and corporate balance sheets. Corporate balance sheets need to be de-leveraged and banking systems need to be restructured and recapitalized in a proactive and timely manner, or insolvent banks and corporations will continue to be an enormous macroeconomic weight on the economy and a serious obstacle to recovery.

What Do Emerging Market Economies Need to Do?

Some financial sector safety net appears to be essential to avoid bank runs and promote systemic stability. But, safety nets should be narrow and explicit, as opposed to broad and implicit. As a general principle, it is constructive to have safety nets in place that protect small depositors at depository institutions and thereby protect the functioning of the payments system from bank runs in the face of severe adverse shocks. Elsewhere, market discipline, supported by effective disclosures and sound corporate governance, should be relied upon to control risk taking.

Even narrow, explicit safety nets for the banking sector result in moral hazard incentives for excessive risk taking and therefore must be complemented with adequate prudential supervision. Such supervision not only promotes the safety and soundness of the banking system, but also limits the government's contingent liabilities associated with the safety net.

Still, there are limits to the ability of supervisors and examiners to monitor banks effectively and control their risks. Market discipline therefore has to be enhanced to support sound corporate governance and complement bank regulation and supervision. The practices of directed lending to support government priorities and lending to well-connected firms undermine normal incentives for prudent behavior by both banks and business customers. Poor incentives on the part of both lenders and borrowers constitute a recipe for the insolvency of both. Therefore, improved corporate governance is an essential part of structural reform, encouraged by freeing banks from political interference in lending.

It is difficult to see how the economies can get back to sustainable growth without taking the necessary steps to strengthen their banking sectors. What needs to be done includes a familiar list: restructuring loans, taking losses, recapitalization, improving corporate governance and disclosure, and enhancing supervision. However, unlike Japan, the burden of recapitalizing the banks is likely to be a significant burden on emerging market economies, and they may lack the technical expertise to accomplish the steps necessary for successful banking system restructuring on their own. Foreign technical assistance, international official financial support, and foreign bank investments will be required. The debt problems of banks are closely related to the excessive leverage and weak financial conditions of the corporate sectors in these economies. So, resolving financial sector weaknesses means both restructuring and recapitalizing banks and orderly workouts of the debt problems of their corporate sectors.

Another clear lesson from the Asian crisis is that widespread insolvencies in the nonfinancial sector can be even more difficult to remedy than banking sector problems. The absence of adequate bankruptcy laws and procedures has in many cases meant that there was an absence of established mechanisms for allocating the burden of excessive debt problems among the borrowers and the lenders.

What Can Industrial Countries Do?

We need to continue work by expert groups to develop standards. An excellent example of an effective process and excellent execution is the Core Principles for Effective Banking Supervision produced by the Basle Committee on Bank Supervision. The process that produced this set of standards sets an important standard of its own. The experts should set and, as necessary, update standards in a cooperative effort of supervisors and regulators around the world. It is important that these efforts include emerging market economies.

We need to improve monitoring of compliance with these standards. In particular, the IMF is incorporating into its country assessments compliance with international standards for banking and bank supervision.

We need to have sufficient resources dedicated to technical assistance for countries that are working to converge to best-practice standards and incentives for countries to comply. Market discipline, encouraged by more limited safety nets and enhanced disclosure, could play an important role here. This could be reinforced by market access policy in developed countries, i.e., limiting access to domestic banking markets to banks from countries that meet international standards for bank supervision. Finally, proposals for pre-conditionality are intriguing, though fraught with practical problems and obstacles. There have recently been proposals for contingency funds for countries that met certain conditions, perhaps including compliance with international standards. This might be a way of enhancing incentives to comply with international standards.

Questions that have to be resolved include: Why would emerging market economies want to participate, if doing so singles them out as in potential need of liquidity lines? This may be similar to the reluctance of banks to borrow from the Federal Reserve discount window. Would the IMF (or whoever is implementing the lines) be willing to remove access to the liquidity facility if policies and conditions deteriorated in the country in question and threaten to precipitate a crisis in the process? Do we know enough about early warnings of crises to identify countries that meet appropriate standards and therefore deserve to qualify for such a facility?

Moral hazard incentives affect foreign as well as domestic lenders. It is, therefore, important to find ways to ensure that foreign private lenders bear the consequences of the risks they take. Imposing losses on creditors will, of course, limit their willingness to extend credit to other borrowers. Doing so in the midst of a crisis is obviously problematic. Deciding how and when to involve the private sector in responding to international financial crises remains a challenge. Progress can be made at the margins. In particular, it might be worthwhile to look for ways to encourage the inclusion of collective action clauses in sovereign bond contracts to encourage greater cooperation among creditors when financial crises occur. Another promising direction is to promote the adoption of sound bankruptcy codes in emerging market countries to handle private debts more effectively. These measures can move the process in the right direction, but they are no panacea. We must continue to struggle to find ways to contain and resolve international financial crises without offering undue protection to international investors.

Industrial countries, as well as the emerging market economies, have supervisory issues related to emerging country risk exposures. Better supervision in the industrial countries would insure better focus of lending banks on risks associated with lending to emerging market countries, reinforcing efforts to lessen moral hazard associated with such lending.

Industrial countries should continue to support international financial institutions so that the institutions have the resources to provide liquidity support and to assist in designing programs to mitigate the crisis and promote structural reform.

Finally, when appropriate, industrial countries can adjust their macro policies to offset the restraint on their growth from spillover effects from the crisis countries and thereby ensure that they remain anchors in the world economy.

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Derivatives, Contagion, and Fragility

One of the things that not many people are conscious of is just how bad the financial situation was last fall. One morning last fall there was a meeting of very distinguished fellows—heads of banks, heads of central banks, former heads of banks, former heads of central banks, and some major league academics. And at the very end, William McDonough, the president of the Federal Reserve Bank of New York, got up and said, "Everybody in this room is a banker or a bank supervisor. If you're a banker, lend. Do not apply the same criteria you might have applied three or four months ago. We must have the money. And if you are a bank supervisor, cut them some slack. Don't apply the same standards to the banks that you're supervising that you might have applied at another time. This is the worst financial crisis since the war and we have to get out of it. And the only way we can get out of it is if the banks will re-liquify the markets."

As we were going into this whirlpool, Alan Greenspan threw a piece of string, and it turned out to be a lifeline. Everybody said, "Thank God, Alan's in charge, it's going to be all right." And people went back to doing business. But it was a damned close thing. I'm going to say something that goes against a lot of stuff I believe, which is that I think if the press had known what was going on, we couldn't have gotten out of it. It's only because, in general, the public did not know, did not have the faintest notion of how much trouble the financial system was in, that we were able to get out of it. If any of this panic had communicated itself to a larger audience, I think it would have been much worse.

Crises such as that happen not because the borrower can't repay, but because the lender can't afford not to be repaid. And that is Minsky's vision of the articulation of cash flows and of payment. If the payment is not made, if the cash flow is not there, then the lender is thrown upon the resources of the credit market in order to make the payment that he had expected he could make from the people who owed him. People will not make a payment until they see the cover that is going to be useful to them. And then everything freezes, and that's what was happening in October of 1998. And it is by no means clear, by the way, that the central bank can always handle this, because you can pour liquidity into the system, but people will clutch it to their bosom and will not use it, because they're scared.

In Minsky's work *Stabilizing an Unstable Economy*, there is a section in which he talks about two somewhat separate markets—one for assets and one for goods and services—and he asks how these markets are related. We don't know how they're related. He didn't know how they're related. And we know less today. All of our theories have not gotten us very far. It's still a mystery, and it's a scary mystery. In 1991–92, the Fed poured money into this economy and the money went into portfolio investment. I don't think there's anybody in the world who knows why. We do know that we were very lucky. This was a substantial risk run by the Fed because there was a serious economic downturn, yet we got away with it. We revived without significant inflation.

We are in a situation where monetary policy now works through its impact on asset pricing and not through its influence on the behavior of the banks. That's a huge change in the world. And it's a huge change in aspects of governance. Back in the 1920s there was a period when two-thirds of the required reserves for the banking system were being met by borrowings from the discount window. The Federal Reserve System, assuming that the banks were all working together, which was at times a large assumption, had its hooks into what the banks were going to do, and what the banks did was extremely influential on the economy. The whole system operated in a very different way. Today, there is no discount window. The shift from the discount window to the open market is a very interesting thing; it's a macroeconomist's delight.

There has been a democratization. The use of the open market rather than the discount window is part of the movement away from banks and into markets. But nobody knows when a strong action in the open market can turn into price inflation. In Minksy's work there is a passage in which he says that the function of the bank is to accept the loan, not to fund it. Placing itself on the line for the loan is the fundamental banking function. That's what the lending officer does. But we were all brought up, and the laws in our country say, that a bank is an institution that accepts deposits, which is the money supply, and makes loans. But, in fact, this is not necessary and we are moving into a time of technology when this is not going to be true.

The banks and the Fed have these huge sunk costs in paper processes. The Fed has this atavistic

reluctance now to promote electronic payments. Half the people who work for the Fed work processing this paper. They don't want to see it go away, but it's going to go away. It is expensive and a waste of money. There is a law that says that the United States government should make all its payments by electronic funds transfer. It was part of the budget act in 1996. It costs us 43 cents to make a paper payment and 2 cents to make an electronic payment. The federal government makes 650 million paper payments a year. If we substitute electronic payments at a saving of roughly 40 cents a payment, then we save a quarter of a billion dollars a year. We work on this crazy six-year time horizon; we can save $1.5 billion over six years. So Congress passed this law. No banking committee held hearings on it. No bank regulator was consulted on it.

Every other year the Data Interchange Standards Association has a conference that attracts 700 to 800 people who work in various electronic data interchange operations in big corporations and in trade associations, but no banking regulators ever go. The banks and the regulators have cut themselves off, deliberately, from development in electronic payments. I don't know what this technological advancement will do to central banks over time. This technological change might ultimately be quite healthy because the great problem is overleveraging. Banks are, by definition, almost always overleveraged institutions. Banks have to fund themselves out of the markets and become experts in lending and in trading. That may be a better system than the one that is inherently unstable because of the mismatch between the duration of the liabilities and the assets.

Discussions on reforming the banking system must also deal with repos because they are the worst source of leverage. As you finance from repos, you create a duration mismatch, and that's where you get into terrible trouble. We also have, of course, great growth of leverage on the derivative chassis. We now have little collateralization, if you're not a big player. If you're a big player, you probably do not have to have it. You get total return swaps.

Transparency is also an issue that must be addressed in reform. Over-the-counter derivatives are deals made by consenting adults behind closed doors. Therefore, you cannot talk about transparency and still protect derivatives from exposure. That's idiotic. In reality, bankers believe in their hearts in bank secrecy, and I'm not 100 percent sure that they're wrong.

The one thing that worries me most is the attitude of regulators that they know what they're doing. When it turns out that they don't, the central bank reacts in bewilderment. You must retain a degree of suspicion that these plausible fellows, with their big computers, really have to be watched carefully and when they get in trouble, you have to be ready to do something about it.

We live in a world of dynamic hedging, and in dynamic hedging you're balancing your risks, you're operating all the time on a low time horizon. It's very short term. And those who measure risk feed the most recent data into the machine as though it were much more important than previous data, because they operate on short term. The question is, What can I do today? What can I do tomorrow? Yesterday's data had a high weight, the day before it had a high weight. One goes back a couple of weeks and it is weighted, but if one goes back more than a couple of weeks, then things drop out of the machine. Now experienced traders, of course, are looking at the machine and they know what the machine doesn't know. Academics may not.

And what happens is, since one is pricing these things on implied volatility, one looks at what the recent historical record shows the volatility of this option, or optionlike instrument, should be from the machine. And the machine says it is not particularly volatile. The market has in its guts a recollection of trouble—last year, the year before, the year before that. Therefore, it assumes a somewhat higher volatility. But the machine says that it is safe to sell volatility. Now, one will not make much money selling volatility, but if one is leveraged up the kazoo, then one can make money selling volatility.

State-of-the-art risk management methodology endorsed by, and imposed by, industrial country regulators is a primary source of the contagion effects of a crisis. A volatility event in one country will automatically generate an upward reestimate of credit and market risk in a correlated country, triggering automatic margin calls and tightening of credit lines. Thus, apparently bizarre operations that connect otherwise disconnected securities markets are not the responses of panicked green traders arbitrarily driving economies from a good to a bad equilibrium. Rather, they work with relentless predictability and under the seal of approval of supervisors in the main financial centers.

The notion that gains are made from making pieces of paper easily substitutable for each other is

always and everywhere. With the elimination of these frictions, one has a financial instrument whose only dimension is a price and whose pattern of movements in this price can be tracked by a computer. The fact that one of these patterns represents a Korean steel mill and the other represents a Brazilian paper factory is irrelevant because we can abstract down. Since we all have perfect information about everything, all of these instruments can be compared with each other. We teach beginning students in statistics that we can't compare apples and oranges, but there are guys out there designing derivatives to do just that every day. And it doesn't make sense. And it's one of the reasons why we have the problems we have.

These are multidimensional problems. They are not susceptible to purely economic analysis. Efficiency, in other words, winds up imposing costs, and the assumption among economists is that efficiency is a good, but there are going to be situations, and we are living with them now, where efficiency is a danger. And this is what the Tobin tax should be doing. I think that technologically we've gone to a point where we must slow down the machine so people can think once and a while.

Another observation is that all banking is crony capitalism. Banking is a matter of relationships. Banking is information-intensive lending. And you cannot have information intensity without having personal contacts and knowing people. This is the function of the lending officer. The bank lending officer weeded things out. By the time you came around as an investor in the market, the junk was gone. It would be dangerous to lose this function of the lending officer.

The lesson in Asia is the continuing importance of banks, although in this country it's not true anymore. Banks are marginal today, really. But they are not marginal in Asia, and they are not yet marginal in Europe, although they soon will be. And the clash between markets and banks—between the systems of information that serve markets and the systems of information that serve banks—is the clash between the tectonic plates, which puts us in danger of an earthquake.

Banks have deep and narrow information. Markets have shallow and broad information. And, unfortunately, each of them assumes that the other knows what it's doing. At those moments when this is not true, you have more serious clashes than you would have had before, because we are in this motion period. That's the transparency hassle also. Markets want and will process enormous quantities of information. Banks generate information and keep it for themselves. And these things are not working well together. We are moving toward a market world and markets have the advantage that they allocate losses quickly and let people go about their business.

One of the reasons we must move to markets is that we must find a process to allocate losses. Bankruptcy courts can't do it and banks are very bad at it. And as long as banks are doing maturity transformation and they're highly leveraged and they're part of a banking system, there is a great danger in imposing the responsibility of losses on the banks. But we have to get through a period of transformation. Calling for better supervision and more transparency and all that is not going to do it. There are cultural questions involved here, too.

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Short-Term Financial Stability versus Long-Term Instability

As we look back in history, the speculative excesses of other times and other places can easily amaze us. In seventeenth-century Holland, people mortgaged their shops and homes to buy tulip bulbs and even tulip futures until prices crashed ignominiously. In eighteenth-century Britain, there was a huge rise in the stock price of South Sea, a little understood company with a scant record of producing products or profits, and when the bubble burst, it shook Britain's monetary and political foundations. In the bubble economy of the 1980s, Tokyo real estate changed hands at prices implying that the grounds of the imperial palace might be worth as much as all of California. History shows us a pattern of speculative mania followed by painful adjustment. This cycle of boom and bust has its roots in human nature.

Benjamin Graham touched on these roots in his classic book *The Intelligent Investor.* In discussing how to allocate investments between stocks and bonds, he noted the logic of moving money into stocks when stock prices are down, and out of stocks when stock prices are up—buy low, sell high. But he went on to make the following observation. "These copybook maxims have always been easy to enunciate and always difficult to follow because they go against the very human nature that produces the excesses of bull and bear markets. It is almost a contradiction in terms to suggest as a feasible policy for the average stock owner that he lighten his holdings when the market advances beyond a certain point and add to them after a corresponding decline. It is because the average person operates, and apparently must operate, in opposite fashion that we have had the great advances and collapses of the past, and are likely to have them in the future."

We can take that passage from Benjamin Graham as a starting point and explore its implications for banking policy. Banks are vulnerable to the ups and downs of the economic cycle and particularly to speculative booms and busts. Their liabilities are more liquid than their assets. They must redeem deposits at par if they plan to stay in business. To help maintain financial stability, the FDIC insures deposits and the Federal Reserve stands ready to act as a lender of last resort. Yet these and other government interventions in the name of financial stability carry their own risks. By impairing market discipline, they let banks take greater risks without having to face a correspondingly increased cost of funds. The result can be excessive risk taking and the potential for accentuating both speculative mania and the ensuing hardships of adjustment.

This was what went wrong in the U.S. thrift debacle of the 1980s. The old system of deposit insurance and thrift regulation inadvertently encouraged thrift institutions' owners and managers to act in ways that harmed the deposit insurance fund. All thrift institutions paid premiums at exactly the same rate, meaning that safe institutions subsidized risky institutions. Moreover, deposit insurance impaired market discipline, permitting weak institutions to remain open and compete aggressively with healthy institutions. Weak institutions paid higher than average rates to attract deposits and channeled the proceeds into riskier-than-average investments.

This behavior represented a rational response to the incentives created by the combination of flat rate deposit insurance, limited liability, and low capital. If the risk taking paid off, the institutions' owners kept the profits and the managers kept their jobs. If it failed, the insurance fund bore the loss. But this behavior harmed healthy institutions. It squeezed net interest margins both by increasing the cost of funds and by decreasing interest rates on loans. It undermined credit standards by making credit more freely available to marginal borrowers. Too much money chased too few bankable loans and lenders received inadequate compensation for credit risk. The erosion of credit standards increased loan losses and depository institution failures. The failures depleted the insurance fund, necessitating high premiums that further undercut the profitability of healthy institutions.

In the face of these patterns, public policy should maintain adequate stability. Yet, by intervening to promote stability it can impair market discipline, exacerbate the cycle of boom and bust, and promote instability. So it seems that we face a paradox. In order to maintain long-term financial stability, we must be willing to tolerate some short-term financial instability. In order to avoid fueling speculative excess, we must preserve the credibility

of the adjustment process and the corresponding incentives to refrain from overextending.

One can liken the adjustment process in an economy to fire in a forest. In the short run both are destructive. But consider the alternative. If one suppresses all fires in a forest, year after year, decade after decade, the forest is made more susceptible to major conflagration. Vegetation grows unnaturally dense. Dead wood accumulates. The forest becomes vulnerable to drought, insects, disease, and devastating wild fires that burn longer and more intensely than anything that would otherwise have occurred.

Similarly, if public policy goes too far in shielding banks and others from the consequences of their own excesses, the ultimate adjustment will be needlessly costly, painful, and destructive. In the thrift debacle, the federal safety net played the role of Smokey the Bear, suppressing market discipline just as Smokey suppresses fires. Like a forest that grows unnaturally dense, depository institutions suffered from persistent overcapacity with too many dollars chasing too few good loans. Dead wood accumulated in the form of poorly managed and economically insolvent institutions. By weakening market discipline and by letting policymakers postpone the day of reckoning, the safety net allowed problems to worsen, which increased the ultimate cost of resolving them.

In the FDIC Improvement Act of 1991, Congress sought to correct defects in the old system of deposit insurance and depository institution regulation. Through such reforms as prompt corrective action, least-cost resolution, and risk-based premiums, this legislation sought to bring the incentives of the depository institutions' owners, managers, and regulators more closely into line with the interests of the deposit insurance funds. These incentive-oriented reforms made an important contribution to strengthening the banking system in the early 1990s. Although not yet fully tested, they have worked well thus far. They have created a better set of incentives. They have reduced the potential for moral hazard. They have helped regulators be more faithful agents of the taxpayers.

These reforms are consistent with the paradox described earlier. Specifically, they protect deposit insurance funds and maintain long-term financial stability by fostering market discipline through a willingness to place some stress on weak institutions. But how has domestic banking policy done more recently? Are we maintaining a healthy set of incentives for the owners, managers, and regulators of depository institutions? And, in particular, do those who take excessive risks face the credible prospect of having to internalize the costs of that risk taking?

The record of the past six to eight years is mixed, but there have been achievements. The thrift cleanup has been completed. Legislation has been enacted that removed the remaining federal restrictions on interstate banking and branching, which should improve opportunities for banks to diversify their loan portfolios and thus increase their ability to weather shocks. Also enacted was legislation that tightened constraints on the policy of treating large banks as if they are too big to fail. This legislation explicitly prohibits the FDIC from using deposit insurance funds to protect the shareholders of troubled banks and requires that depositors have priority over other creditors. Legislation was also enacted that resolved the problems of the FDIC's savings association insurance fund, which is a notable example of Congress actually acting to head off a crisis before it starts. For the first time since 1980, no federal deposit insurance fund has significant problems.

In addition, there have been both full capitalization of FDIC funds and more rigorous disclosure standards for instruments with off-balance-sheet risks, including derivatives. But there has been some backsliding. Legislation enacted in 1996 made FDIC insurance free of charge to most banks whenever the deposit insurance fund exceeds the statutory target of $1.25 in reserves for each $100 of insured deposits. Thus, a well-capitalized bank pays no premiums unless regulators find it to have significant financial, operational, or compliance weaknesses. The result is that institutions holding nearly 98 percent of FDIC insured deposits currently get their insurance free.

The Treasury strongly opposed this partial ban against deposit insurance premiums. The ban undercuts the risk-based premium system and needlessly complicates the FDIC's efforts to improve that system. The ban also rests on a mistaken premise that the insurance funds belong to federally insured banks and thrifts, so that the interest earned on those funds represents a kind of implicit premium. On the contrary, the insurance funds belong to the nation's citizens and taxpayers. The funds represent the net proceeds of premiums received in return for the insurance protection provided. After all, FDIC insurance is valuable and it is

certainly worth more than nothing. Giving it away represents a conspicuous and easily avoidable subsidy. Also on the minus side is the potential for the federal home loan bank system to serve in the future as a lender of last resort in competition with the Federal Reserve discount window.

There are two classic views on the lessons of history. The first is by the English poet Samuel Taylor Coleridge and the second by the German philosopher Georg Wilhelm Friedrich Hegel. Coleridge, the gentler and more accommodating of the two, voices a longing to learn from history, but stresses the intrinsic difficulty of doing so. He said, "If we could learn from history, what lessons it might teach us. But the light which experience gives is a lantern on the stern, which shines only on the waves behind us." Hegel, by contrast, goes right to the bottom line, and a very hard line it is. He said that what experience and history teach is that people and governments never have learned anything from history or acted on principles deduced from it.

There is evidence to support both views. Meanwhile, our history has yet to be written. We will have plenty of choices to make about public policy with regard to the financial system. And in making those choices, we should weigh the costs as well as the benefits of government intervention and be careful about purchasing short-term tranquility at the price of greater long-term instability.

WYNNE GODLEY
Distinguished Scholar, Levy Institute
[The transcript was not available for Wynne Godley's remarks. His presentation is summarized.]

Unsustainable Processes: Prospects and Policies for the United States and the World

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

Three important ratios can be used to examine the effects of government spending and international trade on aggregate demand. The fiscal ratio—the ratio of government expenditure to the average tax rate—has risen steadily with GDP throughout the postwar period. The trade ratio—the ratio of export propensity to import propensity—has deteriorated since the beginning of the Asian crisis. The combined fiscal and trade ratio rose until 1992, but has hardly grown at all since then. Thus, the expansion has been occurring despite the contractionary effects of fiscal policy and net export demand. What then has driven it? The answer is an unprecedented increase in private expenditure relative to income.

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

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

THE HONORABLE EDWARD M. GRAMLICH
Member, Board of Governors,
Federal Reserve System
[The transcript was not available for Edward Gramlich's remarks. His presentation is summarized.]

Stabilization Policy Strategies

Should stabilization policy rely primarily on monetary or on fiscal policy. In the standard macroeconomic model both monetary and fiscal policies affect the economy but through different channels. Their effectiveness depends on the exchange rate regime. Fiscal policy is more effective when exchange rates are fixed and monetary policy is more effective when exchange rates are flexible. When exchange rates are fixed, monetary policy cannot be used for business cycle stabilization because it must be devoted to maintaining the exchange rate.

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

Fiscal policy can be used to increase aggregate supply by encouraging saving; if the government runs a budget surplus, people will save more and aggregate supply will increase. The government should treat the Social Security trust fund as separate from the rest of the budget and balance both budgets. Today the main budget is in deficit, but the overall budget is in surplus because of the enormous Social Security surplus. If Social Security is not treated as a separate budget, a large portion of the federal budget will go to support Social Security when its budget is projected to go into deficit.

If the nonaccelerating inflation rate of unemployment (NAIRU) is known, the Fed could use the Taylor rule, which requires estimating the equilibrium Fed funds rate, raising interest rates when unemployment is below the NAIRU, and lowering them when unemployment is above the NAIRU. However, economists today are not certain what the NAIRU is. A possible solution to this problem is to target the inflation rate instead of the unemployment rate, but a better approach would be to modify the Taylor rule to target changes in inflation and unemployment instead of their level. That is, the Fed should try to keep unemployment and inflation within a given range of values and maintain them by using policy to equate the growth rates of aggregate demand and aggregate supply.

Session 1

Minsky and the Good Society

Mathew Forstater (Moderator)
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Murray Weidenbaum
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Edward J. Nell
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Murray Weidenbaum

Reconsidering Minsky's View on Transfer Payments and Government Intervention

Hyman Minsky was correct to try to shift the economic debate from the traditional focus on income flows, entitlements, and handouts to the need to move people from long-term dependence to productive employment. That shift has now come. The change in intellectual attitude toward poverty that he advocated has become part of American public policy.

However, there are arguments against Minsky's proposals for full employment through a larger and more innovative governing sector. Scholars at the Levy Institute have proposed that the government establish a wage at which it would offer employment and then provide jobs for all who want to work at that wage. This proposal is a rather naïve example of "push-button economics," an approach that conjures up the image of a policymaker sitting at a console making key labor market decisions by the numbers. Also ludicrous is the idea that public workers and private sector employees will respond in precise numbers and in stipulated time periods to these specific economic signals, ignoring all other aspects of the compensation package, working conditions, and prospects.

Most jobs are created in the private sector. Thus, to encourage economic growth, we must reduce the many obstacles that government has placed in the path of business expansion, both wittingly and unwittingly. The obstacles to growth and job creation range from regulatory and legislative restrictions to tax disincentives to distorting expenditure subsidies. There is no program that has the express mission to depress employment, but many of them do have that undesirable side effect through those obstacles. Government laws and rules weaken the demand for American labor and often reduce the supply of labor as well.

For example, the Merchant Marine Act was intended to save U.S. merchant marine jobs by requiring all ocean-going travel from one port in the United States to another to be on a U.S. flag vessel, but how does it work in practice? American tourists who want to travel to Alaska by sea rarely use the port of Seattle, which is a natural U.S. gateway to Alaska. Instead, they go by surface or air to Vancouver, Canada, and pick up a foreign ship, which is typically owned by an American firm that wants to avoid the costly regulations involved in operating U.S. flag vessels. The Merchant Marine Act thus weakens the demand for labor by failing to save merchant marine jobs and by losing the potential employment connected with using a U.S. port of embarkation.

The disability part of the Old-Age Survivors and Disability Insurance program is another example of a government mandate that reduces

the labor supply. The beneficiaries of the program almost never return to work. Once they become eligible, the program becomes an early retirement system. In a typical year less than 0.5 percent of the beneficiaries successfully complete a trial work period. All the others, 99.5 percent, continue receiving their monthly checks from the government.

Tax laws and regulations also hamper job expansion. The burden of regulation and taxation disproportionately hits newer, smaller enterprises that lack the resources and experience to deal effectively with the bureaucratic processes of big government. This reduces their ability to expand to create new jobs. So rather than focusing on government correction of market failure, we should begin with the other side of the coin, government failure in its effect on the private sector.

Minsky was also concerned with improving the fairness of the distribution of income and wealth, but Minsky equated improving equity with a more egalitarian allocation. This view is too simplistic to form a useful basis for public policy because it is not apparent that equity is enhanced when the state uses its power arbitrarily to take money from A to give to B. A recent report by the economic staff of the International Monetary Fund presents two key findings. The first is that there is a consensus that extreme inequality of income, wealth, or opportunity is unfair and efforts should be made to raise the incomes of the poorest members of society. The second is that there is little agreement on the desirability of greater income equality for its own sake or on what constitutes a fair distribution of income. Taking money from one person to give to another might discourage some people from working longer or harder or taking entrepreneurial risks to get ahead. In the long-term, this might have negative consequences for the economy as a whole.

However, when one goes beyond these reservations about the specifics of Minsky's analyses and proposals, one finds the basic force that so many have found compelling and enduring: Minsky's insistence that we deal with the serious problems facing our society, whether or not readily acceptable answers or even relevant techniques of analysis are available. Minsky constantly prodded us, and himself most of all, to wrestle with the truly big questions even if, or perhaps especially when, it was not fashionable to do so. We truly honor Minsky when we continue that wrestling match.

CHARLES J. WHALEN

Hyman Minsky's Theory of Capitalist Development

Many post–World War II economists have shown little interest in contributing to the resolution of practical economic problems, but for Hyman Minsky, practical problem solving is the necessary first step toward the goal of making the world a better place. In his view, practical problem solving, not abstract puzzle solving, is the fundamental purpose of economic analysis.

Minsky's search for practical answers was made difficult by the fact that during his career the American economics profession was dominated by neoclassical theory, an approach that he rejected as an inadequate starting point for economic analysis. Minsky believed that effective policymaking requires an understanding of the dynamics of an accumulating capitalist economy. Since those dynamics include both short-term macroeconomic fluctuations and long-term economic evolution, he saw a perennial need for developing theories of both.

In an attempt to enable economists and policymakers to do better, Minsky developed a financial theory of investment, known as the Wall Street paradigm, and an investment theory of business cycles, called the financial instability hypothesis. In recent years economists have shown much interest in these two theories, but they have virtually ignored Minsky's exploration of the development of capitalism. He developed this theory in the years of the Republican control of Congress. During this period there was a growing dismissal of countercyclical macroeconomic management, and Minsky sought to combat this trend with an analysis that was grounded in history and in institutional reality. Focusing on the decades before and after the New Deal, he stressed that unregulated markets are inherently unstable and can produce intolerable distributions of income.

Minsky noted the importance—for the United States and the formerly socialist economies—of recognizing that capitalism comes in many varieties and that each variety may differ in its implications for stability, efficiency, distribution of market power, and distribution of income. All capitalisms are flawed, but not all capitalisms are equally flawed. U.S. economic history provides evidence that capitalism does indeed come in many varieties and its form can change over time.

It can be stagnant, deteriorating, tranquil, turbulent, even chaotic. A fundamental determinant of the particular path of capitalist development is the institutional structure. The structure facilitates, influences, regulates, and constrains economic activity. Minsky identified five stages of capitalism in U.S. history: merchant, or commercial, capitalism; industrial capitalism; banker, or financial, capitalism; managerial capitalism; and money manager capitalism.

While standard economic theory emphasized exchange, Minsky placed credit and finance at the center of capitalist development. His recognition of historical time caused him to focus on the fact that production must precede exchange and finance must precede production. He wrote, "because credit is essential to the process of development, a theory of economic development needs to integrate money into the basic formulation." It cannot be added as an afterthought or secondarily.

Also essential to Minsky's theory is the concept of the profit motive as the driving force. He had long argued that present and prospective profits influence economic activity within a given institutional structure and that the structure changes in response to profit seeking. But as he gave more attention to capitalist development, profit-driven structural change became increasingly important.

A final important element in Minsky's theory of capitalist development is the role of government. Government policy shapes the institutional framework that influences economic activity. Economists and policymakers must be concerned with both the design and operation of institutions because of their influence on economic development. And these policies must continuously be evaluated because the economy evolves. Policies that work well in one period may not be adequate in another because of innovations in the economy.

Minsky's work points to directions for future research: development of the theory of capitalist development and its application to the U.S. economy; application of the theory to other nations; and continuation of his efforts to model alternative institutional structures and examine their impact on the dynamic path of the economy. One can also use Minsky's research as a starting point to address a host of other questions: How, for example, can technological dynamism be sustained in the current era of money manager capitalism? In short, Minsky's theory of capitalist development provides the basis for a comprehensive research program.

EDWARD J. NELL

The Simple Theory of Unemployment

Hyman Minsky focused directly on issues and sought to address them in the simplest terms that the subject matter would allow. Analysts today tend to make everything complex. For example, there is a simple explanation for the fact that lots of people, with adequate skills and experience, would like a job but cannot find one. That explanation is that businesses do not need more workers because they do not need to produce more goods and services.

There is a positive relationship between real wages and employment. Unemployment can result when there is a deficiency in demand. Much of that demand is driven by household consumer spending, which is tied to household income. An increase in household saving can reduce employment because if households are saving more, it is likely that they are spending less. Their reduction in spending, however, can be offset by government spending.

According to a dominant economic theory, value reflects scarcity. Prices measure relative scarcities. Factor prices, in particular, will reflect the extent to which the limited endowment of the factor permits the realization of agents' preferences. There is a fundamental theorem, known sometimes as the theorem of the alternative, that states that if a factor is not binding, it will not have a positive price; it will be priced at zero. By the same token, if it has a positive price, the amount of that factor is a binding constraint on economic activity, that is, it is scarce relative to demand.

Society has an endowment of labor that is able and willing to work. The lack of jobs for some part of the labor force would seem to indicate that labor is not a binding constraint, but then wages should be driven to zero, or at the very least they should be falling. In fact, wages are positive and often quite steady even in periods of high unemployment. In short, if wages are positive, the labor constraint must be binding, so what appears to be unemployment must really be something else, for example, some kind of voluntary unwillingness to work.

Thus, one must explain why there are positive wages and equilibrium unemployment. There must be some disequilibrium. Rather than take as our foundation the scarcity theory of value, we can take

a theory that has greater prescriptive value, such as the classical theory of value (relative prices are a function of wages and profits, and relative sizes of industry are a function of the growth rate) or we can take the reproduction theory (a theory of how year-in and year-out the goods and services and skills of the labor force are reproduced).

This approach has an advantage in the light of Minsky's preoccupation with evolution. It is a natural basis for an evolutionary approach to the economy. And this perspective can be used to examine the idea of an employer of last resort. In a sense, government has been able to be a stabilizer because of its size, and it has acted as a stabilizer through discretionary policy. The employer of last resort is a proposal to create an automatic mechanism that would stabilize the money wage rate and stabilize aggregate demand. This proposal is designed to respond in a stabilizing way to market forces and do so as a result of market incentives. Viewed this way, the problem of unemployment is not so complex. There are a lot of people who want to work, but the current system does not permit them to do so. Thus, what is needed is a new system.

SESSION 2

Monetary and Financial Policies

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JAMES TOBIN

On Minsky's Agenda for Reform

The last chapter of Hyman Minsky's *Stabilizing an Unstable Economy* can be described as his utopian design for capitalism. There is a close connection between economists' theories of the world and their policy recommendations. By examining the ambitious and comprehensive manifesto outlined by Minsky, a better appreciation of his theory about the capitalist economy can be obtained.

Minsky's objective was no less than to design a self-regulating capitalist system, one that does not depend on frequent discretionary policy changes, whether by a central bank or finance ministry or legislative body. At the same time, although he proposed a number of institutions to protect and promote competition, the system he had in mind is not driven solely by the invisible hand. Its stability depends on big government—the main source of built-in macroeconomic, countercyclical variations of aggregate demand and thus of variations of profits.

According to Minsky, the federal government should account for about 20 percent of full employment GDP. At the time of his writing (1986) he identified full employment with 6 percent unemployment, but he probably would have been glad to revise that down a couple of points in light of recent experience. Minsky rejected the now prevalent practice of basing monetary policy on guessing what the NAIRU is and then trying to get to it and stay there by varying money market interest rates. He proposed an employer-of-last-resort policy that guarantees employment for any one willing and able to work at a fixed minimum money wage rate. He suggested a number of programs similar to the New Deal's Works Progress Administration, Civilian Conservation Corps, and National Youth Administration. Minsky argued that the built-in stability effects of fiscal policy would be enhanced by the variations in the number of the applicants for the guaranteed jobs, and nominal wage and price level would both be stabilized by the fixing of the guaranteed wage.

This proposal has several practical problems, the most important among them being that not all of the unemployed are minimum wage workers. A person should be considered unemployed if he or she cannot get a job at a wage commensurate with his or her qualifications. Another problem is how to deal with errant workers and provide productive employment, both for its own sake and for the sake of the morale of the workers. If these difficulties can be overcome, an employer-of-last-resort policy would, in Minsky's view, dispense with the need for monetary and fiscal responses to macroeconomic events.

Big government, Minsky thought, can have a stabilizing effect because it is comparable in size to profits, and profits are the driving force behind the macrodynamics of capitalism. He favored balancing the federal budget when the economy is operating at full employment; cyclical departures from full employment would generate deficits and surpluses. His prescription of balanced budgets across business cycles would tend to hold federal debt constant relative to GDP over the longer run. Minsky believed that such constancy would stabilize the term structure of interest rates and thereby contribute to overall financial stability.

Minsky regarded capitalist financial markets and institutions as the principal agents of instability, and much of his agenda for reform pertains to the financial sector. Replacing the role of the central bank in macroeconomic stabilization with the employer-of-last-resort policy is one such reform. Nevertheless, the central bank does have important roles in Minsky's utopia.

Minsky wanted to revive the discount window as the major source of bank reserves. He favored real bills monetary policy, what he called specific-to-the-asset lending; he considered it healthy for the central bank and commercial banks to cooperate in this type of finance by using those bills as the paper for their discounting operations. He also thought it desirable to use appropriate tax and regulatory policies to preserve a diverse financial sector with financial firms that vary in size, purpose, and location. He recommended strong measures against speculative and Ponzi finance. Most importantly, Minsky wanted the central bank to be the sole regulating agency for the entire financial system, not just for money markets and banks and other depository institutions.

In the area of social policy, Minsky advocated programs to diminish inequalities of market outcomes among individuals. He greatly preferred programs with good incentive effects, such as the employment policy mentioned above, and he disliked means-tested transfers.

Minsky's view about the slowdown in economic growth since the 1970s was different from both the Keynesian and neoclassical interpretations of postwar economic history. He attributed the reversal of the early postwar prosperity to the inevitable evolution of capitalism, particularly capitalist finance. It is not clear how Minsky would have judged the role of economic policy in the current expansion. It is interesting to note that he concludes the discussion of his agenda by characteristically predicting that capitalists' destructive financial innovations are chronic and that they would spoil even a Minsky-designed capitalist system.

C. A. E. Goodhart

Monetary Policy Adjustments with Asset Price Fluctuations

Hyman Minsky was profoundly dissatisfied with the macroeconomic consensus that informs most models and lies at the heart of policy making because it fails to take into account the interactions between monetary expansion via the banking system, asset prices, and investment, on the one hand, and the interactions between economic activity and inflation, on the other. The consensus view is that the central bank sets the short-term nominal interest rate and the effect of that interest rate on real economic activity is mediated through the interest elasticity of various expenditure functions. In this view, both high-powered money and broad money are purely endogenous variables, with the implication that the monetary aggregates themselves and their relation to the operation of the banking system can be largely neglected in policy making.

Underlying the consensus view is a view of money as simply a universal ration coupon that serves as a medium of exchange. In contrast, Minsky held that in a capitalist economy money is created in the process of financing investment and positions in capital assets. There is a two-way causation between changes in the monetary aggregates and asset prices, and the interaction between the two affects real economic activity and inflation.

Nominal monetary shocks have effects on real economic activity because of wage and price stickiness. The initial impact of such shocks is on asset prices, which are flexible. The changes in asset prices affect investment (Tobin's q), consumption (wealth effects), and the exchange rate, all of which in turn affect real economic activity. The transmission mechanism, however, is uncertain, variable, and hard to measure accurately.

As Minsky emphasized, the reverse causation is also important: asset prices can affect both monetary and real variables. Stronger asset prices raise collateral and encourage borrowing. If banks share borrowers' expectations about future activity and higher profits, bank lending and monetary expansion will be stimulated at a constant nominal interest rate. However, to the extent that higher asset prices encourage expectations of future asset price increases and capital gains, the effective real interest rate to borrowers intending to purchase such assets falls. Higher asset prices can therefore lead to higher levels of economic activity.

The linkages between movements in asset prices and other macroeconomic variables suggest that, from a policy standpoint, movements in asset prices may provide useful information (in addition to monetary growth and interest rates) in assessing likely future movements in real activity and inflation. The asset market predominantly used for forecasting inflation is the foreign exchange market. This is reflected in the large number of studies on the estimation and use of the monetary conditions index, an index that combines the exchange rate and the interest rate. However, arguments in the theoretical literature suggest also using residential and commercial property prices and equity prices, which may

affect inflation through private sector wealth, Tobin's *q*, wages, and credit.

The most widely discussed transmission mechanism for asset prices is the credit channel. According to this view, which was also highlighted by Minsky, a rise in asset prices raises the borrowing capacity of firms and households by increasing the value of their collateral. The additionally available credit can be used to purchase goods and services and may thus lead to consumer price inflation. It follows, on the basis of this mechanism, that the asset prices that will have the strongest influence on inflation will be those that are most used as collateral by firms and households.

One way to evaluate this proposition is to regress the change in consumer prices on the following variables: lagged change in consumer prices, a measure of the output gap, the nominal interest rate, and a variety of measures of asset price inflation, including residential property price inflation. This regression was run for 10 OECD countries, although all the explanatory variables could not be included for all the countries because of data limitations. The results revealed that among the measures of asset price inflation, residential property price inflation was the most important in predicting future inflation. Neither exchange rate changes nor equity price changes, two popular measures of asset price inflation, performed well in this respect. While the good regression result on the housing prices variable does not necessarily suggest a causal relation, that variable does appear to be a simple, yet powerful, predictor of inflation in the immediate future.

JAN TOPOROWSKI

Monetary Policy in an Era of Capital Market Inflation

In his early work on financial fragility, Hyman Minsky did not discuss capital markets at any length on the grounds that only experience would enable us to know if the widespread and indirect ownership of equities, through mutual funds, would increase or decrease the stability of equity markets. However, even in his later work on finance he held a banking perspective, as expressed by his view that once the assets and liabilities of banks are set, the economy's financing framework is largely determined. While such a view may have been appropriate then, the subsequent development of capital markets (that is, markets for long-term securities) as a source of business finance requires its modification. Minsky's analysis needs to be extended to capital market inflation and the relationship of monetary policy to capital market inflation.

A theory of capital market inflation that extends Minsky's work is a nonequilibrium theory of capital markets. It argues that the actual value of a capital market is determined by the inflow of funds into that market. Most of that inflow is then taken out by the net issue of bonds by governments, and a large part of the remainder is taken out by the net issue of securities by corporations. The portion of the total inflow that is left is called the net excess inflow. The net excess inflow forms the market's liquidity, which allows the market to absorb a modest degree of net sales by financial investors. When the net excess inflow increases over an extended period of time, capital market inflation results, as experienced recently in the United Kingdom and in the United States.

The nonequilibrium theory of capital markets has the important implication that the reason stock markets crash is not, as the mainstream theory suggests, that they had been in equilibrium and then went out of equilibrium, and the crash enables them to get back to equilibrium. Stock markets crash because the disequilibrium was inadequate to accumulate enough net excess inflows to accommodate the desired net sales by financial investors.

The effect of capital market inflation is not uniform across all capital assets; it tends to be concentrated on the longest-term assets, which may yield a capital gain in addition to dividend and interest. As a result, the liquidity preference of rentiers is reduced at a time when the additional money that caused the inflation is flowing in and the liquidity preference should have been increasing to "equilibrate" the market. Thus, capital market inflation is not only a result of disequilibrium, but is also profoundly disequilibrating.

For stock-issuing corporations, capital market inflation is a blessing. They can issue equity at a lower earnings per share than previously and at a lower cost because their stockholders now obtain and expect capital gains paid by other financial investors in the future rather than by the corporations. Indeed, since pre-tax profits are calculated by deducting interest payments from operating profits, an easy way of making pre-tax profits levitate is to issue equity and use the proceeds to retire debt, which in turn lowers

interest payments. When this avenue is no longer open, profits may be levitated by acquiring or merging with another indebted corporation and by "deglomerating" subsidiaries and bringing them to market with new share issues. Capital market inflation thus encourages a whole set of changes in corporate structure. However, capital market inflation does not encourage fixed capital investment because production activities become incidental to the restructuring of the corporate balance sheets and the making of money by buying and selling subsidiaries.

An important consequence of capital market inflation and the attendant changes in corporate structure is a process of bank dis-intermediation. Since large corporations find that they can finance their activities much more cheaply and conveniently through issuing bonds or company paper, their reliance on bank borrowing decreases. This decreased reliance has a negative effect on banks' balance sheets and renders the banking system increasingly fragile.

The argument developed above is Minskian in the sense that the capital market is considered a financial circuit in future claims and liabilities of exactly the type that Minsky analyzed. There is also a move from hedge to speculative to Ponzi finance. Capital market inflation pushes financial investors' portfolios toward long-term securities, and they become dependent on future inflows of funds into the capital market to be able to realize their expected capital gains. And that makes the capital market itself more fragile.

Minsky suggested that generalized lender-of-last-resort facilities and lower interest rates would be remedies for greater financial fragility. These measures may be effective when the overwhelming source of business finance is bank borrowing, but it is not certain that they would be effective when the major source of finance is the capital market. In practice, governments have entered the securities market and made huge purchases only in extraordinary cases in which collapse of vital sectors of the economy was imminent. Furthermore, the idea of the government's serving as a generalized lender of last resort simply in order to give financial investors the capital gains that they are expecting is rather dubious. It can even have the negative effect of encouraging further speculative and Ponzi finance.

Bank dis-intermediation has two main implications for monetary policy. First, it creates fundamental problems for trying to regulate the economy through interest rates. As Minsky rightly pointed out, the effect of changes in interest rates depends on whether an economic unit is a net debtor or a net creditor and on the interest rate elasticity of the expenditures of various economic units. The principal expenditure effects of changes in interest rates occur among the net debtors of the economy, primarily firms and households. The reduced dependence of large firms on bank borrowing as a result of capital market inflation substantially reduces the sensitivity of their expenditures to interest rate changes. This implies that the main effect of interest rate changes will be on the expenditures of households and small and medium companies financing themselves with debt.

The second implication for monetary policy is related to the extent to which interest rate changes can actually effect an end to capital market inflation. The effectiveness of interest rate policy in this context depends on a stable relationship between short-term interest rates and capital markets, as suggested by Keynes's theory of speculative demand for money. This theory holds that as short-term interest rates along the whole maturity spectrum decline, there is a shift in rentiers' portfolio preference toward liquidity (toward preference for short-term financial assets) because they believe that they will be able to buy longer-term assets at a cheaper price later on. Hence, falling interest rates could, by increasing the demand for short-term assets, restrain excessive inflation in the capital market.

Capital market inflation has, however, undermined any such stable relationship presupposed by Keynes. The reason is that capital market inflation adds a premium of prospective capital gain to the market yield on long-term financial assets. Consequently, for investors to shift from long-term assets to short-term assets, the central bank must push the short-term interest rates above the sum of the market yield on long-term assets and the prospective capital gain. Only at this point will there be a shift in investors' preferences, causing capital market inflation to cease or bursting an asset bubble. But the cost of such an interest rate policy is that investors' interest in long-term assets becomes weak and the market for long-term assets becomes dormant. It may be possible to resurrect the dormant market by a cheap money policy. However, the main point is that short-term interest rates are a rather poor policy instrument to regulate the inflationary expectations in the capital market.

SESSION 3

Interrelationships between Finance and Investment

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ROBERT POLLIN

Securities Transactions Tax for U.S. Financial Markets

Hyman Minsky had pointed out in *Stabilizing an Unstable Economy* that although it is easy to list objectives of economic policy, it is more difficult to create institutions and start processes that will achieve these objectives. A policy proposal to which this observation is particularly relevant is a securities transaction excise tax (STET) for the U.S. economy. The severe financial instability that the world economy experienced over the past year makes the need for a new financial architecture that includes a STET ever more evident, but the problem is to construct such a measure that is analytically coherent and workable within the existing institutional environment.

A small STET on all transactions in U.S. financial markets would create a significant disincentive for market participants to engage in speculative asset churning, while having a negligible impact on participants who intend to hold their assets for the long term. In addition to contributing to stabilizing over-speculative, fragile financial markets, a STET can also be a substantial source of revenue. Preliminary revenue estimates fall in the range of $60 billion to $100 billion per year, even after allowing for declines in trading volume and security prices that combine to an implausible 50 percent of existing levels. This revenue can be used for education, public infrastructure, poverty alleviation, and the environment.

The STET aims to reduce volatility by increasing the cost of short-term speculative trading. However, some critics argue that discouraging traders from the market will not reduce volatility but worsen it by reducing the number of market participants and thereby reducing market liquidity. Empirical studies have produced no clear-cut results regarding this issue. Such ambiguity is consistent with an important analytic point that three separate factors influence volatility: the underlying performance of the nonfinancial economy, the potential for herd behavior to become dominant on financial markets, and prospects for quelling herd behavior once it has begun. A STET, or more generally any change in transactions costs, will have the most influence on the second factor, the size of the speculative portion of the market, and taken by itself may have little influence on the other two.

Paul Davidson asserts that the proponents of a STET conflate a decline in volume with a decline in volatility; a STET will reduce trading volume, but such a decline may well increase volatility. Davidson argues that financial markets are fundamentally uncertain and market participants hold a diversity of views on market conditions. Larger trading volume can create a situation in which pessimists and optimists counterbalance each other. Reducing the size of the market by means of a STET increases the likelihood that pessimists and optimists will not balance out and volatility may increase.

Davidson's argument depends on the notion that a diversity of views is a necessary condition for increasing market size to reduce volatility. However, both Keynes and Minsky suggested that unstable financial markets do not encourage a diversity of views. Rather, they encourage herd behavior. According to Davidson, the appropriate policy intervention in markets with herd behavior is to have a market maker, such as a central bank, with sufficient financial resources to assure market price stability. But how does one know when the market maker has sufficient resources? Clearly, we can measure the sufficiency of resources only relative to the size of the

market the market maker is seeking to influence. An effective STET is a crucial policy instrument in such a situation. It increases the cost of engaging in speculative behavior, and, in doing so, it also reduces the size of the herd, thereby increasing the possibilities for effective intervention by the market maker.

Probably the most effective criticism of a STET is that it creates distortions between market segments, inviting migration and other tax avoidance strategies. One widely cited example of a STET that had such effects was the tax imposed in Sweden in 1984, which was lifted in 1990. The Swedish tax was narrowly targeted, applying only to trades executed through Swedish brokerage firms. It did not apply to foreign trades of domestic taxpayers, even if they were trades of Swedish financial instruments, or to domestic trades conducted through foreign brokerage firms. It was initially limited to equity and equity derivative trades and only later extended to bond markets and bond derivatives. Another example of a STET is the British stamp tax—a tax on the registration of ownership of a financial asset. In contrast to the Swedish tax, the British tax does not discriminate among market participants, but it is not uniform across all markets. It does not apply to futures markets and applies to options only when the options are exercised. This created incentives for investors to migrate from spot markets to derivative markets.

The STET proposal designed by Pollin, Dean Baker, and Marc Schaberg follows the British model, being a tax on the transfer of a financial instrument from one owner to another. Asset transfers would not be legally effective until they had been officially stamped. Assuming market participants place a high value on establishing legal status for their asset acquisitions in sales, a strong disincentive is in place against efforts to circumvent the STET.

The proposed U.S. STET embodies three main principles. First, the coverage of the tax is as broad as possible. It applies to trades of all financial instruments in all domestic market segments by domestic and foreign residents, to foreign transactions of U.S. nationals and corporations (as was the case with Denmark's STET), and to trades of U.S. securities by foreigners in non-U.S. markets. Second, since transaction costs vary widely across assets, the tax is differentiated across assets so as to maintain neutrality between assets and avoid market distortions. Third, the tax is applied relative to the total value of the instruments being traded.

Preliminary estimates of tax revenue from the STET were derived under three scenarios. The first scenario assumes no change in the trading volume or prices; the resulting revenue is about $128 billion. This scenario is unrealistic since the rationale for imposing the STET is to reduce the trading volume. The second scenario allows for a 10 percent decline in trading volume and a 10 percent decline in prices; the resulting revenue is roughly $98 billion. The third scenario postulates a rather unlikely decline of 25 percent in volume and price, but the STET still generates a sizeable revenue of $61 billion.

In conclusion, a securities transaction excise tax can be designed in a way that is analytically coherent, spans the markets, minimizes distortions, and raises considerable tax revenue that can be used for a lot of the things we care about.

STEVEN M. FAZZARI

Minsky and the Mainstream: Has Research Rediscovered Financial Keynesianism?

Hyman Minsky's research focused on the central role of finance in macroeconomics. This is remarkable because during most of his career mainstream macroeconomics did pretty much the opposite. Financial relations entered mainstream models primarily through the money demand function that provided the foundation for the LM curve. There were exceptions (for example, James Tobin), but these models generally invoked a strong form of the Modigliani-Miller theorem, according to which financial conditions are irrelevant for "real" economic decisions and finance is largely an adjunct to the underlying engine of economic activity emanating from preferences and technology.

The role of financial factors in mainstream macroeconomics, however, changed in the early 1980s. Developments in the economics of information led to theories of capital markets based on principles of neoclassical optimization in which the Modigliani-Miller theorem failed. The mainstream began to explore the theoretical and empirical importance of financial factors for investment and, as the recently published survey by Glenn Hubbard in the *Journal of Economic Literature* shows, this research has now become well established.

These developments raise some interesting questions: Does the new research represent just a

rediscovery of what Minsky knew all along? Are there new insights from the mainstream work that extend Minsky in useful ways? Are there aspects of Minsky's research that are not captured in the mainstream work? These questions can be examined from three different perspectives: the microeconomic foundations of the link between investment and finance (including empirical evidence), the importance of finance in business cycles, and the role of financial relationships in economic policy.

The mainstream microeconomic foundations of investment were largely informed by the Modigliani-Miller theorem, which is a set of necessary and sufficient conditions under which financial structure would not affect firms' investment decisions. It is like the Arrow-Debreu existence proof for general equilibrium in the sense that it outlines a set of conditions under which certain things will happen without implying that these conditions hold in the real world. The conditions certainly might fail. Empirical work based on this theoretical perspective, probably best illustrated by Dale Jorgensen, portrayed investment as driven by productivity and relative prices and independent of firms' financial structure.

Nothing could be further from Minsky's approach. He characterized his and Keynes's approach as an investment theory of output and a finance theory of investment. Access to finance is crucial to Minsky's theory of investment. Internal finance and cash flow are important as a means to fund investment without the need to tap external sources. If desired investment exceeds internal finance, firms borrow, but the ability to borrow depends on the firms' balance sheet. Balance sheet conditions reflect the financing of past investment and influence the ability of firms to undertake new investment projects. These financial conditions are independent of the productivity of the new investment projects. Clearly, in Minsky's view, investment is not determined in a Modigliani-Miller world; finance is central to investment.

Minsky was critical of what he saw as mainstream ignorance about the importance of finance for investment. In *Stabilizing an Unstable Economy,* he wrote, "In today's standard economic theory, an abstract non-financial economy is analyzed. Theorems about this abstract economy are assumed to be essentially valid for economies with complex financial and monetary institutions." Of course, Minsky thought these assumptions were fundamentally at odds with reality. However, even as he wrote these words, the mainstream itself, or at least part of it, was changing. The changes came from microeconomics.

George Akerlof's paper "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism" emphasizes that asymmetric information between buyers and sellers can fundamentally change the nature of market transactions. Beginning with the paper by Joseph Stiglitz and Andrew Weiss, "Credit Rationing in Markets with Imperfect Information," this idea began to be applied to credit markets. Imperfect information exists because firms (the buyers of credit) know more about their "quality," that is, the probability of repayment, than the lenders (the sellers of credit). Lenders realize their informational limitation and treat their customers with rational skepticism; they charge all loan applicants the same market interest rate, a rate that corresponds to the average quality. The result is that firms with "good" (positive expected net present value) projects must pay a premium above the market interest rate (which is the opportunity cost of internal funds in a setting with no intermediation costs) to obtain loans. Indeed, it is possible that firms with good projects may not be able to obtain credit and hence undertake the investment project—a result that is fundamentally inconsistent with the Modigliani-Miller theorem, which would say any positive net present value investment project would be undertaken. These theoretical developments, and many related ideas, led to empirical tests that strongly supported the idea that investment depends on finance.

How do these new ideas relate to Minsky's perspectives on investment in the financial system? Asymmetric information is a fundamental characteristic of decentralized economies. It is almost inherent in the notion of decentralization and is responsible for certain kinds of financing constraints on investment. The alternative view is that asymmetric information is not necessary for the same financing constraints to exist. A fair assessment of the debate between proponents of the two views is that the consideration of asymmetric information, kindled by developments in the mainstream, has pushed researchers in the intellectual tradition of Minsky to analyze more carefully why firm investment depends on financial markets.

While the theoretical debate remains unresolved, empirical work emanating primarily from the mainstream research lends strong support to Minsky's view about a link between investment and finance. This work suggests that cash flow does matter for investment in a number of different contexts for different kinds of firms and the connection is similar to Minsky's description. Also important, but somewhat less studied, is the effect of the link between debt leverage and liability structures on investment.

The mainstream research on what has come to be called capital market imperfections in the last couple of decades has moved orthodox economics closer to Minsky in terms of the microeconomic theory of investment. There are some complementarities in theory and strong support empirically, but things are somewhat different when we turn to macroeconomics. The primary reason that Minsky developed a link between investment and finance at the microeconomic level was to employ it as a piece of a macroeconomic model designed to explain cyclical fluctuations in advanced capitalist economies. It is less clear that this is the objective of mainstream research. Much of the work in the mainstream is motivated by microeconomic concerns alone, and no macroeconomic generalizations are even attempted.

A strand of research within the real business cycle approach has actually incorporated the capital market imperfections research. In these models, financial constraints affect the size of the capital stock, and output fluctuates when the capital stock changes for entirely supply-side reasons. This approach has little, if any, intellectual common ground with Minsky or Keynes and is not very interesting.

There may be a closer link between Minsky's perspective and recent research investigating the "credit channel" as a monetary transmission mechanism. The credit channel literature is trying to understand the large empirical effects of monetary policy on the real economy, especially since many researchers believe that the interest elasticities of consumption and investment are quite small. An example of this is the recent paper by Ben Bernanke and Mark Gertler, "Inside the Black Box: The Credit Channel of Monetary Policy Transmission." They argue that the balance sheet conditions of the kind that Minsky might have emphasized have a role to play in aggregate fluctuations. Monetary policy affects balance sheet conditions, which in turn affect access to credit and thereby investment.

This type of research may move the mainstream conception of aggregate fluctuations in the direction of Minsky, but fundamental differences remain. First, in the mainstream credit channel perspective, financial factors work through what Bernanke and Gertler call the "financial accelerator." As such, financial factors are a propagation mechanism for "shocks." Financial factors help explain why fluctuations are substantial, but do not explain the source of the fluctuations. In Minsky, the finance-investment link not only propagates instability, it is the very source of instability. Financial cycles are inherent to the modern system and do not depend on exogenous shocks.

Second, the Kalecki-Levy link between aggregate investment and aggregate profits present in Minsky's framework is not to be found in the mainstream. This link implies that higher investment leads to higher profits, which increase cash flow necessary to raise future investment more. This occurs because higher cash flows provide sources of internal funds, raise margins of safety, and increase access to debt. The expansion has its limits, however, as the economy approaches capacity constraints that limit the extent to which new investment can generate the profits necessary to validate the debt incurred to finance past investment. The result is an endogenously generated downturn. There is really no similar mechanism in the mainstream with respect to aggregate fluctuations.

Third, Minsky rejected the neoclassical synthesis view that deflation (or disinflation) pushes the economy to full employment equilibrium. His rejection was, not surprisingly, based on financial relationships: because historical liability structures are denominated in nominal terms, deflation raises the incidence of bankruptcy and insolvency and lowers investment sufficiently to overcome any stimulus to demand that arises from increasing consumer wealth via the "real balance effect." If this criticism is right, then no good foundation will remain for cherished mainstream conclusions such as the long-run neutrality of money or the dominance of supply-side factors (and the exclusion of Keynesian demand-side considerations) in the theory of economic growth. In spite of the relative openness of more recent mainstream

thinking to the idea that financial structure plays an important role for investment, little, if any, headway has been made to obtain recognition for what Minsky (and Keynes before him) had known for decades: The linkage between aggregate expenditure and financing implies that deflation may very well not be stabilizing.

Minsky laid great emphasis on macroeconomic policy, especially on the link between macroeconomic policy and financial instability. Mainstream models such as the credit channel model use capital market imperfections to explain why money matters. In the credit channel model, expansionary monetary policy has two effects. It makes bank loans more available to firms and households that must rely on banks for credit. It lowers interest rates, and the resulting rise in asset prices creates stronger balance sheets for firms, which improve their access to external finance.

This view is potentially useful, but it has a much narrower scope than Minsky's "big bank" ideas. In Minsky's view, monetary policy intervention, including lender-of-last-resort activities, is a fundamental part of the necessary structure to contain financial instability. He believed that without this intervention we would have had much more severe financial crises than we have observed in the postwar period. Additionally, there is a contrast with the moral hazard perspective. The mainstream cites moral hazard as the reason lender-of-last-resort intervention is not desirable. Minsky takes a much more sophisticated and dynamic perspective on this issue. He does not deny that this type of intervention can lead to increased financial fragility by validating risky financial practices, but he argues that not intervening also has great risks, in particular, of debt deflation and depression.

As far as fiscal policy is concerned, there is nothing in the new mainstream research that is similar to Minsky's idea of "big government." Minsky argued that government deficits in contractions sustain aggregate profits, which helps avoid triggering a chain of bankruptcies that can change a downturn into a depression. Mainstream "New Keynesian" research, having accepted the view that expansion of government spending will crowd out capital formation in the long term, largely ignores fiscal policy for purposes of economic stabilization.

To conclude, there are some useful theoretical links between Minsky and recent mainstream work on microeconomic foundations of finance and investment, but there are many interesting aspects of Minsky's work, even at the micro level, that are not adequately captured in mainstream models. Empirical work motivated by mainstream theory is strongly supportive of the kind of microeconomic finance-investment links that were emphasized by Minsky. However, much less work is being done in the mainstream that reflects Minsky's insights with respect to macroeconomics. This is true both about the source and nature of business cycles and about macroeconomic policy.

PERRY MEHRLING

Instability and the Distribution of Corporate Debt

Hyman Minsky saw capitalism as essentially a financial system and argued that the behavioral attributes peculiar to a capitalist economy stem from the impact of finance on the economy. This perspective implies that every economic agent behaves like a bank in the sense that each agent attempts to balance cash inflow and cash outflow over periods of time. Persistent failure to do so leads to bankruptcy. Minsky called this the reserve or cash constraint.

In the case of firms, the problem is to ensure that their cash inflow is greater than or equal to their cash commitments over a particular period. From this point of view, the "promise" of capital, that is, fixed capital investment, is profit. Firms expect their cash inflow to be greater than their cash outflow on the average, but because they operate in an uncertain environment, at times cash inflow can be less. Given the long-lived and relatively illiquid character of fixed capital assets, they cannot be used to tide firms over such occasions. Investment in such assets could not take place if the firms did not have some way of refinancing when their cash inflow fell short. The mechanisms of refinance are therefore the key to understanding the determinants of investment.

Investment in Minsky's conception is thus not just a function of the interest rates, but is a function of refinance expectations, the expectations that firms have about their ability to get short-term finance when they need it. These expectations are based not just on psychology, but on looking around and seeing how financing works. One way

is to borrow from some other firm in a similar but opposite position; if one firm is in deficit and another firm is in surplus, the former may be able to borrow from the latter. More generally, such short-term financing takes place ultimately through the lender of last resort, which is not a deficit or a surplus agent, but, in fact, is injecting new liquidity into the system.

In Minsky's analysis of investment, investors in the economy can range from hedge to speculative to Ponzi investors, depending on the balance between their cash commitments and their cash inflow. The investment situation at a given moment can be described by a frequency distribution showing the balance between cash commitments and cash inflow among firms. The skewness of that distribution will indicate the overall balance in the economy between cash commitments and cash inflow. Changes in the financial structure, for example, the movement from robust to fragile finance, can be described in terms of changes in the distribution.

The empirical counterpart to such a distribution was calculated using different measures of corporate liquidity for every year from 1954 to 1991 for the nonfinancial corporations in the Compustat database. An interesting feature of the empirical distributions is that they are remarkably stable, that is, the shares of different types of firms stay roughly the same for the entire period. The distribution is also skewed to the right and mean-reverting, suggesting that the following mechanism (expected in theory) is at work in the data: The cost of servicing large debt burdens discourages firms from borrowing large amounts, while the opportunity cost of holding balances discourages firms from accumulating large balances.

The examination of corporate liquidity over time revealed that the level of liquidity maintained by a typical firm has declined and both the variance and the positive skewness of liquidity levels have increased. To gain further insights into the processes leading to these trends, corporate liquidity was decomposed into internal liquidity and external liquidity. Internal liquidity is a measure of the extent to which the financing needs of corporations are met within the corporate sector, that is, by short-term borrowing from other corporations. External liquidity is a measure of the extent to which the financing needs of corporations are met outside the corporate sector, that is, by net short-term borrowing from the rest of the economy. The data indicate that from early 1970s the corporate sector increasingly became a net borrower in the short-term financial markets. Internal liquidity declined somewhat from 1954 to the early 1970s, but then stabilized and rose throughout the 1970s. The increases became more pronounced in the 1980s.

Minsky characterized contemporary American capitalism as money manager capitalism. The beginning of this phase was probably associated in his mind with the Reagan-Volcker episode. The strong rise in internal liquidity and the increase in volatility in corporate liquidity as a whole in the early 1980s can probably be considered as empirical indicators of the new, money-manager phase of capitalism. More research is definitely needed in order to understand the dynamics of this new phase. Such research can profit from Minsky's work and, to some extent, from certain ideas in modern finance theory.

SESSION 4

Irrational Exuberance

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The Federal Reserve Goes Global

In July of 1997 Alan Greenspan adorned the cover of *Business Week* as the premier architect and champion of a brave new world. At that time we were told that savvy corporate managers, exploiting new information technologies and investing in untapped emerging economies, were going to deliver a super inflation-free, earnings-rich economic boom that would eliminate business cycle concerns. One year later, the world had changed. Emerging economies had collapsed and asset markets in the United States were under a great deal of pressure. The Fed ignored domestic economic strength, took its cue from plunging asset markets, and eased monetary policy.

Today Asia looks a bit better, Latin America seems to have hit bottom, and in the United States interest rates are easing amid brisk economic growth. The U.S. equity market continues to confound traditional valuation measures as it climbs ever higher. To some these developments mean that we have resurrected the brave new world framework, but a different framework explains the last several years. It is based on the Minsky model, put in a global context.

The boom-bust cycle is alive and well. The Goldilocks condition in America from 1992 to 1997—not too hot, not too cold, just right—as it turned out, was a sideshow. The emerging world, financed by the developed world, had a spectacular boom that drove commodity prices sharply higher, remained a full-fledged boom for six or seven years, then ended in a bloodcurdling bust. The Fed became the de facto global lender of last resort when it chose to ease interest rates aggressively last fall amid strong domestic economic growth. The Fed had no choice; collapsing emerging economy conditions, for a moment in time, put U.S. financial markets under extreme pressure.

The risk now for the Fed is at home and involves U.S. asset prices. Greenspan and others at the Fed see as their responsibility goods and services price stability; asset prices, they contend, are not to be directly responded to. But if one carefully reviews what happened in the United States and in Japan in the early 1990s, one discovers that in rare circumstances, asset prices, if they get to extreme heights, make monetary policy impotent. The Fed was correct in taking a global vantage point last year, but now it must think long and hard about what constitutes too much of a good thing for U.S. asset markets.

It is important to understand the relationship between the Goldilocks backdrop and the boom for domestic and world economic activity. The collapse of communism radically changed attitudes both here and abroad, and the result was a quantum leap in capital flows into the emerging world. With the fall of communism, many believed that political risks had greatly decreased and that country risk analysts, who examine political events and assess investment risk, were no longer needed. With country and currency risks no longer considered, investment decisions were based solely on rates of return. And it was almost always decided to fund projects. As a result, in 1989 something on the order of $25 billion in private capital flows went from the developed to the developing world. In 1997 it was $300 billion.

Projects were approved that resulted in empty office buildings and golf courses a thousand miles from nowhere. As they began to fail, investors began to retreat. As disappointments multiplied, capital flight began in earnest. The resulting surge in interest rates in developing economies ensured

recession. The list of projects that failed got much longer and the result was a Minsky world in which most everybody was a walking bankrupt.

By mid 1998 Asia was in deep recession, Russia had collapsed, Brazil was on the brink, and equity markets in the developed economies were falling. U.S. money center banks lost 50 percent of their market capitalization over a three-week period in 1998. The developing world was in recession and the United States financed a fair amount of it. Our banks were under duress as a consequence. The Fed recognized this and eased monetary policy. The Minsky model worked with the Fed as global lender of last resort.

But the success of Fed policy led some to believe that the risk of exuberance is a thing of the past. On the face of it, life couldn't be better in the United States. Economic growth is running over 4 percent, the jobless rate is at 4.2 percent, and the rate of inflation as measured by the consumer price index is less than 2 percent. With the collapse of developing economies, about $300 billion of capital that had flowed into the developing world returned home to fuel the domestic boom. Millions of underemployed or unemployed Asians are also playing an important role. Imports have soared as their prices have dropped. Now, where does that leave the Fed? It leaves it on hold, given its current construct. Preemptive tightening is gone, and the Fed tightens if and when it sees core inflation rising for several months running. This is a risky policy, especially in light of U.S. asset prices.

If we are in an environment over the next 12 months in which the CPI is dormant, the Fed's hands are tied, and asset prices are climbing, we have a real problem. Right now it is only in the Internet world that asset prices are excessive. We do not want the rest of the market to follow that pattern, because then the Fed is impotent.

FRANK A. J. VENEROSO

Irrational Exuberance: A Minsky Model of Financial Instability with an Equity Market and Adaptive Expectations Behavior

The current situation in the United States is alarming in terms of financial instability. The equity market is more overvalued than it has been at any prior valuation peak. Capital stock is growing above trend by a substantial margin. Consumption is greater than income, resulting in rapidly growing private debt. The banking crises that characterized depressions of the past are situations we have learned to handle through deposit insurance, lender of last resort operations, and so forth. What we are seeing today is a different kind of problem—the sort of financial fragility addressed by Hyman Minsky.

Minsky said that financial fragility creates an analogue for Fisher's debt deflation process. Minsky used a simple national accounts identity, which was basically that investment is equal to the sum of sectoral saving. So investment is equal to profits plus household saving plus government saving plus foreign saving. If we assume that household, government, and foreign savings do not change much over the cycle, then investment is depressed and profits will fall. Once profits are depressed, there is a decrease in cash flows to validate the debts that were accumulated over the cycle. When faced with an inability to meet the payments on the inherited debts from the past, firms liquidate assets and cut wages and capital spending. That causes them to reduce investment, which causes profits to fall. Debts become more difficult to pay, which causes firms to cut investment more, and the result is a recursive debt deflation process, but without a price deflation.

Of two models used to explain investor behavior—liquidity preference and adaptive expectations—adaptive expectations better fits the real world and better explains the form of financial instability seen today, especially if one introduces an equity market into Minsky's model.

In an economic expansion there is a tendency for equity prices to rise above trend. In a long period in which equity prices have appreciated above trend, an equity bubble can be generated by the adaptive expectations of the households that buy equities. One can see the same kind of adaptive expectations or extrapolative expectations behavior regarding equities by firms. Given an equity bubble, firms will not view equities as a cheaper form of finance than debt. Instead, they will perceive the higher return to equities, relative to debt, as an appreciation of equity claims. They will, therefore, not issue equity. With this kind of speculative behavior, driven by adaptive expectations, the equity market does not provide the finance that precludes financial fragility.

In the United States there is an unprecedented equity bubble. Valuations are 50 to 75 percent

higher than any prior peak. Yet firms are buying equity to the tune of 2 percent of GDP and are doing so by issuing debt. What exists is a full-blown Minsky model, driven by adaptive expectations, with all the market components of finance that generate extreme financial instability. When this whole process comes to some kind of a limit or encounters a shock that finally depresses investment and spending, the system will go into a recursive debt deflation dynamic that bursts the whole bubble.

ROBERT W. PARENTEAU

Irrational Exuberance: A Minsky Model of Financial Instability with an Equity Market and Adaptive Expectations Behavior

The questions to ask are why does investment activity continue even as data on the return on capital look bad, why do firms continue to invest when interest rates go higher, and why do creditors continue to fund them? The rational expectations model that developed about 30 years ago should have been particularly applicable to financial markets, which are some of the most liquid markets in the world. But the model is not applicable because there is fundamental uncertainty when it comes to returns on capital. There are certain crucial decisions, including investment, that have to do with things about which we cannot form rational expectations. Thus, the rational expectations model is inappropriate from the start.

Literature in the field of behavioral finance argues that agents in the market are fully rational, maximizing beings. Other factors, however, play a role in the decisions of agents. Among these other factors are anchoring, overconfidence, and herding. Anchoring refers to the tendency for people to use their present situation as the basis for decisions. Overconfidence is the tendency for people to think they know more about the market than they actually do. Herding is the tendency for agents to follow their competitors. All of these factors limit the usefulness of the rational expectations model and make the adaptive expectations model more valuable.

Surveys of investors indicate just how far off their expectations can be. In one survey, mutual fund investors were asked what they believe will be the total annual return on stocks over the next 10 years. Their average answer was 34 percent. On the basis of historical data on stock returns, the probability of real annual returns of 25 percent or greater over the next 10-year period is less than 1 percent.

Analysts' earnings expectations, which should be fundamental to any equity market valuation, tend to be behind the curve when earnings are strong. When earnings are weak, analysts tend to overestimate the actual level of earnings. There is roughly a year and a half lag between the time analysts' earnings expectations peak and actual earnings peak. From 1994 on, operating earnings growth was strong for a long time and analysts underestimated what earnings would be, creating a setup for a structural break in earnings growth. In 1985 five-year forward earnings growth expectations averaged between 11 and 12 percent. In 1996 they went up to 13 percent, and now they are at 15.5 percent.

In 1998, earnings of the companies in the Standard and Poor's index were down 5 percent and NIPA profits were down. Yet there is an extrapolation on long-term earnings growth at a double-digit pace, two or three times nominal GDP rates. And this is forgetting for the moment that we are looking at operating earnings and that company statements may not reflect true earnings. Companies have write-offs that can be equal to 15 percent of earnings at times. The SEC is scrutinizing income statements, asking companies to restate their earnings because they do not look right.

Companies are now issuing debt to repurchase shares. That means a debt load is being built up. In the last year and a half we have had one of the largest corporate issuances that we have ever seen. Because we have given managers stock options, we have created a new moral hazard in that management is buying back stock and using debt to leverage its returns. That is a very dangerous and curious twist in postwar financial history.

SESSION 5

International Institutional Restructuring

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International Finance and Problems of Capital Account Governance

Hyman Minsky's work has become more relevant today as the issues that he was writing about are coming to the fore with the globalization of financial markets. Issues of international financial architecture are important for working Americans because international financial markets affect wages and jobs. Since March of last year the American economy has lost 381,000 manufacturing jobs and further losses are in the cards. That decline represents over 50 percent of the manufacturing jobs that were created between 1993 and 1998. These job losses are a result of the continuing fallout from the East Asian financial crisis, indicating that in the face of a financial crisis, job losses can be rapid. Exports are down and imports are up for a combination of reasons: devalued currencies in the crisis countries and the urgent search for foreign exchange earnings by companies in those countries, which now have a debt deflation associated with the increased burden of foreign currency–denominated debts. In the present economic environment countries are integrated through increased international trade, and instability in financial markets becomes ever more important for the real economy.

Since the crisis began 18 months ago in East Asia, the debate has rightly focused on international financial capital mobility and capital account governance. Problems in these areas exist independently of the particular exchange rate arrangements and represent a deeper set of issues than exchange rate flexibility. The debate is about the merits of capital mobility and the further liberalization of capital flows. The case for further liberalization rests on two arguments. First, liberalization improves the efficiency of global allocation of scarce capital; lenders can benefit from higher rates of return, and borrowers can benefit by access to more capital at slightly lower costs. Second, to the extent that world capital markets are liberalized, investor portfolios can become more diverse, reducing risk from random variations in income and making everyone better off. The same process may raise the underlying rate of growth in the world economy to the extent that more risky projects with higher rates of return and faster growth rates are undertaken.

On the opposing side, there are three arguments against capital mobility. The first is Keynes's argument, which he made in the 1940s, that capital mobility can lead to misaligned interest rates that are inconsistent with full employment. Underlying the Keynesian argument is the notion that capital moves across countries in search of higher returns. This arbitrage process tends to pull rates up in countries in which they are low and pull rates down where they are high. Countries that need low interest rates to attain full employment may thus be locked into a condition of persistent unemployment.

The second argument is the Minskian argument that capital mobility can create financial instability. A combination of speculation and herd behavior can lead to asset market bubbles and accompanying booms in some countries. In developed countries such speculative booms are characterized by asset bubbles and capital inflows that can lead to exchange rate appreciation and job losses in export industries; the United States in the 1980s is an example. The negative effects are greater when the degree of global integration is greater. The same process can unfold in developing countries. However, they face an additional problem in that often their borrowing is denominated in foreign currency. When the bubble

bursts, a depreciation of the exchange rate occurs, thus increasing the burden of foreign debt. The crises in East Asia, Russia, and Brazil over the last 18 months reflect this phenomenon.

The third argument against capital mobility is that it can lead to a loss of policy autonomy. The details of this loss depend on the exchange rate regime in place, but the basic point is that capital mobility increases the power of financial capital. In doing so, capital mobility gives financial capital the ability to veto economic policy it does not like. To the extent that financial capital tends to have a preference for price stability or even mild deflation (because that enhances the value of financial assets), its influence can lead to a more deflationary policy regime. This has been especially true in Western Europe for the last dozen years, where countries have been afraid of imported inflation and exchange rate depreciation and therefore have tried to woo the good opinion of capital markets by keeping real interest rates at a slightly higher level. Of course, with every country pursuing such a policy, the average real interest rate for Western Europe has risen. The Mitterand experiment in the early 1980s was in some ways a mild Keynesian reflation that was clearly vetoed by international capital markets, forcing a change in that policy. And, consistent with the Keynesian argument, the high rates of unemployment in France date back to that policy shift.

In the ongoing debate on capital mobility, the Washington consensus has clearly emphasized allocative efficiency and portfolio diversification and has not addressed the arguments against unhindered capital mobility. In regard to the crises in Mexico, East Asia, Russia, and Brazil, the Washington consensus maintains the problems arose because of insufficient transparency, surveillance, and openness. Insufficient information led to bad investment decisions. Lack of openness led to an insufficient amount of market discipline, which therefore encouraged investors to make bad decisions and believe that they would not have to face the consequences. Underlying this diagnosis is the sort of rational investor model that Minsky opposed.

There is absolutely no evidence that lack of information has been the cause of the problems. In fact, a common finding has been that many banks apparently did not even use information that was available when making lending decisions. Ongoing loans to countries were made on the basis of prior relationships and a fear of losing existing business. Recent experience, such as the savings and loan crisis in the United States during the 1980s and the banking crisis in Scandinavian countries (the worst banking crisis in Europe) in the early 1990s, also suggest that the reasons for the crises lie elsewhere. After all, these are countries that have some of the best regulated and most transparent financial systems. Their experience shows that financial instability problems are endemic to all systems, no matter how well regulated or how transparent they are.

While no one would oppose an increase in transparency and surveillance, it has to be recognized that such measures are simply not enough. An agenda for reforming the existing system of capital account governance has to be far more comprehensive. The behavior of actors in the international financial system—lenders, borrowers, and central banks—has to change and the manner in which the system is coordinated also has to change. Several measures have been proposed to accomplish these goals.

As to changing lender behavior, one proposal is a Tobin tax. The Tobin tax is often criticized because of the need for coordinated action, the argument being that in the absence of such action, trading will just move to locations where there is no Tobin tax. However, the same argument applies to all international regulation and cannot be applied selectively against the Tobin tax. Furthermore, even if the Tobin tax cannot reduce speculation significantly, it still has a public finance rationale. The government should tax the "bad" to create a win-win situation: If regulators succeed in reducing speculation through the tax, they prevent the "bad"; if they fail to reduce speculation, they still raise revenue from the "bad." This revenue can be used to reflate the global economy, particularly in helping developing countries.

A second proposal is the "Chilean speed bump," the idea that foreign investment has to be accompanied by a commitment on the part of the investors to keep the funds in the recipient country for a certain period of time. The fact that investors know that they will be stuck in a country will give them an incentive to evaluate the country on the basis of fundamentals and give proper regard to risk and return. Also, governments that want to attract foreign capital will have an incentive to put in place stable policy regimes that investors understand.

The Washington consensus has emphasized information failures and economic cronyism as causes of poor lender behavior. The recommended solution to overcome information failures is increased transparency and surveillance and to overcome cronyism is increased openness and the

resulting market discipline. Cronyism is politically sponsored behavior rather than economic behavior per se and, therefore, economic reforms do not get to the root of the problem. Political reform that allows the development of countervailing political forces that can block such behavior will be more effective. The basis of such reform should be human rights reform and labor rights reform that implement the five core International Labor Organization standards. As Minsky pointed out, the financial system does not operate in a vacuum and the whole system of governance has to be considered in formulating reform proposals.

Labor standards can also redress income inequalities and contribute to tilting the global economy toward growth led by the expansion of domestic markets. Part of the global financial problem is an outcome of the reliance on export-led growth. Since one country's trade surplus is another country's trade deficit, it has to be recognized that this strategy cannot be globally sustained without serious costs.

As to reforming central bank practices, there should be a move away from the current system of liability-based reserve requirements to a system of asset-based reserve requirements. This should apply to banks and to other financial institutions that engage in the businesses that banks do. Asset-based reserve requirements can help restore monetary policy autonomy since it allows the central bank to affect the cost of credit in different sectors and to do so without raising the general level of interest rates.

For example, in a situation in which a property sector boom is destabilizing, such as occurred in Thailand, the policy objective would be to "cool" the property sector without slowing the whole economy. In a system with asset-based requirements, the central bank can raise the reserve requirements on loans to property sector companies, which would raise the cost of credit in that sector yet leave the general level of interest rates, and therefore the exchange rate, unchanged. In the case of international capital flows, the reserve requirements can be targeted to short-term international lending that is believed to be destabilizing. Banks can be discouraged from making such loans by requiring them to hold a higher reserve requirement on them.

Asset-based reserve requirements are superior to the risk-based equity requirements negotiated under the Basle Accords of 1988 to grapple with the problem of moral hazard by forcing banks to internalize risks fully. The same objective can be attained with asset-based reserve requirements by identifying the riskier types of assets and placing a higher reserve requirement on them. Furthermore, asset-based reserve requirements do not have the destabilizing tendency that risk-based equity requirements have during recessions, when loan defaults and equity write-offs are common. In a recessionary phase banks have to raise new capital and risk-based equity requirements make it harder for them to do so, thereby worsening asset price deflation and credit contraction. In contrast, asset-based reserve requirements can serve as a counter-cyclical mechanism. When loans default, the attached reserve requirements are released, thereby mitigating any liquidity pressure faced by the banking system.

The other aspect of central bank behavior that needs to be changed is the conduct of exchange rate intervention. Under the current system, when a currency comes under attack, the central bank can no longer effectively intervene in the foreign exchange market; the central bank of a country with weak currency will be beaten by the speculators who have resources to out-leverage it. The only way to avoid this is if the central bank of a country with strong currency intervenes to defend itself against appreciation. The "power of the printing press" can be mobilized and speculators will face inevitable bankruptcy if they try to bet against the strong-currency central bank.

These proposals to reform the international financial system have been subjected to two main criticisms. The first is that they need international agreement. However, since coordination is essential to all types of international financial reform measures, including the transparency and surveillance reforms advocated by the Washington consensus, international agreement is not a problem peculiar to the policy measures proposed here.

The second criticism is that the proposals will not work because markets will innovate and evade them. Over time markets will evade the regulations, but this does not invalidate the reforms; it merely demonstrates that regulation is an ongoing process that needs to be continually updated. Sometimes regulators are lucky enough to get ahead of the market rivals, as illustrated by the successful financial regulations of the New Deal. Sometimes regulators merely manage to keep up. However, there is no rationale for capitulating and surrendering public interest to the dictates of the market.

ANDREW CORNFORD

Regulation and Supervision in the New Financial Architecture

The principal force driving recent global initiatives to strengthen regulation and supervision has been the international financial crises of the 1990s, above all that in Asia. The initiatives are also related to the agenda for global financial liberalization. Although this agenda may now be given less emphasis as questions are being raised about the appropriateness of more liberalization in the light of recent experience, there are various arguments linking liberalization to strengthened regulation and supervision. For example, it is argued that once international financial stability has been restored with the help of strengthened regulation and supervision, then the task of liberalizing a country's capital accounts can proceed.

There have been many financial crises throughout the world since the 1980s. However, there is an important distinction between the financial crises in industrial countries and those in developing countries. The crises in industrial countries were confined to the domestic banking sector or, in the case of those also involving external payments and exchange rates, took place in countries that posed no threats to international banks or financial markets. In contrast, the recent crises in the developing world have typically occurred in countries characterized by substantial net indebtedness in the balance of their external assets and liabilities. In most of the Asian countries affected by recent financial instability, weaknesses in the banking sector, such as inadequate credit evaluation, speculative lending, and failure to control currency risks, contributed to the outbreak of the crises and to their amplitude. The question of to what extent regulatory reform can help prevent or at least contain future crises still remains. Such reforms would have to involve the economies in which the crises happen and the economies that serve as the sources of the cross-border capital flows that are an integral part of the crises.

Banking regulation and supervision measures can be split into two categories. The first category is legislative acts, other statutory rules and instruments, and pronouncements and standards issued by accounting bodies or bankers' associations. The second category is licensing and supervision in the narrow sense and also sanctioned procedures and crisis management, such as deposit insurance, enforcement of competition and antitrust rules, bank insolvency proceedings, and lender-of-last-resort facilities.

The objectives of bank regulations generally include ensuring some level of competitiveness in the sector, providing smaller (especially retail) clients with protection, and ensuring systemic stability. These objectives are related in various ways. The recent growth of huge, sometimes global financial conglomerates, typically involving securities business, insurance, and commercial banking, poses serious threats to cross-border and cross-sectoral financial stability should such firms run into difficulties. In practice, it is not always easy to draw a line between measures to ensure the stability of financial firms (prudential measures in the strict sense of the term) and measures to ensure systemic stability, owing to the relations of some banks to other financial firms and to the real economy and owing to the danger of runs by depositors in banks where the difficulties start and in other banks.

Licensing policies often involve criteria designed primarily to ensure adequate levels of competency and integrity among those who own and control a bank. However, licensing often also serves less limited objectives, such as avoiding over-banking, limiting financial conglomeration, and, in the case of foreign entities, restricting foreign ownership of the banking sector or ensuring that the parent institution is adequately supervised in its home country. The objectives of licensing usually have proximate relations to banking stability, but cannot and have not prevented banking crises.

Prudential regulation consists of preventive regulation, designed to curb banks' risk taking and thus reduce the likelihood of liquidity and solvency problems, and protective regulation, designed to provide support for banks should problems arise nonetheless. Regulation concerned with adequate management and internal controls has preventive objectives, but the measures used often also have a protective character. For example, the explicit objective of prudential capital requirements is clearly protective, but capital requirements for credit and market risks also clearly contribute to risk management of assets and liabilities and to appropriate pricing of the different products and services a bank offers. These objectives can also be appropriately classified as preventive.

Prudential guidelines or rules may cover exposure to foreign exchange risks, risks due to large

exposure to single counterparties or groups of related counterparties, adequate liquidity, loan loss provisions, consolidated financial reporting, country exposures, and banks' internal controls and information systems. Banking regulation and supervision are also focusing increasingly on banks' remuneration systems. The concern here is primarily banks trading in investment activities and remuneration that rewards high profits without taking proper account of the risks incurred to achieve them.

The carrying out of prudential supervision typically depends on banks' submission of financial returns to regulators, external auditing, various kinds of formal and informal contacts between banks and regulators, and regular on-site supervision. There is now a trend in the regulatory regimes in most industrial countries and in several others toward greater public disclosure. This trend is intended to strengthen the market discipline that can be exercised on banks by their creditors and investors.

Implementation of improved banking regulation, particularly in the form of strengthened prudential supervision in the areas outlined above, can contribute to financial stability by lowering levels of financial risk, tightening banks' internal controls, improving banks' management of their assets and liabilities, and reducing banks' involvement in speculation. But how great would be the contribution of the increased financial stability to avoiding future financial crises? The continuing occurrence of financial instability and crises in the industrial countries suggests that regulatory and supervisory reform is unlikely to provide fail-safe protection. If this is the case even in countries with developed financial regulation and supervision, it is all the more likely to be so in developing and transition economies.

The limits to the effectiveness of regulation and supervision stem from the fact that financial regulation is constantly struggling, not always successfully, to keep up with financial innovation There is a continuing danger that innovation in the form of new practices and transactions, not yet adequately covered by the regulatory framework, may prove a source of financial instability. Another form of innovation has resulted in reduced transparency in recent years; the balance sheets and other returns of many financial firms have an increasingly chameleon-like quality, which reduces their value to regulators. The tensions between financial innovation and effective regulation in modern financial markets are unlikely to disappear. One can imagine a tightening of regulations sufficiently drastic to come close to eliminating the dangers due to innovation, but the tightening would be too stifling to be politically acceptable in any country valuing dynamism in its financial sector.

Perhaps the most fundamental limitation in the ability of regulation and supervision to prevent crises is the susceptibility of most banks' assets to changes in their quality resulting from changes in economic conditions. As long as cycles of financial boom and bust are features of the economic system, as Minsky's work on financial instability suggests, there will be unforeseeable deteriorations in the status of many bank assets. It takes time for risks to build up and become widely evident. Indeed, the quality of loans can actually be enhanced for a while by the financing boom of which they are a part. But, eventually, the effects of excess capacity generated by the boom and of the overextended position of financial firms are likely to combine with other factors, such as rising interest rates, to transform the boom into a movement in the opposite direction.

In recent boom and bust cycles in developing and transition economies, where banking crises are combined with currency crises and where both cross-border and domestic financing contribute to the boom, the process seems to be fueled by forces similar to those characterizing purely domestic credit cycles. The crises are also characterized by herd behavior of lenders and investors, driven partly by the conditions their lending and investment helped to create, but also by peculiarities of competition within the financial sector. These peculiarities include poor credit evaluation, often exacerbated in the case of cross-border financing by lesser familiarity with the borrowers and their economies, and pressures on loan officers from target returns on capital.

An important distinctive feature of boom and bust cycles with a cross-border dimension is their impact on the exchange rate. Capital generally flows in, in the first place, in response to exchange-rate-adjusted returns and on assumptions about the stability of the exchange rate. Outflows, in most cases, occur in response to exchange rate movements in contradiction to these assumptions, often with devastating effects on net indebtedness and the incomes of many domestic economic actors.

There is a dynamic interaction between broader types of financial instability and financial risks that regulation and supervision have to contend with. Traditionally, concentration risks are handled

through limits on the size of exposure to particular borrowers. For this purpose, "borrower" is typically defined to include a group of counterparties linked by common ownership, common directors, cross guarantees, or forms of short-term commercial interdependency. However, a boom and bust cycle brings into focus another type of risk, often referred to as the "risk of latent concentration," as it leads to deterioration in the economic positions of counterparties apparently unconnected in normal times. Indeed, a common feature of boom and bust cycles appears to be the exacerbation of risks of latent concentration as lenders move into an area or sector en masse. Risks of latent concentration seem particularly important in international financing and help explain the difficulties of managing the risks associated with the phenomenon described as contagion.

To some extent, risks of latent concentration could be handled through banks' general loan loss reserves and through higher prudential capital requirements for credit risks. Nonetheless, to a significant extent, this type of risk has to be counted among those due to external or macroeconomic changes, which cannot be completely handled by the tools of bank regulation and supervision.

Some may argue that if strengthened financial regulation and supervision are accompanied by correct macroeconomic policies, the credit risks due to boom and bust cycles can be significantly reduced. What is more, conditions will then be in place for a return to the pursuit of the agenda of global financial liberalization. However, as Minsky's work suggests, one has to be skeptical about the notion of "correct" macroeconomic policy and its capacity to do away with macroeconomic instability.

Several interesting proposals have been put forward to improve the regulation and supervision of financial institutions with a view to preventing financial instability and crises with a cross-border dimension in the countries that are the major sources of international lending and investment. One is George Soros's proposal for a radical extension of credit insurance through an international credit insurance corporation. It is hoped that the much higher proportion of international lending covered by such insurance than is now covered would act as a disincentive to uninsured lending and excessive credit expansion.

The proposal has the great advantage of building on existing modalities, those of the export credit agencies of OECD countries, which might be given the responsibility of implementing the new scheme on the ground. However, it would involve conferring on a single body the responsibilities for setting the risk criteria and creditworthiness indicators. It is doubtful that any possible candidate, such as the International Monetary Fund or the credit rating agencies, has a good enough track record to be given such responsibilities. This difficulty and the closely related issue of such concentration of power in an international agency are insuperable obstacles to the adoption of the proposal.

Other proposals include higher capital requirements for international interbank lending and lending to hedge funds, tighter controls on banks' country exposure, and higher general loan loss provisions to such exposures. These are useful ideas, capable of contributing to a better functioning international financial system, but it is unlikely that they will banish financial instability and crises.

Good financial information is like oxygen for banking supervision, since without it, effective supervision is impossible. The public disclosure of financial information, or transparency, is also necessary for the exercise of market discipline by lenders and investors. Nevertheless, arrangements for public disclosure have deficiencies. Some light is cast on these limitations by two surveys of regimes of financial reporting regulation and supervision from 1992 through 1994. Most of the countries covered by the surveys have relatively advanced financial sectors. Perhaps the most important point to emerge from these surveys is that while arrangements for the provision of financial information are clearly being strengthened in the countries covered, the arrangements still frequently fall well short of levels now considered to be best practice, and even today's best practice levels are unlikely to provide anything approaching fail-safe protection against financial instability and crises. Moreover, unsurprisingly, countries disagree as to what best practice is and these differences are often reflected in differences in policy.

It is also pertinent to note that the quality of arrangements of financial reporting reflects not only the regulatory regimes but also the standards, especially those relating to accounting, and the norms of industry practice. Such standards and norms are generally not quickly or easily acquired. They are developed as a result of the efforts of participants in financial markets and of regulators and supervisors to solve management and control problems that are generated by the development of financial markets. The standards and norms tend to reflect the stage

reached in the process of financial market development and the speed at which that development is occurring, important determinants of the opportunity to find successful solutions.

Recent proposals for the establishment of a world financial authority are based on two arguments. First, since financial enterprises are becoming increasingly interrelated and cross-border, their regulation and supervision should also be carried out on a unified and global basis. Second, a more globally uniform regulation can be expected to exercise better control over the instability of capital movements and currencies than the present patchwork of regimes.

Regarding the first argument, there is indeed considerable scope for strengthening national regulatory regimes and eliminating their several, often glaring lacunae. There is also definitely scope for improving cooperation between national supervisors. However, it is doubtful that establishing a world financial authority would be better for this purpose than improving the functioning of the institutions and modalities already in existence.

The second argument does not address the central questions of how the power vested in the new institution would be exercised and by whom. It is perhaps not realistic to think that a global institution with genuine clout could be established on the basis of a distribution of power markedly different from that of existing global financial institutions. If this is true, there is no reason to assume that a world financial authority will be more successful than the International Monetary Fund in achieving stability in financial markets.

Lawrence R. Uhlick

Banking and Regulatory Supervision in Terms of the Global Financial Crisis

It does not seem likely that a world banking authority would have been able to prevent the problems that occurred in Asia. Much of the discussion about a world banking authority does not take into account the fact that events in Asia were largely unanticipated, which would have made it difficult for any authority to take any action, for example, placing restrictions on lending practices and the buildup of exposures. Although "we all believe in good regulation," a crisis, when it hits, often overcomes the regulations in place. Prudential regulations should be in place before a crisis, because lending institutions tend to act slowly in the wake of a crisis due to pressures from shareholders, examiners, and policymakers, making the post-crisis environment the most difficult time to institute change. One suggestion for prudential regulation is reserve requirements to mitigate the problems caused by potential buildups. Unfortunately, identifying where buildups will occur is difficult; if they could be identified (which would be necessary in order to regulate them), the tools available to bank supervisors could be applied to allay them, thus making reserves against them unnecessary.

Although regulatory institutions are expected to control risk, in reality they monitor the lending process. Since it is hard to know with certainty where excessive risk-taking occurs, a consensus on when to act to alleviate a potential crisis is difficult to reach. Therefore, the idea of a world banking authority is hard to fathom, especially in terms of having ultimate regulatory authority. In the United States, the Federal Reserve and the Treasury Department disagree about regulatory authority. The European Union has a single banking director and central bank, but does not have a sole banking regulator; rather, it gives regulatory authority to the home country of banks and not to the host country (for example, a German bank in London is regulated by the German authorities and not by the British). Banking regulators in Basle—a more homogeneous group—are struggling to reach a new capital accord. Although a generally agreed-upon theoretical approach to good banking supervision is articulated in the Basle Core Principles, a problem remains in the execution of that approach—how to judge excessive exposure, how to standardize these judgments, and how to establish risk controls. The difficulty in obtaining agreement among nations on such standards prevents the creation of a global regulatory authority in the near future.

However, the current system of cross-border banking regulation can be improved, especially as it applies to big, global banks (those that operate in a dozen to a hundred countries). Unlike the European Union system, under which the home country supervises its banks' activities at home and abroad, the Basle Committee suggests that regulatory responsibility should rest with the host country for activities undertaken in that country by all banks, whether they are domestic or foreign. This plan might seem reasonable in theory, but in practice a great deal of regulation of excessive exposures and risk controls is based on the judgments of

individual regulators and there is no way to standardize those judgments. Problems would also arise, for example, in applying U.S. capital standards to a large German banking group because, although risk-based Basle standards exist, there are differences in accounting, financial reporting, and allowances to undertake securities activities. A survey on bank supervision and holding company structure conducted with the help of banking associations in several countries found that the regulatory agency in some countries did not attempt to regulate a branch of a bank that came from a country with a strong regulatory framework. Regulators in other countries, however, would try to examine and supervise the branch as a host country regulator. Other than the United States and the United Kingdom, no country tries to provide umbrella supervision of a global bank. This also holds for areas other than bank supervision and holding company structure, such as risk controls and global trading activities.

What is the solution to these problems? There is no shortage of forums in which to discuss standardization, and many of these forums work quite well despite difficulties in reaching agreement. Moving toward a system like that of the European Union—with the difference that the host country can step in if a foreign bank's activities are believed to pose systemic risk to the host's markets—would seem a practical move. If a bilateral or multinational agreement could be reached about the quality of the home country consolidated supervision, then the role of host country regulator could be placed on standby and the burden placed on the home country regulator to supervise for safety and soundness. By limiting their role, the home country regulatory agencies could reap efficiencies. From the narrower perspective of a global banking organization that is trying to gain efficiency in how it is supervised, such an approach would lead to considerable benefits.

SESSION 6

The Financial Instability Hypothesis

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PIERO FERRI

Political Economy of Hyman P. Minsky

Three themes that emerged in Minsky's early writing remained important throughout his life's work: a dynamic vision of the economy based on an endogenous explanation of the business cycle, a nonlinear model based on ceilings and floors, and the importance of evolution and innovation in financial phenomena. These three themes joined in the financial instability hypothesis and led to research into the determinants of investment in a monetary economy and the interaction between cash flow and financial commitments.

Minsky's interpretation and expansion of Keynesian analysis involved the observation that the reliance of enterprise on finance makes capitalism intrinsically unstable. Minsky has been criticized by neoclassical economists for not laying out a formal microeconomic foundation, but this criticism is misplaced. His microeconomic foundation is more complex than the neoclassical version, and his macroeconomic results, unlike those of neoclassical economists, coincide with the results deriving from his microeconomic perspective.

Minsky can be considered a financial economist because he concentrated on the financial aspects of firm behavior. However, he did not study finance per se, but studied the relationship between finance and the economic system. Minsky can also be considered an evolutionary economist because he believed that instability is driven by dynamic forces.

Minsky's perspective is illuminating for at least three reasons. First, it focuses on the relationship between economics and the social and institutional setting. Within this framework agents are not simply economic actors, but their behavior is historically determined by the social and institutional setting. Second, his analysis is closely linked to economic policy. He believed economic policy measures could be devised to improve people's welfare. For example, his anti-laissez-faire theorem states that in a world in which internal dynamics imply instability, a semblance of stability can be sustained by conventions, constraints, and intervention. The pursuit of individual gain in the market leads the economy into inflation, deflation, or rapid oscillation, and so the economy will from time to time move away from any reasonably defined notion of efficiency. Third, Minsky developed aspects of Keynes's monetary theory of production by introducing dynamic analysis and institutional constraints that jointly determine the evolution of the system.

Minsky's work points to several directions for research: the application of his theory to the international arena; efforts to bridge the gap between two strains of literature that have developed from Keynes's work on production and on institutional and monetary economics; and a mathematical approach to capture the evolutionary dynamics of his theory.

PAUL DAVIDSON

The Role of Financial Markets: Efficiency versus Liquidity and the Financial Fragility Hypothesis

Some economists say the role of international financial markets in a monetary economy is to increase efficiency; others say it is to provide liquidity. If Keynes's incompatibility thesis is correct, it may not be possible to have both. The incompatibility thesis

states that flexible exchange rates and free international capital mobility are incompatible with full employment and rapid economic growth in an area of multilateral free trade. Between World War II and 1973 the international payments system was in large measure shaped by the incompatibility thesis. During that period a stable international monetary system permitted global economic growth and unparalleled prosperity, despite widespread capital controls, financial market regulations, growing labor union power, rigidity in the labor markets, and the growth of the welfare state, all of which neoclassical economists believe inhibit growth. Since 1973 worldwide growth has slowed, and there is considerable disagreement about why.

Neoclassical economists believe that free markets and free capital mobility will create efficiency, growth, and full employment. Keynes argued that they can derive this conclusion only by including three faulty axioms in their models: the neutrality of money, gross substitution, and what can be called the ergodic axiom, according to which a sample from the past is considered and treated as representative of the future. Keynes's argument was not accepted in the academic world. Instead, so-called Keynesians, led by Paul Samuelson, accepted these three axioms in their microeconomic analysis while using Keynesian assumptions in their macroeconomics. In the 1960s New Classical economists demonstrated that Keynesian macroeconomic conclusions did not follow from these microeconomic assumptions. They concluded that Keynes was wrong and that laissez-faire international trade would improve economic welfare.

When the Bretton Woods system broke down and balance of payments problems developed in 1973, the Keynesians did not have a solution, and New Classical economists told policymakers to decontrol exchanges. Since then the exchange rate has become a medium for speculation. Banks' transactions in foreign exchange markets are about 70 times the volume of international trade in goods and services. Exchange rate movements, therefore, reflect changes in speculative positions rather than changes in trade patterns. Flexible exchange rates add to the risk for investors in international trade. Once a firm is committed to an investment project in a particular country, a blip in the exchange rate can cause it to lose both foreign and domestic markets, while it is stuck with the heavy sunk cost of debt service that has to be met each period. Even if the exchange rate works out in the long run, the firm will go out of business if it cannot service its debt in the short run. Since 1973 trade and investment in open economies have become the tail wagged by the international speculator exchange rate dog. Investment growth, economic growth, and productivity growth have all declined by more than half their rate in 1973.

Many of the proposed solutions to the global financial difficulties are inadequate. No one opposes better information, but that alone will not eliminate financial fragility. There is no evidence that a Tobin tax decreases volatility; it does not create any greater disincentive for short-term speculators than for long-term investors. Some have called for the G7 to act as lender of last resort, but such coordination would require more and more liquidity to solve successive crises when the strategy instead should be to prevent crises from happening in the first place. Others have suggested a currency board, but this cure could be worse than the disease. Those who propose free markets with flexible exchange rates fail to realize that flexible rates will not always bring balanced trade if the demand for exports is not sufficiently elastic and that capital flows may suffer. If country A is attracting net inflows of capital because investors in the rest of the world think profits are high there, the exchange rate will rise and everyone will rush in, pushing the rate higher and higher until it reverses.

Without liquidity the risk of being an investor would be almost intolerable to most people, but with an orderly, liquid capital market, investors have no legal or moral commitment to stay in the market when things go wrong. If they cannot sell their position, when something happens, they must use the physical capital as best they can to meet the new market demands. That would be the equivalent of the efficient market hypothesis. As long as investors can make a quick exit, they will not stick around to fix the situation. Thus, an efficient market is one without liquidity.

Keynes pointed out that liquidity is a double-edged sword. It allows people to raise funds that they could not raise without it, but it also exposes the economy to systemic risk. One way to have liquidity and still maintain some level of efficiency is to have a market maker that establishes a buffer stock commodity, but any single central banker is going to run out of funds if a big enough crisis hits. Another solution is to make certain there is never a stampede by obliging the country that receives the flows to recycle them. Although this was never officially

adopted as policy, the Marshall Plan succeeded in doing this unofficially. In essence, there was one creditor nation that gave away its credits—roughly 2 percent of its gross national product—to the debtors as a gift. The effect was to make both the giver and the receiver richer. The obligation to defend a currency in a crisis should always be on the creditor, because the creditor is just as much a problem as the debtor, and the creditor has the resources to do something about it. Such a policy does not look for who to blame and punish, but how to solve the problem.

H. Peter Gray

The Minsky Theorem in a World of Integrated Financial Markets

An extension of Minsky's theory from a closed economy to a world of integrated financial markets provides an explanation of recent international economic developments. One of the most important factors in the Asian crisis was the removal of limits on international capital flows before the newly developing markets had the necessary "financial infrastructure" in place. Financial infrastructure is a series of interlinked financial markets that function under a known set of regulations, policies, and conditions, such as a lender of last resort and insurance against the failure of deposit intermediaries. Anyone who operates in a financial system must understand the infrastructure and the risks involved in doing business in these markets. "Stability efficiency" is the ability of a financial system to withstand an adverse shock without having asset prices sink into a downward spiral as pessimism and forced selling reinforce each other. Introducing stability efficiency into the infrastructure may carry costs, and these costs are balanced against the degree of risk that is considered acceptable.

All governments have to struggle to keep regulations current in the face of changing technology and institutional forms, but this is most difficult for newly developed nations. Good financial infrastructure requires good macroeconomic financial policy, a central bank with the power to introduce the needed constraints and support systems, and the acceptance by the financial community of the authority of the central bank. Unfortunately, many observers do not see the difficulties in setting up prudential regulation, and in some countries there is a cultural reluctance to trust the central bank and to accept its regulations.

The International Monetary Fund pushed to introduce freedom of capital movement over the past 10 years. Aggressive mutual funds rushed to find emerging equity markets in which to invest, and more tentative funds followed as a herd mentality developed. Unless there is a very efficient equity market, money that comes in from abroad is not necessarily directed to the places where it would do most good. The first impetus is presumably to larger and better known firms, such as some of the firms in Bangkok that failed within a month of receiving a clean bill of health from a western accounting firm. Wishful-thinking investors rely on the local fund manager to get their assets out of a country before the exchange rate collapses, and at the first sign of trouble the urge to stampede in the opposite direction takes over.

Now that the initial stages of the Asian crisis are complete, firms that are damaged but not dead may be taken over for a song by multinational corporations. But, the problem is not going away. We may be able to reduce the number of crises in the future, but there will always be random shocks and vulnerable countries. And one can expect that existing institutions' ability to bail out crisis countries will diminish over time.

Stephen Rousseas

Minsky's Optimism about 'It' Not Happening Again

Fisher and Keynes put forward very different versions of the money-income relationship. In both, nominal income is the product of the money supply and the velocity of money. Fisher believed that velocity is stable over the long run and that the price level varies proportionally to the money supply. Keynes argued that not only was velocity unstable, but it was a highly variable function of the interest rate.

Minsky extended Keynes's relationship and used it as the basis of his financial instability hypothesis. By examining the changes induced in the underlying financial structure of the economy by restrictive monetary policy, he showed how financial innovations can make monetary policy irrelevant. It was a tribute to Minsky's insight that the British Radcliffe Report of 1959 found that the money

supply had become largely irrelevant and cast doubt on the ability of interest rate changes to influence the level of active demand. Unfortunately, however, Minsky's seminal insights are still being ignored by most monetary economists and the Federal Reserve Board.

Minsky, like Keynes, believed in a world of flux in which the short run was the most important. Like Keynes, he did not believe in theories of objective value, normal prices, central tendencies, and centers of gravity. He believed that, since capitalism is essentially and profoundly a money economy, financial structures and their innovations over historical time are of prime importance. His three-tiered schema of hedge, speculative, and Ponzi financing and the spontaneous shifts of financing across this financial spectrum generated an endogenous theory of the business cycle. In times of crisis the overall debt structure could not be validated because payments commitments in the aggregate would far exceed aggregate expected cash flows and a Fisherian debt inflation would follow.

Minsky's strategy for stability relied on "big government" with countercyclical fiscal policy and on "big bank" acting as a lender of last resort. But there is a reluctance in government to play this role. The world today is a dangerous place. Left-of-center politicians, such as Clinton, Blair, and Schröder, now take positions that at one time belonged to the right: balancing the budget, undoing the welfare state, skewing the distribution of income from labor to capital. Financial assets are hugely overvalued and long due for a crash, and an unbridled global market system regards itself as permanently installed. European governments are primarily concerned with keeping inflation low, despite high unemployment, and the Maastricht Treaty has permanently installed monetarism as the governing strategy of the central bank of the European Union. It would be best to have monetary authority in the United States under the political control of the Treasury but that is not likely to happen with pro-business anti-labor modernizers in control. Instead the economy is headed for a major legitimation crisis in the not-too-distant future.

SESSION 7

Global Financial Crises: "It" Happened Again in Latin America

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The Brazilian Crisis: From Inertial Inflation to Fiscal Fragility

Latin American crises tend to be current account crises, while the Asian crisis was arguably a capital account crisis, caused by a rapid, substantial reversal of inflow of capital. That reversal triggered what can be called a Minsky crisis in that the reversal and subsequent changes in the exchange rate and interest rates created conditions in which agents had to sell positions in order to maintain other positions. These sales caused substantial imbalances in foreign exchange markets and contagion spread. Could a similar story be told about Brazil?

Reports on the state of the Brazilian economy at first exaggerated how bad the situation was, and then, when the economy did not melt down, they began to exaggerate how good the situation is. Things are, in fact, much worse than one would expect from looking at the operation of the capital markets. The macroeconomic variables in Brazil are similar to those in Asia. The impact of interest rates on balance sheets must be considered. A sudden change in the interest rate can cause a net present value reversal, meaning that what appear to be positive investment projects at one set of interest rates and exchange rates can quickly become negative at a different set of rates. When positions go negative, agents get an irresistible urge to liquidate them.

The International Monetary Fund's conditional lending programs in the Asian countries increased interest rates in an attempt to stabilize currencies, but this strategy only aggravated the crisis. In Brazil the exclusive reliance on interest rates that are higher than those in the rest of the world creates a potential for crisis. Until the mid 1990s hyperinflation was a serious problem in Brazil, but today the problem is the possibility of "hyperdeflation" and "hyperunemployment." Both hyperinflation and hyperdeflation are linked to the inappropriate use of interest rate policy.

Hyperinflation was solved largely by indexation, but since indexation can never be perfect, the government never manages to keep up in terms of its tax receipts, with a negative impact on the deficit. The government then must issue debt, but because of Brazil's past experience with hyperinflation, it can issue only short-term debt and doing so destroys the long-term capital market. The government loses control of the money supply and has only one policy variable—the interest rate. But, the effect of the interest rate on the fiscal position and the cost of capital reduces investment and destroys the intermediation of the financial system.

The period of hyperinflation in Brazil was different from that in most other Latin American nations in that it was characterized by relatively high growth rates and surpluses in the balance of payments. In the mid 1990s the government introduced the Real plan to curb inflation. It was not that much different from previous plans, but liberalization of the trade account and the return of capital flows to Latin America after the Brady solution to the 1982 debt crisis made success possible. High interest rates were then successful in maintaining the exchange rate. Capital inflows produced appreciation of the exchange rate in nominal terms and the decline of inflation produced appreciation in real terms. However, the appreciation of the exchange rate had a serious negative effect on the balance of payments.

The Brazilian government worried that capital inflows could threaten the high interest policy and so it introduced a policy of sterilization or "negative carry," in which the central bank would borrow domestically at 20 or 25 percent interest and lend in

the United States at 5 or 6 percent. Negative carry adds to the fiscal deficit and encourages foreigners to hold government debt. When the Asian crisis hit, the Brazilian government had to raise interest rates extremely high. Because about 95 percent of the Brazilian government domestic debt is linked to the overnight interest rate, any increase in interest rates automatically increases Brazil's budget deficit and causes a deterioration of the balance of payments. These changes are independent of changes in the exchange rate, competitiveness, or anything else.

Brazil suffers from a type of fiscal fragility that is not linked to the fact that the fiscal system is not as efficient as it might be. Brazil at times has had to push interest rates above 45 percent. No possible growth in exports could cover the deterioration in the balance of payments and no possible cut in government expenditure could cover the increase in the budget deficit. The government had to give up its exchange rate peg, but devaluation could not solve the problem. Devaluation brought about only a small improvement in the balance of payments by decreasing imports, but it did not create an export boom. If there is going to be stabilization, interest rates will have to come down, and interest rates can come down only if there is a sufficient inflow, which comes from a change in the balance of payments, not from foreign borrowing. Because there appears to be no plausible way to reduce interest rates far enough to produce stability in the balance of payments and the fiscal deficit, one should be skeptical about the return of confidence in the Brazilian economy.

DAVID FELIX

Open Economy Minsky-Keynes and Global Financial Crises

In the 1930s mainstream economists were reacting to the deepening global crisis by abandoning the policies that stemmed from their theory, but without abandoning the theory. A similar divergence between theory and policy has occurred in response to the Asian crisis. Part of Keynes's exasperation with his contemporaries was that their policies did not follow from their theory. Mainstream economists clung to the notion that a laissez-faire economy has self-adjusting market forces that converge to full employment equilibrium. The neoclassical synthesis shifted the focus of instability analysis from recurring financial crises, as in Keynes, to wage rigidities and to short-term cycles. It was acknowledged that Keynesian demand deficiency could occur in the short run, but there was wide agreement that self-adjustment would bring the economy to full employment in the long run. The Great Depression was reduced to an aberration, a worst-case result of bad policies that were unlikely to be repeated.

Interestingly, the revival of belief in self-adjustment flourished despite two major theoretical diffictulties. The first was the reluctant agreement that one of the key elements in the self-adjusting mechanism—using marginal productivity as a basic determinant of factor shares—was invalid, and the second was Minsky's financial instability hypothesis. These theoretical difficulties were ignored, and when the Bretton Woods pegged exchange rate system ran into trouble at the end of the 1960s, the neoclassical synthesis Keynesians accepted the New Classical case for floating exchange rates and decontrol of capital markets, and by the early 1980s these policies were adopted in the global financial system.

Since the demise of the Bretton Woods system in the early 1970s and the almost concurrent lifting of capital controls, there has been a decline in growth rates of GDP, productivity, real investment, and international trade volume. Unemployment rates and inequalities in the distribution of income and wealth have risen. More and more of GDP is devoted to the sectors that transfer assets and risk, such as finance, insurance, and real estate. The reason for this is that floating nominal exchange rates are associated with more volatile real exchange rates; investors can no longer base their positions solely on fundamentals, but must incorporate their expectation of the speculative behavior of financial markets.

Today, Japan is caught in a Keynesian liquidity trap, which is not supposed to happen in the neoclassical world. The continuing slump is producing defections from the mainstream on what constitutes sound macroeconomic policies for countries in financial distress. Paul Krugman, for example, recommends that the OECD countries should pursue moderately inflationary monetary policies, Japan should pursue a more aggressive inflationary policy, and the less-developed countries should also adopt capital controls. He admits that the Asian crisis was not foreseeable by neoclassical synthesis Keynesian theory, but he refuses to abandon it. Although he criticizes the IMF for wrongheadedly forcing the Asian tigers into a deflationary macroeconomic policy that exacerbated debt deflation and domestic crises, his views on the post-crisis reform and the architecture of the international financial system

to avoid future crises do not diverge much from the IMF-Washington consensus. The long-run for Krugman still belongs to neoclassical theory. Similarly, the IMF initially responded to the Asian crisis by demanding that Asian nations reduce their fiscal budgets and tighten credit. When this strategy led to disastrous results, the IMF began to encourage stimulation, but this was a tactical defeat, not a doctrinal epiphany.

Minsky's financial instability hypothesis contends that capital market dynamics are inherently unstable, but his description of crisis and the solutions he proposes apply in a closed economy. If the hypothesis is reinforced by incorporating Keynes's view of open economies, it has greater explanatory power than the efficient market, rational expectations framework. But globalizing Minsky's solutions is unrealistic because the conditions he requires are not likely to appear in our lifetime. An international Minskian solution would require a global central bank as a lender of last resort, a large and integrated international public sector with automatic fiscal stabilizers reinforced by progressive taxes and expenditure structure, and a world government that is able to counter the enhanced moral hazard and evasive market innovations that threaten stability.

However, a modified version of the Bretton Woods system may become politically feasible in the near future, with fixed target zones for the dollar, euro, and yen reinforced by the Tobin tax. This would be a partial advance toward globalizing some of Minsky's policies, while allowing each country to implement its own domestic policies.

NORMAN GALL

Brazil: Fiscal Federalism, Financial Markets, and Social Contracts

The information coming out of Brazil is encouraging: Inflation is down, interest rates have been lowered from 45 to 32 percent, the currency has gradually strengthened, private money is pouring back into the country, and the stock market is booming again. However, it would be wise to heed Brazilian officials' warnings against excessive optimism. There are long-term problems in Brazil's economy, some of which stem from perverse incentives created by its public institutions.

Minsky once said that a full employment economy supports democracy, but an economy based on transfer payments supports resentment. Large-scale public transfers are common to nearly all modern economies, but when they grow to rival market mechanisms and when their scale can no longer be controlled without injuring or destroying important niches within the economy, they can be destructive. In Brazil transfers—in the form of pensions, payments to states and municipalities, interest payments, and bank bailouts—have reached that level. The government controls only about one-third of Brazil's $160 billion federal budget. The rest is tied up in constitutionally mandated transfers.

Brazil's federal, state, and municipal governments spend roughly 5 percent of GDP on interest payments every year, but it is the growth of pensions that is at the core of Brazil's fiscal problem. Pensions generate 40 percent of spending at all levels of government and absorb 22 percent of GDP. Most retirees (87 percent) receive roughly $120 a month, about equal to what one could earn at a minimum wage job. The other 13 percent, however, can retire under special regimes as early as age 45 or 50 with pensions of $20,000 or more per *month*. Early retirement has gotten to the point at which there are 27 retired police colonels for each one on active duty. These individuals, members of politically influential professions, absorb one-third of all benefits.

It is easy to understand why Brazil suffers recurrent fiscal and currency crises. Inflation was a tax that allowed the government to fudge problems such as excessive pensions, but when inflation stopped, the fudging stopped and the reality became clearer. The federal government keeps shrinking its discretionary spending on education, health, highways, agriculture, the armed forces, and public security, but pensions are growing faster than the federal payroll is shrinking. As the pension bill grows, so does the deficit and so does interest on the public debt.

Everyone blames political pressures from the middle class. It is easy to pass laws against banks and big landowners, but laws curtailing entitlements of bureaucratic sectors of the middle class are difficult to pass because the recipients are embedded in the power structure. Legislative and judicial branches of federal and state governments, granted autonomy by the constitution, give themselves generous salaries and pensions. Brazilian politicians believe that practical solutions are politically impossible. This belief is confirmed by the frustrated efforts of President Cardozo to end privileges of stakeholders, civil servants, and pensioners. But, some effort at reform is necessary to consolidate Brazil's political and monetary stability.

SESSION 8

Global Financial Crises: "It" Happened Again in Asia

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MARTIN H. WOLFSON

The Asian Financial Crisis: A New Phenomenon?

Mainstream theory has had difficulty explaining crises like the one in Asia. Currency crisis theory, first developed in the late 1970s, focused on speculative attacks on currency. In first generation models countries ran large budget deficits and the central bank monetized the deficit; speculators, realizing that expansionary monetary policy would lead to a decline in the currency, attacked the currency. This model did not fit all cases. A second generation model was developed in which there was a conflict between a government's desire to reduce unemployment by expansionary policy and the need to maintain a fixed currency. This model does capture some of the dynamics of the exchange rate mechanism crisis in 1992, but these conditions do not apply to Asia. In response a third generation of crisis models has become a major growth industry, many of them relying on moral hazard and crony capitalism.

These theorists are trying to get closer to the reality in Asia, but Minsky's financial instability hypothesis fits the observations much better. The Asian crisis was not a currency crisis per se, but a financial crisis. Before the crisis, many elements of financial fragility were present, such as large and volatile capital inflows, short-term lending, the carry trade (borrowing in Japan at low interest rates and lending elsewhere in Asia at higher interest rates), speculative lending and investment, and declining profitability of exports caused by overcapacity and the increase in the dollar (and the Asian currencies pegged to it) relative to the yen. Because the stability of the exchange rates had been maintained for a number of years, expectations gradually developed that it would continue and, therefore, the estimated risk in the carry trade was downgraded.

The stability was disrupted by what Minsky called a "not unusual event," some small event that becomes more likely to occur given increasingly fragile conditions but is not foreseen. In this case, it was the failure of the Bank of Thailand to bail out Finance One at the same time that rumors were spreading that the Japanese were about to raise interest rates. Investors, worried that the carry trade was about to become unprofitable, began a massive withdrawal of capital, which led ultimately to the floating and the steep fall of Asian currencies. The falling exchange rate increased the domestic currency cost of dollar- and yen-denominated debt commitments, pushing firms into speculative or Ponzi financial positions. Because much of the debt was denominated in foreign currency, the domestic central bank was unable to act as lender of last resort. This led the IMF to step in, but its role was essentially limited to bailing out the multinational banks, and the problem of debt deflation was made worse by the austerity programs that the IMF imposed as a condition for receiving bailout money.

An understanding of the Asian financial crisis can be found in Minsky's financial crisis theory if the theory is extended to an international context. An extended theory would have to take into account international capital inflows, their effect on overcapacity and fragility, the subsequent capital outflows, and their effect on the falling currency and worsening foreign debt. In Asia high interest rates were employed to defend the currency, but instead they exacerbated the debt crisis by pushing firms into Ponzi financial positions.

Minsky said that the economy behaves differently at different times because of financial innovations and changes in the institutional environment. One important institutional change was growth in the political power of "neo-liberalism," or free market ideology. Policies based on this ideology include financial liberalization, domestic privatization, deregulation, free movement of goods in production (in particular the movement of productive facilities to low-wage countries), macroeconomic policy to attract mobile financial capital, bias toward relatively high interest rates, and relatively tight macroeconomic policy. International agencies, the IMF in particular, enforce this neo-liberal agenda. These policies have increased financial fragility by encouraging speculation in real estate and other financial investments, increasing speculative activity, creating overcapacity, and pushing down wages, which reduces aggregate demand.

Gary Dymski

Asset Bubbles and Minsky Crises in East Asia

The inadequacy of neoclassical economic theory left mainstream economists scrambling to figure out why the Asian crisis occurred. Paul Krugman, for example, blamed the Korean asset bubble on moral hazard and asserted that the bubble's collapse, combined with inappropriate bank behavior, caused the Asian crisis.

In Minsky's cycle of financial activity, speculative and then Ponzi financing result in a state in which assets are devalued and those who hold the assets are stuck with liabilities they cannot meet. A small government leaves a nation vulnerable to the debt deflations in Minskian cycles, but a big government can inflate away problems and prevent debt deflations from happening. The strength of big government interventions has weakened dramatically since 1980. Because Minsky dealt primarily with the U.S. case during a period in which the international sector was relatively small, he did not take into account difficulties with current account reserve relationships that would naturally occur in a country with a large international trade involving large capital flows.

A boom economy in a globalized world has high growth and inflows of labor and wealth. A bust economy has a drop in asset prices and capital flight. Areas that have capital inflows are exposed to asset bubbles. An asset bubble should not be defined in terms of price relative to fundamentals, but in terms of price relative to the reproduction price or a historic trend. A boom does not always imply a bust. California has had a booming real estate market for most of the postwar period, but it has not experienced a true bust because new residents continually move in, validating the asset prices. But, new residents could not validate prices in Japan. Both Japan and Korea had equity and land bubbles. The effects of Japan's bubble economy continue to grip the nation. Banks, small businesses, and households are still suffering, making it a micro- as well as a macroeconomic phenomenon.

In adapting Minsky's theories for an international economy, there is a problem with his big bank strategy for maintaining stability. The central bank cannot perform its lender-of-last-resort function unless its currency is readily accepted as a means of exchange by creditors. The central bank also runs into difficulty because lender-of-last-resort interventions change the relative supplies of currencies and lead to additional problems with current or capital account imbalances.

Any boom economy has a tendency to develop an asset bubble, but whether it does depends on how good the nation's mechanisms for intermediation are, that is, how efficiently they transform financial assets into real assets. Japan is the obvious candidate for reviving East Asia's growth through the application of big bank and big government policies. However, the Japanese government must be willing to support the use of the yen as a reserve currency, and it is not. It is reluctant to lose its control over the placement of yen-denominated assets, the locus of yen holding, and the terms and conditions of yen-denominated assets. Furthermore, if Japan intervenes to support other Asian currencies, it would implicitly be supporting the governments issuing those currencies.

Many people believe that Japan's debt problems must be resolved before Japan is free to act. This means either floating away its debt problem or inflating it away. Either course of action requires renewing economic growth in Japan by revitalizing aggregate demand. Inflating away the debt requires identifying a sector willing and able to increase aggregate expenditure. The government sector has increased expenditure, much of it focused on large-scale public works, but the increase has so far been ineffective. Government spending would be more effectively used to address the problems of housing

affordability, child care, and care of the aged. A shift of fiscal policy toward such objectives would, however, run counter to long-standing social conventions concerning gender roles and the limits of state involvement.

Any course of action that permits Japan to ease out of its Minsky crisis and to play a more active role in ameliorating the crises throughout Asia will require significant shifts at the microeconomic level and significant shifts by important players in Japan's political and economic establishment at the overall level. The capacity of Japan to pursue Minsky's strategies and the effectiveness of these strategies in the current neo-liberal global climate are very much in question. But unless and until means of unwinding the crisis are found, it will remain a stone around the neck of world economic growth.

ROBERT Z. ALIBER

The Implosion of Asian Asset Values and Their Effect on Asian Trading Partners

Before the Asian crisis, investors in Korea, Thailand, Japan, and other countries were buying assets that did not generate enough income to pay off the loan the investors needed to make the purchase; they believed that the price of property always rises and so were willing to risk speculative financial positions. If cash inflows are sufficient to make debt service payments, there is no possibility of a crisis, but in a period of economic exuberance, as people adopt untenable positions, the possibility of crisis grows. People have tried to blame the crisis on cronyism and the lack of transparency in accounting standards, but official institutions such as the IMF always say things like that after an asset price implosion. Some analysts have argued that a Tobin tax will decrease volatility. However, the major problem is not capital outflow, but the continuity of capital inflow, and the Tobin tax does not deal with that.

Did the foreign exchange crisis trigger the banking crisis, or did the banking crisis trigger the foreign exchange crisis? If exchange rates were the cause, why have the exchange rate experiences of these countries been so different? What is the relationship between domestic credit expansion and cross-border capital flows and what is the impact of changes in cross-border capital flows on the U.S. trade deficit?

The international investment life cycle involves three stages—"young debtor," "mature debtor," and "creditor." A young debtor is a country in the early stages of development. It borrows from abroad to finance investment and it runs a trade deficit, so it must also borrow to make its interest payments. This stage is essentially Ponzi financing. In response to changes in growth rates and capital flows, a country moves into the next stage; indebtedness reaches a maximum, and the country becomes a mature debtor. As the country begins to run trade surpluses and to pay off its indebtedness, it becomes a creditor—a capital-exporting country. As the country moves to the mature debtor stage, it will have a real depreciation of its currency to generate the trade surplus that provides the currency to pay down the foreign debt. The Asian countries had such different exchange rate experiences during the Asian crisis because they were at different stages in the international investment life cycle.

The severity of overshooting of the exchange rate in response to a domestic banking crisis depends on a country's external finance position. Japan was already a creditor. It had asset bubbles in the real estate and stock markets and had serious problems with Ponzi finance domestically, but it had hedge financing externally. Korea, on the other hand, being a young debtor nation, had Ponzi finance both internally and externally. Hong Kong, like Japan, had Ponzi finance domestically but a current account balance with large foreign exchange reserves, so it did not suffer an exchange rate crisis the way Korea and other Asian nations did.

What will be the impact of the Asian crisis on the U.S. trade balance? In the 1980s the United States went from being one of the world's largest creditors to being one of the world's largest debtors. Four explanations are commonly given for the change: first, a consumption binge on the part of U.S. citizens; second, the twin deficits theory, according to which the U.S. budget deficit caused the U.S. trade deficit (this explanation looks ridiculous in light of the fact that the United States now has a large trade deficit despite its budget surplus); third, the negative impact on the trade balance of a real appreciation in the currency, brought on by U.S. efforts to reduce inflation; fourth, the inflow of excessive saving in Japan and Germany to the U.S. financial market.

The cause of the increase in the U.S. trade deficit in the late 1990s is clearer. The massive depreciation of real exchange rates in Asia has caused a massive shift in Asian countries' current

account balances, which has driven the increase in the U.S. trade deficit. The severe overshooting of the exchange rate of East Asian nations has essentially exported a trade deficit to the United States.

Philip F. Bartholomew

[Any views expressed here are solely those of Philip Bartholomew and do not necessarily reflect those of the Comptroller of the Currency, the Department of the Treasury, the United States Congress, or any of its members.]

Systemic Risk, Contagion, and the Southeast Asian Financial Crisis

The United States should take the Asian crisis seriously. Most U.S. banks may not be directly exposed to the Korean or other Asian economies, but it may not be direct exposure that is most important. If the Korean economy has difficulties and those difficulties somehow affect the U.S. economy, indirect effects will by felt by banks across the United States. There has been a lot of talk about Asian contagion, but was this a form of a contagion in which a crisis at one institution challenged liquidity at another institution, forcing it into insolvency? For example, do you think Thailand's problems forced Indonesian banks into insolvency, or were those banks possibly insolvent beforehand? Do you think the Indonesian monitoring and supervisory system was first class?

In 1997 regulators were saying that Japanese banks were healthier than they had been in decades, and people believed them. Their credulity has to do with acknowledging systemic risk, but judgments about type and severity of risk can be affected by politics. Politics will affect a government's judgment about whether a crisis is a contagious liquidity crisis or a solvency crisis. If a government provides liquidity in a solvency crisis, it could create a massive moral hazard.

The crises in Korea, Thailand, and Indonesia were mostly coincidental, but there is a connection between continuing problems in the Japanese economy and the Asian crisis. Japan's problems developed in the early 1990s, but it was not until 1995 that the Japanese government was forced to acknowledge that it had problems. Seeking market share in international banking, the Ministry of Finance probably directed banks to lend to other East Asian nations in the early 1990s; in 1995 this lending stopped, but banks did not write off their bad loans because they did not want to admit that they had a problem. Bad loans piled up until the government finally had to admit that even some of their bigger institutions had problems. Only in 1999 did Japanese banks begin to write off their bad loans.

The solution for Japan is to sell off troubled assets, get them into the market, and move on. All that the banks have done so far is to push assets around on the books. In the United States after the savings and loan crisis, the Resolution Trust Corporation sold off the assets and got them back into circulation. But the Japanese do not want to acknowledge the need to do that.

In the mid 1990s Japan was the world's largest lender and the largest debtors were the nations that were about to go into crisis. When Japanese lending dropped off, the Europeans stepped in. Today the world's largest lender is Germany and the largest borrowers are Brazil, the former Soviet states, Korea, Argentina, Australia, China, and Indonesia. What is the quality of loans picked up by the last lender to enter the market? Are the Russians finished with their defaults? Draw your own conclusions.

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