IMF PAPER ON POLICY ANALYSIS AND ASSESSMENT

PPAA/94/6

INTERNATIONAL MONETARY FUND

Asset Prices, Monetary Policy, and the Business Cycle

by

Garry J. Schinasi, Research Department 1/

March 1994

Abstract

The business cycle in several industrial countries during the period 1989-1993 was different from previous post World War II business cycles in important ways. This paper describes the unique character of the recent cycle, examines important underlying structural and macroeconomic factors, and discusses why these unique features emerged. Although many of the structural changes were partly responsible for the overshooting of asset prices and private debt levels, the extreme overshooting could not have occurred without overexpansionary monetary and fiscal policies. The paper examines why inflationary pressures were allowed to accumulate and then discusses a number of lessons for conducting economic policy in the 1990s.

JEL Classification Numbers:
E31, E44, G21

1/ This is a shortened version of a paper prepared for the Fifth Annual Melbourne Money and Finance Conference, November 26-27, 1993, in Melbourne Australia; the longer paper will be published in a conference volume. The paper draws on some of the policy analyses discussed in previous annexes prepared for the *World Economic Outlook*. I am grateful to Monica Hargraves and Steven Weisbrod for their contributions to this paper through earlier collaborations, to Monica Hargraves for substantially improving this paper, and to David T. Coe and Flemming Larsen for helping me to clarify some ideas. The paper also benefitted from extensive discussions with Meir Sokoler and Leonardo Leiderman and from participants at seminars at the Bank of Israel and Tel Aviv University.

Table of Contents

Asset Prices, Monetary Policy, and the Business Cycle

I. Introduction

A detailed examination of the recent experience of asset price inflation and deflation in many industrial countries, and the associated accumulation and decumulation of private indebtedness, leads to an array of questions. Why did so many industrial countries experience this phenomenon at the same time? Why were inflationary pressures disproportionately concentrated in asset markets and not more evenly distributed to goods and labor markets? Why did national policy makers allow this inflationary process to continue for so long? And finally, what are the lessons for economic policy in the 1990s? 1/

A working hypothesis for understanding the dramatic events of the late-1980s is presented in this paper. The hypothesis is that the prevailing monetary policy framework, in combination with dramatic changes in financial structures, monetary transmission mechanisms, and other important structural changes made it difficult for monetary authorities in many countries to distinguish sustainable relative asset price adjustments from unsustainable price increases. Many central banks initially presumed that the asset price increases were relative-price adjustments. As a

---

1/ The countries that experienced an asset price inflation include the United States, Japan, the United Kingdom, Australia, New Zealand, and the Nordic countries. More recently, the phenomenon of rapidly rising asset prices has appeared in Germany, France, Switzerland, several of the fast-growing Asian economies, and a number of other developing countries. For a more detailed examination of many of the issues discussed in this paper, see Schinasi and Hargraves (1993).

consequence, there was a prolonged period during which inflationary pressures accumulated. Moreover, the combination of structural changes--some financial and others real--created an environment in which inflationary pressures were channelled to, and recycled in asset markets. Because asset price increases initially were not followed by concomitant increases in conventional measures of inflation, such as those based on consumer price indices or GDP deflators, central banks felt comfortable with their initial (mis)judgements and inadvertently continued what were in retrospect overly expansionary monetary policies.

The paper first provides a description and analysis of how the recent business cycle was different from other post-war cycles. It then discusses the unique environment in which the asset price and balance sheet adjustments occurred and provides reasons why inflationary pressures were channeled to asset markets. The paper then analyzes why monetary authorities in many industrial countries acquiesced to the inflationary pressures that were present. The paper concludes with a brief discussion of the lessons from this unique business cycle.

II. A Unique Business Cycle

The recent business cycle in many industrial countries is set apart from other business cycles in several important respects. During the boom in the mid- to late-1980s, there was a massive buildup of debt in the private sector to finance rapid growth in both consumption and investment expenditures. While debt accumulations typically occur during expansions, the accumulation of debt in the 1980s was unusually large relative to income and asset values, and was widespread among households and large and small businesses. This accumulation was associated with a prolonged period of sharp price increases in residential and commercial real estates markets, in markets for a wide variety of collectibles (including art, books, jewelry, yachts, etc.), and, in some countries, in stock markets. Although asset price increases are not unusual in particular markets during economic expansions (notably, the real estate market), the number of asset markets affected, the asset turnover, and the speed and persistence of the price increases were unusual. Moreover, and perhaps most importantly, the sharp increases in asset prices (and in particular real estate prices) generally were not passed on to goods and labor markets in the form of higher prices and wages as they had been in the past. In countries where asset price rises were ultimately transmitted to other markets, as was the case in the United Kingdom, they were transmitted with a considerable lag and/or with much less intensity than would have been expected from previous expansions. 1/

The downturn in economic activity that followed the economic expansion was also unique in important ways. As in most other downturns, the expansion came to end as economic imbalances emerged, including the expansion of production well above trend levels. In retrospect, however, it appears that the resulting overheating--measured by output gaps--was either greater than in previous expansions or much greater than policy makers

---

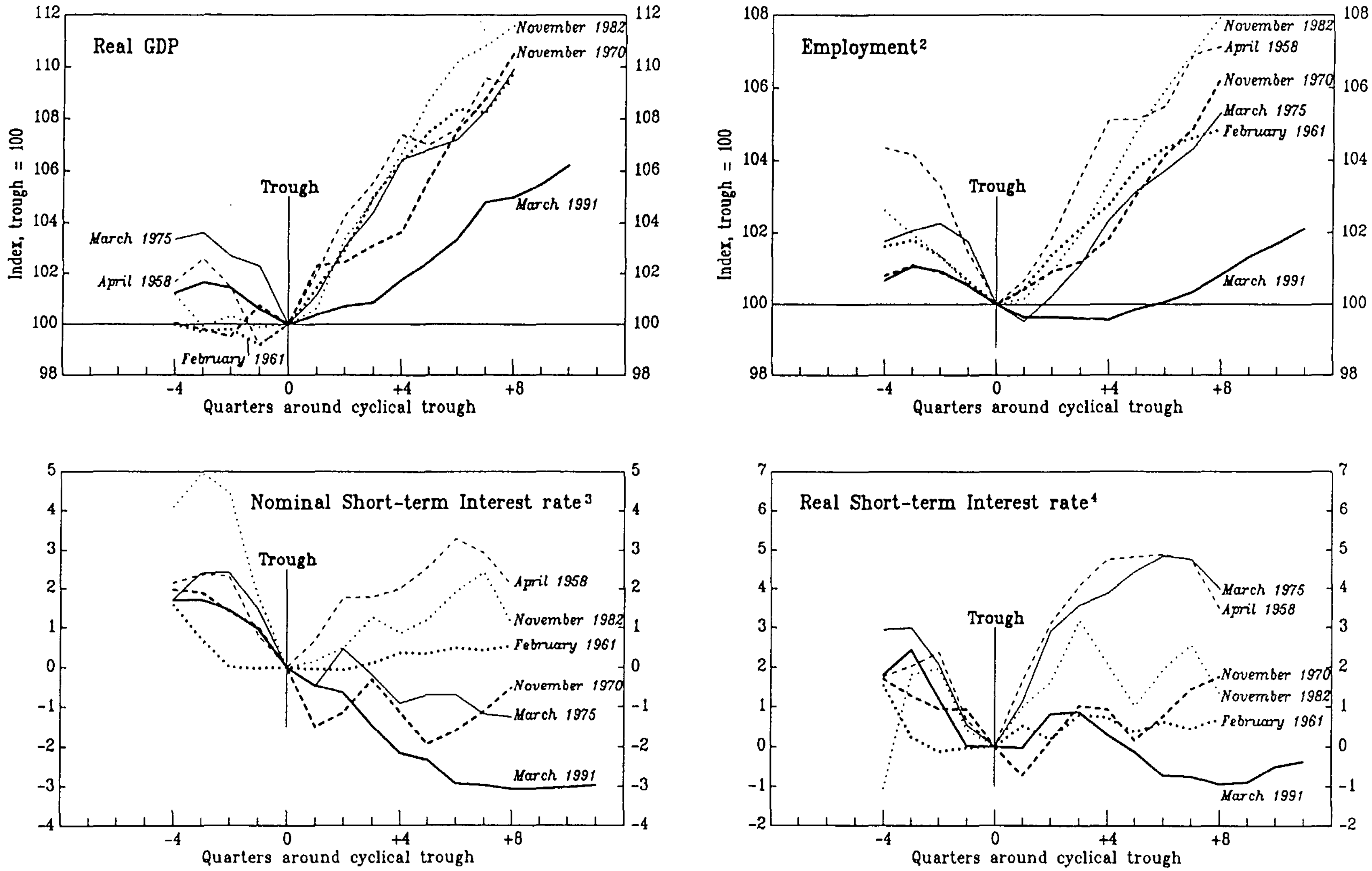
1/ This is discussed in more detail in Section IV.

thought at the time, even though conventional measures of inflation (the consumer price index, for example) did not fully reflect this overheating. Because inflationary pressures were manifested and highly concentrated in asset markets, and not in goods or labor markets, monetary tightening led to a sharp asset price deflation--now accurately described as the bursting of an "asset-price bubble" in some countries. This deflation was severe enough in many countries to leave relative asset prices at the end of 1990 where they had been in the mid-1980s. The rapid rise in private indebtedness earlier in the 1980s together with this sharp decline in asset values left the private sector extremely vulnerable to the increases in interest rates that were necessary to eliminate the overheating. The private sector entered the recession with a relatively large overhang of debt and high debt-service payments, which both became difficult to manage in an environment of rising real interest rates, declining personal and business incomes, and rapidly diminishing employment opportunities.

The resulting prolonged process of adjustment had a very tangible effect on both consumer and business confidence. Even after the economic recovery was underway, households and businesses in some countries continued to reduce their levels of debt relative to income rather than devote resources to spending on private consumption and investment goods. The combination of declining asset values and the resolve of the private sector to reduce its debt exposure led to relatively deep and prolonged recessions in Japan, the United Kingdom, and the Nordic countries. Moreover, many industrial countries (most notably the United States) have had a relatively weak economic recovery by comparison with previous business cycles (Chart 1,

Chart 1. United States: Recovery Stage of Business Cycle

(Dates indicate cyclical troughs for GDP)[1]



[1]As identified by the National Bureau of Economic Research (NBER).
[2]Employees on nonagricultural payrolls.
[3]Three month Treasury Bill rate.
[4]Three month Treasury Bill rate deflated by consumer price index in percent change from four quarters earlier.

upper panels) even though short-term interest rates have been reduced significantly--in some cases well below long-term interest rates and to historically low levels (see Chart 1, lower panels). 1/ One positive outcome of this unusual adjustment process was that by the end of the recession, and even during the recovery phase of the cycle, inflation continued to decline and reached the lowest level in 30 years in many countries, and in some cases declined below 2 or 3 percent.

It is difficult to isolate with precision why this cycle was unique, but it is significant that the fluctuations in output and employment occurred against the background of several important structural changes and overly expansionary macroeconomic policies. All of the countries that experienced asset price inflation also experienced some form of financial restructuring, either as the result of financial innovation in reaction to earlier deregulation and liberalization (as in the United States) or as a result of ongoing financial deregulation and liberalization (as in Japan, the United Kingdom, the Nordic countries, Australia, and New Zealand). 2/ The mid- to late-1980s was a period of intense financial activity. Financial intermediaries ventured into new markets and created new more flexible instruments. The nonfinancial private sector responded to the new financial opportunities and borrowed resources on a massive scale to finance

---

1/ There is some econometric evidence that the information content of interest rates was greater in the 1980s than in previous decades and that interest rates have become a more important determinant of real estate prices and real estate market activity generally. On the first point, see Friedman and Kuttner (1992), and on the second, see Samiei and Schinasi (1994).

2/ See the Bank of England (1986), (1990), and (1992; and the Bank for International Settlements (1984), (1986), and (1988).

consumption, residential investment, commercial real estate development, and other investments. Added incentives for investment resulted from long-standing features of tax systems (as in the Nordic countries) or tax reforms that either favored certain sectors that were credit-intensive or provided incentives for businesses to finance their activity with debt rather than equity (as in the United States, the United Kingdom, and Japan). Changes in the age-distribution--mainly the coming of age of the baby-boom generation--increased the demand for both tangible assets and new financial instruments (including the more widespread use of variable-rate assets and liabilities) and contributed to increased demand in real estate and other asset markets.

Although all of these factors led to increases in both supply and demand for credit, it is unlikely that the combination of these factors alone could have led to the massive buildup in private indebtedness and sharp asset price adjustments; expansionary, and in many cases overexpansionary, macroeconomic policies were an important contributor to the overshooting. 1/ This is not to suggest that overshooting would have been completely avoided, but that expansionary policies were critical in exacerbating price movements. In retrospect, macroeconomic policy led to the creation of excess liquidity and credit, the large-scale and widespread accumulation of public-sector debt, and exchange rate instability.

1/ For a discussion of the extent to which excess liquidity and credit existed during this period in the United States, Japan, and the United Kingdom, see Schinasi and Hargraves (1993) pp. 14-20.

These observations raise two important questions: Why were inflationary pressures concentrated in asset markets and not distributed more broadly in goods and labor markets; 1/ and why was the asset price inflation allowed to continue for so long?

III. The Concentration of Excess Liquidity in Asset Markets

One important reason why inflationary pressures were concentrated in asset markets in so many countries is that there were changes in the transmission of monetary policy to goods, labor, and asset markets. The change in the transmission process was related to structural changes--including tax reforms that encouraged real estate and other investment activity, financial liberalization that encouraged financial innovation and home-ownership, and demographic changes--which together created an environment in which excess liquidity and credit were channelled to specific groups active in asset markets. 2/ These groups included large institutions, high-income earners, and wealthy individuals, who responded to the economic incentives associated with the structural changes and borrowed to accumulate assets.

In the United States, ongoing financial innovations--related to earlier financial deregulation and liberalization--and tax reform provided

---

1/ Note that the concept of inflationary pressure (that is, excess liquidity) is separate from the manifestation of inflationary pressure, which need not always take on conventional forms such as rises in consumer prices.

2/ For a detailed discussion of the effects of these structural changes, see Schinasi and Hargraves (1993).

opportunities and incentives for investment, and these opportunities were particularly significant for the corporate sector and high income earners. 1/ The expansion in credit financed mergers and acquisitions, leveraged buyouts, commercial real estate, and residential real estate. In Japan, tax provisions created incentives for the construction of apartment houses and condominiums, and changes in the capital gains tax treatment of real estate transactions encouraged upgrade purchasing. Spending in the late-1980s shifted significantly toward luxury goods and those components of demand that are typically financed on credit, such as business investment, home construction, and durable goods. 2/ In the United Kingdom, by contrast, the increase in borrowing was more broadly based, suggesting that the debt accumulation reflected a backlog of unsatisfied demand for credit that was unleashed after financial liberalization. 3/ Although conventional measures of inflation in the United Kingdom increased, real asset prices rose substantially.

Intense competition among financial intermediaries resulted in high-risk lending in new areas of business which contributed to increased asset market activity. 4/ This increase in the supply of credit to relatively risky asset markets can be directly related to financial

---

1/ In the United States, much of the increase in debt between 1983 and 1989 was concentrated in families reporting the most financial assets. The mean real home value rose much more than the median, and the increase occurred largely in families with incomes above $50,000. The highest income groups increased the median size of their mortgage debt, while the lowest reduced their median value. See Kennickell and Shack-Marquez (1992).

2/ See Takeda and Turner (1992).

3/ See Sargent (1991).

4/ See Weisbrod, Lee, and Rojas-Suarez (1992).

liberalization and the subsequent waves of financial innovations, which together led to an erosion in the franchise value of banks, an expanded role for other financial institutions, greater competition and risk-taking, and a general squeeze on profit margins. There was increased lending for highly leveraged transactions and real estate purchases. In the United Kingdom, banks aggressively entered the mortgage market. In Japan, the decline in banks' corporate business, which shifted to securities markets, led city banks to lend for real estate transactions and to small and medium-size businesses. With key safety nets--such as deposit insurance systems--still in place, the removal of earlier restrictions on lending practices also led to increased risk taking. The increased risk taking suggests that supervisory and oversight systems were not expanded sufficiently to keep pace with deregulation. This institutional inertia may have contributed to an environment that encouraged excessively speculative behavior in asset markets.

Once the process of asset price inflation got started, in the absence of a restrictive monetary policy, expectations of further capital gains apparently became an important aspect of increased demand for assets. 1/ To the extent that past price increases determined expectations of future price increases, the real cost of borrowing for investment in asset markets was often negative in the United States, Japan, and the United Kingdom. In 1986-89, for example, building society loan rates in the United Kingdom

---

1/ For a detailed analysis of the tendency for persistence in price changes in a broad array of asset markets in a number of countries, see Cutler, Poterba, and Summers (1990).

stayed below 15 percent and were often below 12 percent, while housing prices rose annually by 20 percent on average. In Japan, the average new loan rate was below 6 percent and declined for most of the 1985-89 period while stock prices increased at an annual rate of 27 percent.

IV. The Role of Macroeconomic Policy

Why did policymakers in so many industrial countries mistake the sharp increases in asset prices and private indebtedness for something other than a manifestation of inflationary pressures created by overexpansionary monetary and fiscal policies? The confluence of structural changes 1/ that were under way made it difficult to accurately interpret the sharp and persistent asset price increases. Moreover, the structural changes provided policy makers with good rationalizations for believing that both residential and commercial real estate properties were undervalued relative to a basket of consumption goods; these structural changes were all likely to lead to an increase in the demand for housing relative to existing supplies. In the initial stages of the housing boom, therefore, it was not unreasonable for central banks to continue to maintain their monetary stance and, in effect, acquiesce to the rapid relative increases in real estate values and other asset prices.

That policy authorities in some countries also ignored the extremely rapid and prolonged increases in stock prices (as in Japan and the Nordic

---

1/ These structural changes are discussed in Section II, pp. 5-6, and in the references cited.

countries) is more difficult to rationalize, however. Despite research efforts at many central banks throughout the latter half of the 1980s, there was little if any research that supported the view that the Tokyo stock market, for example, could sustain much higher growth in equity values than in the other major stock markets in New York or London. Japanese corporations and the Japanese economy began to develop a mystique of invulnerability. The widespread acquiescence to these demand pressures in the mid-1980s provides ample evidence, and is a costly reminder to policy makers, of how difficult it is to distinguish relative price adjustments from the early stages of an inflationary period.

Another important factor that made it difficult to gauge inflationary pressures was the intense restructuring that was occurring in the financial institutions. Banks and nonbanks alike were engaged in new types of activity, and the management of both assets and liabilities became increasingly sophisticated. The result was a restructuring of financial sector balance sheets and a rapid expansion in financial activity that led to a sharp increase in both financial assets and liabilities. Consequently, the various broad and narrow monetary and credit aggregates, which are subgroups of bank liabilities and assets, were diverging at the same time the financial system was expanding rapidly. These aggregates were therefore no longer supplying stable, reliable, and useful information, either about the effect of monetary policy changes on the banking system's balance sheet (which is the initial channel of monetary policy), or about the transmission of changes in monetary policy to real economic activity. Central banks recognized the problems with these familiar aggregates and began paying attention to a broader range of both financial and nonfinancial economic indicators. The combination of structural changes, both real and financial, and their confluence with the business cycle, in effect left central bankers in unchartered waters without a familiar compass to guide them.

In addition to these complexities, the framework used for conducting monetary policy during the 1970s proved inadequate for conducting policy in the mid- to late-1980s for at least two reasons. First, the framework did not properly account for changes in the monetary mechanism that, in retrospect, were directly associated with deregulation and the related structural changes. Second, the framework failed to properly utilize asset-price and other asset-market information.

Regarding the first of these inadequacies, monetary authorities were not always able to completely and accurately understand how changes in monetary instruments translated into changes in money or credit market conditions; these mechanisms were changing rapidly as a result of various structural changes in financial systems. The deregulation of ceilings on deposit interest rates in both the United States and Japan is an example of how monetary mechanisms can change. 1/ Prior to the deregulation of interest rates on bank deposits, monetary policy affected credit market conditions, in part, through a quantity-of-credit-rationing mechanism. To

---

1/ It was not immediately obvious at the time that this deregulation would affect the monetary mechanism, and in some policy and academic quarters it was adamantly maintained that there was no change in the mechanism at all. Woljinower (1980), in contrast, suggested that there would be a significant change in the mechanism in the United States but his views did not at the time have much force in the policy debate.

tighten monetary conditions, the central bank would reduce the supply of reserves until market interest rates rose above those on bank deposits (whose interest rate movements were limited by a fixed ceiling). This interest rate spread provided an incentive for deposit holders to remove their funds from the banking system in search of higher returns in financial markets. Bank credit, which was the bulk of private credit at that time, declined in response to the contraction in deposits. To ease policy, the central bank would supply reserves to the banking system until market interest rates fell below the interest rates paid on bank deposits, funds would flow back into the banking system, and bank lending would increase.

In the old regulatory regime, changes in interest rates were anchored to some extent by the fixed ceilings on bank-deposit interest rates and by the disintermediation that occurred as a result of these ceilings. In effect, the existence of ceilings on bank-deposit rates dampened the swings in market interest rates during the course of the business cycle. Since the removal of the ceilings on bank-deposit rates, monetary policy has operated by affecting credit market conditions more generally, including the market-determination of both the quantity of credit and its price (i.e., the interest rate)--without the added monetary impulse of rapid bank disintermediation. Thus, with the removal of deposit-rate ceilings, it would have been reasonable to expect that greater changes in interest rates would be required at turning points of the business cycle to reduce demand pressures when the economy was overheating, 1/ and symmetrically to

1/ This point is emphasized by Woljinower (1980).

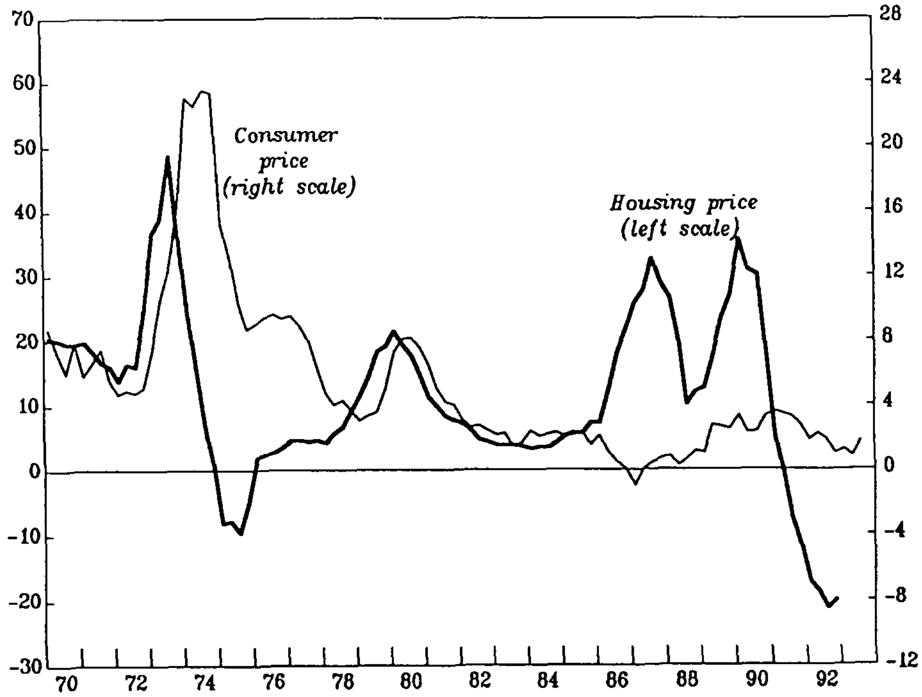
stimulate demand when the economy was at or near the trough of a recession.

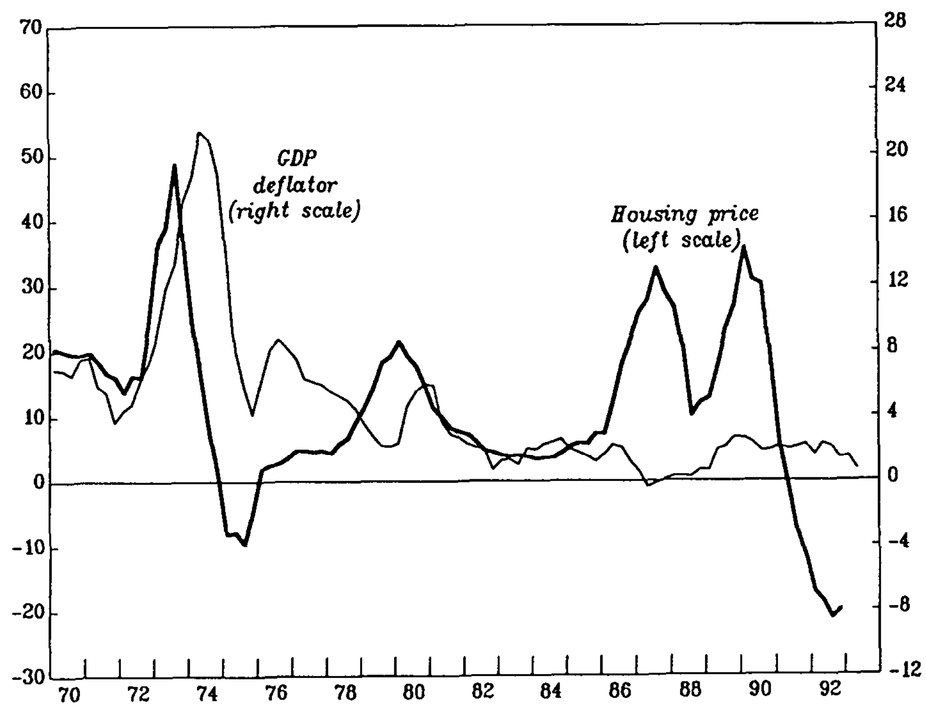
An additional complication was that there were many new types of deposit-taking and credit-creating financial intermediaries, which remained outside of the umbrella of direct monetary control (for example, U.S. financial intermediaries that were not direct users of Federal Reserve System reserves). As a result, the aggregate quantity of credit became less directly responsive to withdrawals or injections of reserves by the central banks. Although it was not immediately recognized at the time these changes occurred, central banks would have to withdraw a greater amount of liquidity in order to reduce the growth of credit to eliminate overheating. That is, because changes in central bank reserves freely affected the market determination of both quantities and prices of credit, interest rates would have to rise more to remove a given amount of liquidity/credit from the system.

The second way in which the monetary framework was inadequate was that not enough attention was paid to asset prices and other asset market developments. In previous inflationary periods there had been a strong relationship between increases in housing price inflation and subsequent increases in consumer price and GDP-deflator inflation that monetary authorities came to rely on, as for example in Japan (Chart 2). 1/ In many countries, the housing market was viewed as the initial channel through which monetary policy tightening influenced aggregate demand, in part

1/ A similar chart can be shown for the United States and the United Kingdom.

Chart 2. Japan: Inflation
(In percent change from four quarters earlier)





because of the quantity-of-credit-rationing mechanism. 1/ Sustained increases in housing prices served as an indicator of potential underlying inflationary pressures, which could then be confirmed or not by subsequent changes in consumer prices.

It now seems clear, however, that in the mid- to late-1980s, the relationship between housing price inflation and goods prices changed significantly. Based on experiences in the 1970s, the housing price increases in the mid- to late-1980s should have led to a much larger increase in goods-price inflation. In the event, such rises in the general level of inflation did not occur in all countries that experienced asset price inflation; where a general increase in inflation occurred it started much later and occurred with much less intensity. The relative absence of subsequent goods-price inflation was taken as a sign that inflationary pressures were not present and that the increase in asset prices was a relative price adjustment.

Taking all these factors together, it is not difficult to understand why central banks in many countries allowed inflationary pressures to continue in the presence of double-digit housing price increases and booming stock markets. These adjustments were viewed initially as relative price adjustments related to portfolio shifts that reflected structural changes amid all of the confusing changes in financial markets and monetary mechanisms.

1/ Other channels were interest-sensitive components of aggregate demand such as automobiles, durable consumer goods, and business investment.

In retrospect, however, there were at least two early warning signs of the growing financial imbalances. The first was the buildup in private debt--the asset side of the balance sheet of the banking system--which was not widely seen at the time as sufficiently problematic to merit a policy response. During this period of uncertainty about how to conduct monetary policy there were proponents of a more cautious attitude towards the massive accumulation of debt. 1/ There were calls for paying more attention to developments on the asset side of the banks' balance sheets as an indication of the stance of monetary policy. And if one relates credit creation directly to monetary policy then it would appear that monetary policy was excessively expansionary at least in the large industrial countries that experienced asset price inflation. But the process of credit creation and expansion was not well understood and it was a widely held view that central banks had more control over the bank liabilities than over bank assets. In the event, the asset price inflation could not have occurred without the rapid buildup in private sector debt. An earlier recognition of this would have limited the asset price overshooting that occurred and the dramatic and costly real economic adjustments that ultimately accompanied the asset price deflation.

Another early warning sign of the growing financial imbalances in many industrial countries--one that was ultimately ignored--was the stock market crash that occurred in October 1987. The crash was viewed as a potentially deflationary impulse that would, through negative wealth effects, push the

---

1/ See the papers by Friedman (1986) and Kaufman (1986).

global economy into a period of slow growth if not recession. The rapid and coordinated response of the industrial country central banks was to supply whatever liquidity was necessary to allow the tremendous backlog of stock transactions to take place in the face of what could have been a massive shortage of liquidity. Although the payments system was at risk, and many brokers, dealers, and financial intermediaries were exposed to a potential liquidity crisis, the injection of liquidity was enough to prevent a large scale global crisis. But after the crisis was over, many central banks failed to return to their medium-term objective of achieving and maintaining low inflation, initially by not adequately mopping-up the liquidity that was provided in the aftermath of the stock market crash, and later by continuing to supply excess liquidity. In the end, far from being deflationary, the stock market crash led to a policy response that if anything turned out to be inflationary.

V. Lessons for the 1990s

There are several lessons from the most recent business cycles in the industrial countries. First, an excessive buildup of private debt to finance asset accumulation can have adverse macroeconomic consequences, including deep recessions, slower economic recoveries from recession, and sharp and costly adjustments in the business and household sector.

Second, the asset price inflation of the 1980s suggests that monetary authorities should pay greater attention to asset price developments. Although they are more volatile than other measures of inflationary pressures, asset price movements should not be ignored when there are reasons to believe there is excess liquidity. Inflationary pressures can become concentrated in asset markets before they surface in conventional price indices. This does not mean that monetary policy should respond to every sharp sustained movement in asset prices. If rapid asset price adjustments reflect portfolio adjustments or other fundamental changes in the real economy, then the role of monetary policy is to ensure that these and other relative-price adjustments occur in a stable financial environment. If rapid and sustained increases in asset prices can be traced to excess liquidity and credit, however, such movements should be interpreted as signalling heightened inflationary pressures and policy should be adjusted accordingly. There is nothing unique about asset markets that would suggest that asset prices can permanently absorb overly expansionary monetary policies, without ultimately leading to costly real and financial adjustments.

Third, and more fundamentally, the analytical framework used to assess the stance of monetary policies in the 1980s was not sufficiently broad and flexible to properly assess developments in key asset markets. As was observed in many industrial countries, inflationary pressures can take on other costly manifestations without necessarily leading to a substantial rise in conventional average price measures. It would therefore be appropriate to analytically divorce the concept of "inflationary pressure" from particular measures of inflation. Monetary policy relied too heavily on average price measures that covered a relatively small subset of total economic transactions, namely the flow of goods and services. It would be useful to construct price indices that cover a broader set of transactions; if properly constructed, such indices would not change when asset price movements were reflecting portfolio shifts from one asset to another, but would capture a systematic increase in all, or a subset of, asset prices driven by excess liquidity or credit. 1/

Fourth, the experience in many countries, especially in Japan and the Nordic countries, suggests that enhanced prudential regulation and oversight are desirable especially during a period of rapid and extensive financial deregulation, liberalization, and structural change. This would ensure that the gains from increased competition in financial markets are not offset by the systemic weakness that can arise from the insolvency of financial institutions. In addition, in order to facilitate the proper functioning of financial markets it would be desirable to have greater coordination of regulatory and macroeconomic policies and a strengthening of supervisory practices--especially when structural change is expected. It would also be appropriate to pay greater attention to the sequencing and pace of reform and to coordination between regulatory and supervisory bodies.

Finally, the recent cycle serves as a costly reminder that economic policy should remain flexible during the course of the business cycle,

---

1/ For a fuller discussion of this point see Schinasi and Hargraves (1993), pp. 13-18. An early proponent of including a broad array of transactions prices was Fisher (1913). Alchian and Klein (1973) provide microeconomic justification for including asset prices, and Goodhart (1993) discusses this issue in the context of housing prices in the United Kingdom.

especially at turning points, without necessarily sacrificing important medium-term economic objectives.

Perhaps the most important question, and the greatest uncertainty in the period ahead, is whether the unusual profile of the recent business cycle, which was related to the confluence of the particular structural changes and macroeconomic policies that occurred in the mid- to late-1980s, was unique, or whether a similar profile is likely to characterize future business cycles in a liberalized global financial environment. This uncertainty reinforces the need for monetary policy to remain flexible in the period ahead.

References

Alchian, A.A., and B. Klein, "On a Correct Measure of Inflation," *Journal of Money Credit and Banking*, Vol. 5, No. 1, pp. 172-91 (February 1973).

Bank of England, "Financial Change and Broad Money," *Quarterly Bulletin* (December 1986), pp. 499-507.

_____, "The Interest Rate Transmission Mechanism in the United Kingdom and Overseas," *Quarterly Bulletin* (May 1990), pp. 198-214.

_____, "Financial Retrenchment in the United States," *Quarterly Review*, Vol. 32, No. 1 (February 1992), pp. 71-5.

Bank for International Settlements, *Financial Innovation and Monetary Policy* (Basle, March 1984).

_____, *Changes in Money-Market Instruments and Procedures: Objectives and Implications* (Basle, March 1986).

_____, "International Convergence of Capital Measurement and Capital Standards," Basle Committee on Banking Supervision (Basle: Bank for International Settlements, July 1988).

_____, *Sixty-Second Annual Report* (Basle, 1992).

Cutler, D.M., J. M. Poterba, and L. H. Summers, "Speculative Dynamics," National Bureau of Economic Research Working Paper No. 3242 (January 1990).

Fisher, I., *Purchasing Power of Money* (New York: Macmillan, 1913).

Friedman, B., "Increasing Indebtedness and Financial Stability in the United States," in *Debt, Financial Stability and Public Policy* (Kansas City: Federal Reserve Bank of Kansas City, 1986), pp. 27-54.

_____, and K.N. Kuttner, "Money, Income, Prices and Interest Rates," *American Economic Review*, Vol. 82 No. 3, pp. 472-92 (June 1992).

Goodhart, C.A.E., "Price Stability and Financial Fragility," paper prepared for the Sixth International Conference, Institute for Monetary and Economic Studies, Bank of Japan (October 1993).

Hargraves, M., and G. J. Schinasi, and S. R. Weisbrod, "Asset Price Inflation in the 1980s: A Flow of Funds Perspective," IMF Working Paper 93/77 (October 1993)

International Monetary Fund, "Balance Sheet Constraints and the Sluggishness of the Current Recovery," May 1992 *World Economic Outlook*, Annex I (Washington: IMF, 1992a), pp. 47-51.

_____, "Asset Price Deflation, Balance Sheet Adjustment, and Financial Fragility," October 1992 *World Economic Outlook*, Annex I (Washington: IMF, 1992b), pp. 57-68.

_____, "Monetary Policy, Financial Liberalization, and Asset Price Inflation," May 1993 *World Economic Outlook*, Annex I (Washington: IMF, 1993), pp. 81-95.

Kaufman, H., "Debt: The Threat to Economic and Financial Stability," in *Debt, Financial Stability and Public Policy* (Kansas City: Federal Reserve Bank of Kansas City, 1986), pp. 15-26.

Kennickell, A. and J. Shack-Marquez, "Changes in Family Finances from 1983 to 1989: Evidence from the Survey of Consumer Finances," *Federal Reserve Bulletin*, Vol. 78, No. 1 (January 1992), pp. 1-18.

Samiei, S. H., and G. J. Schinasi, "Real Estate Price Inflation, Monetary Policy, and Expectations in the United States and Japan," IMF Working Paper (1994, forthcoming).

Schinasi, G. J., and M. Hargraves, "'Boom and Bust' in Asset Markets in the 1980s: Causes and Consequences," *Staff Studies for the World Economic Outlook*, World Economic and Financial Survey (IMF, December 1993).

Sargent, J.R., "Deregulation, Debt and the Downturn in the U.K. Economy," *National Institute Economic Review*, No. 137 (London, August 1991).

Takeda, M. and P. Turner, "The Liberalization of Japan's Financial Markets: Some Major Themes," *Economic Papers*, No. 34 (Basle: Bank for International Settlements, November 1992).

Weisbrod, S. R., H. Lee, and L. Rojas-Suarez, "Bank Risk and the Declining Franchise Value of the Banking Systems in the United States and Japan," IMF Working Paper 92/45 (Washington, 1992).

Wojnilower, A.W., "The Central Role of Credit Crunches in Recent Financial History," *Brookings Papers on Economic Activity*, 2 (1980), pp. 277-326.