

Asset Inflation and Monetary Policy *

CHARLES P. KINDLEBERGER

I

Asset inflation, as distinguished from ordinary inflation, the latter referring to rising prices of consumer goods, wholesale commodities, or the national-income deflator, is a phrase not in use in the west, but current in Japan. There are times when assets rise in price in an inflationary way, a boom or even a bubble, while output prices are relatively stable or even declining. Regarding a famous instance in 1928 and 1929, Milton Friedman and Anna Jacobson Schwartz wrote that the monetary authorities should have ignored the rise in the New York stock market, and focused attention on other goals such as the general price level.¹ More recently, at the end of 1989, the Bank of Japan moved to tighten interest rates after ignoring the spectacular rise of the equity Nikkei index from approximately 10,000 in 1984 to 39,000 in 1989, finally fearful that rising asset prices would ultimately provoke inflation at the consumer level, and worried that the spread of inflation from shares to real estate was putting housing out of the reach of the average Japanese and threatening social harmony.² This was an instance of international coordination of monetary policy as United States and German discount rates were lowered at the same time.

The Governor of the Bank of Japan, Yasuski Mieno, who took office in December 1989, was ambivalent over the change in policy:

□ Massachusetts Institute of Technology, Cambridge, Mass. (Usa)

* I am grateful for comments on the first draft from Peter L. Bernstein, Martin Bronfenbrenner and Robert M. Solow.

¹ Friedman and Schwartz 1963, pp. 261-62.

² *New York Times*, May 29, 1994, p. 33.

"He explained [in an interview with James Sterngold] that steep rises in asset prices could not be given the same emphasis in policy-making as could broader measures of consumer prices. On the other hand, they could not be ignored".³

Mikio Wakatsuki, former deputy Governor of the Bank of Japan and in 1994 chairman of the board of councillors of the Japanese research institute, echoed this indecision:

"We still don't know the connection between monetary policy and asset prices [...] what benchmark do you use? Which prices do you follow? We don't know and didn't know then".⁴

The sense of unease felt by Bank of Japan officials was expressed in a different setting in an interview with Paul Volcker:

Question (by Frederick Smoler): "Wasn't one of the unanticipated consequences of your victory over inflation [in 1979-81] the replacement of speculation in commodities by even more unwelcome speculation in financial instruments?"

Answer (Paul Volcker): "You're right [...] the commodities speculation didn't affect the banking system per se; the banks deal in credit instruments, not in commodities, so they avoided most of that. The banks had gone through a speculative real estate boom in the mid-seventies [...] not much compared to what happened since - but we thought it was big then. Then they went through the Latin American lending binge [...] energy speculation in Texas and elsewhere. All that collapsed with high interest rates and severe recession, but within two or three years we were back in a real estate frenzy, with speculation well beyond what we'd had before, and the banking system went through another and even bigger convulsion. I must confess I would not have anticipated it, given the financial hell that everybody had gone through in the early eighties. Could it have been prevented? I don't know [...]".⁵

Work on asset prices in Anglo-Saxon economic circles has concentrated for the most part on how the prices of individual assets are determined, on the relations of the price of one type of asset to that of another - equities, bonds, options, futures, and other derivatives

³ *New York Times*, May 29, 1994, p. 36.

⁴ *Ibid.*

⁵ Smoler 1994, p. 9.

(but not real estate), their connection with general equilibrium, and the theory of efficient markets. The field does not deal with what asset prices and changes in them may mean for inflation. The field is relatively new. In the fall of 1991, the National Bureau of Economic Research established a program in asset prices: "a highly technical field of economics [...] studying a variety of topics [...] including general equilibrium, asset pricing models, international financial integration, derivative securities, and some intriguing microeconomic puzzles".⁶ No mention was made of financial bubbles or inflation, or of markets for residential and commercial real estate, the last of which dominate the Bank for International Settlements (BIS) aggregate asset indexes, discussed below. Real estate in such a university as M.I.T. is studied in a separate center not connected with the Finance Department in the Sloan School of Management. Nor do inflation, monetary policy or real estate appear among the topics discussed at meetings of the NBER Asset Pricing Program in the fall of 1993 or the spring of 1994.⁷ John Y. Campbell, director of the NBER program and professor of economics at Princeton University, wrote a review article on the *New Palgrave Dictionary of Money and Finance* (1994b) and a research summary on "What moves the stock market?",⁸ again in the narrow context of technical finance rather than macroeconomic behavior and policy. Financial economists "are concerned with interrelationships between the prices of different financial assets. They ignore what seems to many to be the more important problem of what determines the overall level of asset prices".⁹ And even Lawrence Summers does not raise the question of what changes in asset prices in general may indicate as guidance for monetary policy.

If American and British investigators tend to ignore asset inflation, the staff of the Bank for International Settlements has paid it attention in recent years, both in annual reports from 1992 forward and in a series of economic studies, of which the most illuminating is *Economic Paper* No. 40 (1994) by C.E.V. Borio, N. Kennedy and S.D. Prowse, entitled "Exploring aggregate asset price fluctuations across countries: measurements, determinants and monetary policy implications". The present paper begins with a reprise of 1920s views on the subject of Benjamin Strong, Governor of the Federal Reserve

⁶ *NBER Reporter* 1993 (Spring), p. 1.

⁷ *NBER Reporter* 1994 (Winter), p. 21; *ibid.* 1994 (Spring), p. 32.

⁸ *NBER Reporter* 1994 (Fall), pp. 8ff.

⁹ Summers 1985, p. 633.

Bank of New York, as set forth in Lester Chandler's biography (1956), and of John Maynard Keynes, largely in *A Treatise on Money* (1930). Both men asserted that the primary task of central banks is to stabilize the level of prices, meaning, but without always specifying, the price level of output, wholesale prices including the prices of imports, or the level of consumers' prices. In various asides, qualifications, diversions, however, they looked over their shoulders at the stock market, and speculation in it, at real estate to a lesser extent, and at the dilemma presented when the general price level is steady or falling, but security markets are driven by speculation. I turn next to the work of the BIS staff, and in particular to its indexes of aggregate asset prices, and their problems, generously acknowledged, and finally to the awkwardness of trying to meet two or more goals with basically one instrument - monetary policy - evoking Jan Tinbergen's *Theory of Public Policy* (1965) that government authorities need as many instrumental variables as they have goals, or in more primitive terms, "You can't kill two birds with one stone".

II

In discussion with the Executive Directors of the New York Federal Reserve Bank, describing a meeting he had had with Governor Montagu Norman of the Bank of England at the end of 1924, Strong stated that he had told Norman "his belief [...] shared by all others in the Federal Reserve System, that our whole policy in the future, as in the past, would be directed toward the stability of prices, so far as it was possible for us to influence prices [...]".¹⁰ At other times, Strong set down lists of multiple targets.

"He [Chandler writes] could cooperate in the restoration of stable currencies and the maintenance of favorable monetary conditions abroad only to the extent that the policies necessary for these purposes were not seriously incompatible with domestic objectives, the most important of which were the promotion of price level stability, the maintenance of high levels of business activity, and the prevention of 'excessive' speculation, especially in the stock market".¹¹

¹⁰ Chandler 1956, p. 312.

¹¹ Ibid., p. 423.

In a letter to Norman in 1925, Strong wrote:

"We have had a dangerous speculation develop in the stock market, with some evidence that it is extending into commodities. There has been a rampaging real estate speculation in some spots, but that is too far away from our influence to be a direct factor [...] [...] we could better control it as a psychological problem by keeping a sword of Damocles suspended over the speculation, that is, [discount] rates advanced in sequence".¹²

Later in testimony before the 1927 Committee of the Congress on Stabilization, quoted by Keynes with evident approval, Strong said:

"Two months ago there was some concern felt in the country as to the extent of speculation in stocks and the amount of credit which was being employed in support of that speculation. At the same time [...] a decline in the wholesale price level [...] almost entirely due to the decline in the prices of cotton and grain [...] we have this feeling that there is a growth in speculation; possibly a feeling that it ought to be curbed by the Federal Reserve System in some way. On the other hand, we are faced with a clear indication of some decline in the prices of farm commodities. Now, if [...] we felt that the introduction of credit into the market or lowering interest rates might correct the prices of those individual commodities, what might the consequences be for speculation? There you are between the devil and the deep sea".¹³

Chapter XII of Chandler's biography of Strong reveals a Hamlet-like indecision on Strong's part about the stock market. The Fed was not the arbiter of stock prices. Its concern was only with the use of credit to support speculation. On several occasions, he recommended restriction because of stock speculation, but usually with reluctance and distaste. Overbuilding and real estate speculation in 1925 constituted one of three developments with the possibility of harm. He defended the 1927 reduction in interest rates, despite the well recognized hazard that the country was liable to encounter a big speculation and some expansion of credit, but speculation occurred not in commodities but almost entirely in stocks. If the Federal

¹² Ibid., pp. 329-30.

¹³ Keynes 1930, II, p. 241.

Reserve System is to be run solely with a view to regulating stock speculation, its policy will degenerate simply to regulating the affairs of gamblers, a view of its role with which he was impatient. The stock market responded not to the volume of credit or to discount rates but to psychology, and advancing prices reflected the wealth and prosperity of the country. In August 1928, the problem of the monetary authorities was to avoid a calamitous break in the stock market, a panicky feeling about money, and a setback in business because of a change in psychology.¹⁴

Strong did not consider separate policies to meet multiple objectives when their requirements differed. "We have to spank them all". He was opposed to the type of direct controls then proposed, and to "moral suasion." An attempt to limit credit to banks supplying brokers' loans was futile. "If you block one way, credit will find others". Chandler noted that the direct action proposed to contain stock market speculation bore little resemblance to the later margin requirements introduced by the Securities and Exchange Act of 1934, since it would not have limited loans to brokers by non-banks, or "others".

In 1928, Strong did propose to Professor O.M.W. Sprague a technique for restricting stock market speculation. The technique which Chandler says was used in 1925, involved the eleven Federal Reserve Banks outside New York raising their interest rates, in order to draw funds from New York and force the money-center banks there to borrow from the Federal Reserve Bank of New York or call in their brokers' loans. Strong recognized a danger that this might precipitate a stock market crash, but thought the danger "rather slight as there is always a supply of funds at some price".¹⁵

Strong's rather bizarre proposal to inhibit speculation in stocks in New York by drawing money away from that city is broadly in line with Keynes' distinction in *A Treatise on Money* between the "industrial" and the "financial" circulations of money. The industrial circulation turned over against inputs and outputs, the financial against trade in titles, in speculation, and in providing capital to entre-

¹⁴ Ibid. pp. 423, 428, 446, 458, 460-61.

¹⁵ Ibid. pp. 433-35. In *Manias, Panics and Crashes* (Kindleberger 1989, pp. 155-158), I assembled expressions of contemporary belief that in some of the nineteenth-century crashes in Europe and the United States it was impossible to borrow money at any price.

preneurs.¹⁶ The monetary authorities should seek to stabilize the price of current output, at the same time letting industry and finance have all the money they wanted, but at a rate of interest which, in its effect on the rate of investment (relative to savings), exactly balanced the effect of bullish sentiment. "To diagnose the position precisely [...] and to achieve this exact balance [...] may be beyond the wits of man".¹⁷

Keynes claimed that in the long run, in which he notoriously did not believe, the value of securities is entirely derivative from the value of consumption goods.¹⁸ Earlier he had noted the investment boom in the United States had produced an enormous rise in the price of securities without any rise at all in the price of current output of new fixed capital.¹⁹ Later he concluded that "a Currency Authority has no *direct* [his emphasis] concern with the level of the value of existing securities, as determined by opinion, but [...] it has an important indirect concern if the level of value of existing securities is calculated to stimulate new investment". No attention should be paid to a boom in land values or a revaluation of the equities of monopolies, entirely disassociated from any excessive stimulus to new investment.²⁰ "The dilemma is that if the Bank increases the volume of Bank-money so as to avoid any risk of the Financial Circulation stealing resources from the Industrial Circulation, it will encourage the 'bull' market to continue with every probability of a rise value of P' [the price level of new investment] which will lead to over-investment later on; whereas if it refuses to increase the volume of Bank-money, it may diminish the amount of money available for industry or so enhance the rate of interest at which it is available as to have an immediate deflationary effect".²¹

Himself a speculator in securities, Keynes had negative feelings toward speculators. In chapter XII of *The General Theory*, he writes of the absurd influence of day-to-day fluctuations of the market, the mass psychology of ignorant individuals, likely to change opinions in response to trivia, the fetish of liquidity, the stock market as a game of passing the debased half-crown, or Old Maid, or musical chairs,

¹⁶ Keynes 1930, I, p. 243.

¹⁷ Ibid., pp. 254-55.

¹⁸ Ibid., p. 255.

¹⁹ Ibid., p. 249.

²⁰ Ibid., p. 257.

²¹ Ibid., p. 254.

everyone interested in quick results. It was rare, he stated, for Americans to buy investments to hold for income. Speculation produced no harm as bubbles on a steady stream of income, but became serious when enterprise became a bubble in a whirlpool of speculation. It was usually agreed that casinos should be, in the public interest, inaccessible and expensive, and perhaps the same is true of the Stock Exchange.²²

Keynes' discussion of the crash in the New York stock market is not very edifying. He observed that wholesale prices were stable or falling, that investment was rising, the stock market booming despite high short-term interest rates. He suspected that there was profit inflation. In his view, the Federal Reserve caused the crash by trying to curb the enthusiasm of speculators, but that the depression – only to 1930 when the book was published – was caused by high interest rates.²³ It is unclear whether he would follow Friedman and Schwartz in believing that the Federal Reserve should have ignored the stock market boom, in support of his *obiter dictum* of volume I that the duty of the central bank is to manage money to keep the prices of current output stable.²⁴

One can conclude from Chandler's biography of Strong and from Keynes' writings, mainly *A Treatise on Money*, that the case for ignoring asset prices in the formulation of monetary policy was qualified in a number of vague ways.

III

Borio, Kennedy, and Prowse hold that "it has now become more widely accepted that the primary goal of monetary policy should be price stability".²⁵ At the same time, they recognize that asset prices can affect the demand for money, may serve as a leading indicator, and that asset inflation – a term they do not use – can pose problems for monetary authorities calling for the exercise of judgment.²⁶ Their particular contribution is to provide aggregate indexes of asset prices, combining price indexes of residential and commercial real estate with one for equities. The value of industrial real estate is held to be included in stock market prices. Bonds are not included though

²² Keynes 1936, pp. 147-64.

²³ Keynes 1930, II, p. 190-98.

²⁴ Keynes 1930, I, p. 254.

²⁵ Borio *et al.* 1994, p. 46.

²⁶ *Ibid.*, pp. 46, 60, 69.

comparison of overall asset prices with long-term real interest rates pays them some attention.²⁷ A *New York Times* story states that the rise in interest rates from February 1994 produced losses for bond holders and mutual funds in bonds "in hundreds of billions of dollars".²⁸

The weights for the separate components of the indexes, derived from their share in total wealth, seem intuitively to overvalue residential real estate, most of which is held as living space, producing a consumption good, rather than as a financial asset. Like housing, durable consumers' goods are part of household wealth, bought for use and not for capital gains. Few economists would believe that increases in the price level of a household's durable goods would so change its wealth as to have an impact on spending. Residential property accounts for 60 to 75 percent of the weight of the indexes in different countries, compared with 6 to 20 percent for commercial property, and 10 to 30 percent for equities.²⁹ It is true that housing bought for living space during the 1980s in the United States led to a considerable rise in home-equity mortgages that affected consumer spending and/or investment. A report by Korty Research (1994) contains a graph showing the ratio of mortgage debt to the equity of owner-occupied real estate rising from something on the order of 27.5 percent in 1980 to about 42 percent in 1993, but the source is not given.³⁰ I regard it as doubtful that homeowners as a class respond to changes in the value of their real estate as do owners of securities, though many of those, too, buy shares for income rather than trading and capital gains. Economic analysis, however, has little choice but to treat owners of a given asset alike when their motives in acquiring an asset may differ substantially. M.C. Reed (1975) observed that in the early days of investment in Britain, securities of a given railroad were bought for at least six different reasons: by landowners to sell real estate on or along the right of way; by manufacturers to improve and cheapen the transport of inputs and outputs; by suppliers of railroad equipment, often buyers of vendor shares; by long-term investors after income, some of whom bought bonds for a steady return, some

²⁷ *Ibid.*, p. 24 and graph 2, p. 25.

²⁸ *New York Times*, October 29, 1994, pp. 1, 51.

²⁹ *Ibid.*, Table A1.2, p. 80.

³⁰ Korty Research 1994, p. 8; see also *BIS Annual Report*, 1993, graph Mortgage Debt, p. 167.

shares in the hope of growing dividends; by sophisticated speculators seeking short-term capital gains; and by relatively ignorant and greedy latecomers after seeing the profits of the professionals. Today's owners of residential real estate do not cover as wide a spectrum perhaps, but an index that treats them all as professional speculators may well mislead.

The data used by the BIS team also raise questions. The index for residential property in the United States is the median sales price of existing single-family homes, collected by the National Association of Realtors.³¹ It seems probable that the boom in capital gains in the 1980s resulted in many newly-wealthy households buying second and even third homes, some priced at \$ 1 million or more, as observable in the advertisements in the *New York Times Sunday Magazine* (referred to in the *New Republic* as "porno real estate"). This and speculative building of luxury houses are likely to have skewed the distribution of real estate prices, with the result that the median of the distribution became less representative. Two American economists, Karl Case and Robert Shiller (1988), have produced an index of real estate prices in Greater Boston that deliberately avoids the median, comparing only the prices of houses that have sold for a second time. It is not clear that such a measure can effectively take into account improvements to a particular property – added rooms or garage, redesigned kitchen or bathrooms, a swimming pool and the like, as the Bureau of Labor Statistics tries in its indexes to separate changes in quality, especially of durable consumers' goods, from "pure" price change. A real estate development, like Levittown on Long Island, New York, started out after World War II with a simple, standardized design, but over the years became highly differentiated through disparate improvements on the part of various owners.

Somewhat puzzling is the fact that the BIS team uses an index for the United Kingdom of house prices (all dwellings) put out by the Department of the Environment, when *The Economist*, later, to be sure, said:

"It is strange that Britain does not already have a reliable indicator of house prices. The Treasury desperately needs this when considering whether interest rates need changing, because house prices are a crucial measure of economic activity".³²

³¹ Borio *et al.* 1994; Table A1.1, p. 77.

³² *The Economist*, August 20, 1994, p. 46.

The Economist took note of the house-price indexes of the Halifax and Nationwide building societies, along with that of the Department of the Environment, the last up for scrapping because "no one but economic historians pay attention to it". It regards all three as unrepresentative since they are based on mortgage data when, according to a real estate agency, 28 percent of purchases take place without a mortgage. The agency in question believed that prime properties in London showed a rise from December 1992, 23 percent higher than indicated by the indexes. *The Economist* thought that replacement of existing indexes by an improved one would be a contribution to better informed monetary policy.

In a number of other national indexes, the BIS group was forced to use data for a single city such as Paris, Brussels, Oslo and Amsterdam, again risking the possibility of a lack of representativeness.

Granted possible deficiencies in their indexes, which Borio and his colleagues make no attempt to conceal, several questions remain: How does monetary policy affect asset prices? How should changes in asset prices affect monetary policy? And are asset prices a leading indicator of changes in inflation in general, of output and/or employment?

On the first score, the authors attempt to demonstrate that rises and declines in asset prices in the 1970s and 1980s were brought about not by changes in the money supply, but by changing credit conditions including, especially on the upside, deregulation of financial restrictions and financial innovation. Deregulation was especially responsible for asset inflation of the Nordic countries – Sweden, Norway, and Finland – and of Japan, in which inflation went far wider than that in the other countries covered (although all were correlated to some degree, with the possible outlier of Germany). They cannot attribute the wide fluctuations to "fundamentals". The Cross report of ten central banks had earlier stated that innovations were typically underpriced and overused.³³ Borio *et al.* echo this view in saying that lack of familiarity with new conditions led to errors of judgment.³⁴

One change, not recognized in either BIS study, was the unintended relaxation of margin requirements for buying stocks in the United States in the development of the Standard and Poor 500-stock index option. Options traded in Chicago by speculators and

³³ Bank for International Settlements 1986.

³⁴ Borio *et al.* 1994, p. 29.

hedgers required a down payment in cash (margin) of merely 5 percent. With bull speculation in the options market, well-financed arbitrageurs sold forward and bought spot (a limited list of the index's leaders), with the Securities and Exchange-decreed margin of 50 percent. In effect, the margin requirement for speculators was reduced from 50 to 5 percent through the introduction of the option, and supervision of the credit available for speculation was divided between the SEC and the Chicago regulators. Portfolio insurance, using stock options, appeared foolproof, whereas when the options market turned sharply down on October 19, 1987, arbitrage dried up after a surge of selling, and both the spot and forward markets hit air pockets.

Flexibility of credit makes sense of recent bubbles, but deregulation, evident in the 1970s and 1980s, seems not to have loomed too large in the repeated booms and busts of the nineteenth century. How much weight it should bear now is thus something of a puzzle. Equally puzzling is the strong correlation in asset inflation and deflation among the financially developed countries covered in the study. The Nordic countries and Japan are outliers, as noted, but in extent rather than timing. The collapse of equity prices in 1929, in 1991-92, and 1987, with Japan an outlier in the last instance, are well known.³⁵ This parallel action was a compound of some shares traded in the several markets, some arbitrage, some monetary links among markets, but to a great extent psychological interaction.³⁶

It is difficult, however, to explain booms and busts in a dozen different real estate markets when the market for real estate would appear to be largely confined to a given country or even a given locality. The BIS study and annual reports state that real estate booms in the United States were localized, proceeding from the Middle West to New England, to the Southwest and then California.³⁷ There are leads and lags, to be sure, but the correlation is substantial, both within the United States – though sometimes with differences in vacancy rates and rents between downtown, midtown, and “edge cities” – and from country to country. The 1925 Florida land boom, occurring in an isolated and highly localized area, could safely be

³⁵ Kindleberger 1986, Figure 6, pp. 109-11; BIS 1991, p. 99 and 1993, p. 156.

³⁶ Kindleberger 1991.

³⁷ BIS study 1986 and *Annual Report* 1992, p. 169 and 1994, p. 18.

ignored. Half a century later, markets for residential mortgages had been integrated nationally, and to some extent internationally, through securitization. An early step was the action of Western savings banks in advertising in the New York press to attract savings by offering interest rates higher than those available in the East. Securitization of mortgages through “Fannie Mae” raised national integration to new heights. Even then puzzles remain. George Akerlof and Paul Romer note that the Houston, Texas economy, based on oil, had a peak in office construction ahead of Dallas/Fort Worth, but do not understand why construction continued upward in the latter (joint) city for several years after vacancy rates reached 20 and 30 percent.³⁸

Strong connections also run between prices in equities and those in real estate. Successful speculation in the stock market encourages that in real estate, both among would-be speculators and among their financiers. Japanese banks have traditionally lent against land as collateral. When their large loans to holders of stocks gained liquidity from the rise in the Nikkei index, this reinforced the banks' readiness to lend to mortgage companies. Much of the connection probably runs less through money flows and credit relaxation than through speculator psychology. A casual look at the national diagrams in the *BIS Economic Study*³⁹ and the table in the 1993 *BIS Annual Report*⁴⁰ shows considerable co-variance in the three markets. The historical record left by Governor Strong and Keynes' *Treatise* also indicates that while sometimes asset prices move differently from the level of output prices, posing a dilemma for policy, real estate and share prices tend to move up and down more or less together.

Writing on Chicago real estate sixty years ago, Homer Hoyt (1933) observed that building cycles were correlated with the stock market, but behaved somewhat differently in decline than on the upswing. When the stock market collapsed, speculators in real estate were prone to congratulate themselves that they owned physical assets, not mere paper, and that they were financed by intermediate-term credit, not callable day loans. Their satisfaction, however, was short-lived. While the shakeout in shares was relatively speedy, a matter of months or a year, that in real estate proceeded slowly. Real estate buyers moved to the sidelines, waiting for prices to come down.

³⁸ Akerlof and Romer 1993, pp. 30-40.

³⁹ *BIS Economic Study* 1994, pp. 72-74.

⁴⁰ *BIS Annual Report* 1993, p. 161

Meanwhile, taxes and interest rates remained high. Leveraged positions in real estate were gradually ground down in a debt/deflation struggle.⁴¹ First the speculators, and then their banks, went bankrupt. Such a process is now going on in Japan where the stock market, after falling from 39,000 to 15,000, has more or less stabilized about 20,000, but the impact on banks and insurance companies is still being felt.⁴² Still another two-way connection in Japan runs between real estate and the stock market since many large companies owned (and sometimes sold) large quantities of land.

The 1987 stock market crash in New York differed in effect from that in 1929 not insofar as real estate prices were concerned, but because of the absence of any drastic effect on commodity prices. In 1929, New York banks faced serious liquidity problems over loans to brokers, and rationed credit especially to commodity dealers who needed credit to buy imported primary products shipped to New York and sold on consignment. In 1987, such goods were normally bought abroad. Without credit in 1929, dealers were unable to make their usual purchases, and the prices of imported commodities fell by 10 percent or more in the weeks through December, spreading depression abroad through debt deflation and a negative foreign-trade multiplier.⁴³ In addition, Alan Greenspan of the Federal Reserve Board and Gerald Corrigan of the New York Federal Reserve Bank acted swiftly in 1987 to provide ample liquidity to New York banks, thereby forestalling a general contraction. The real estate bind was felt in thrift institutions more thoroughly than in commercial banks, but in the manner described by Hoyt almost half a century earlier.

Borio and his colleagues try to measure the extent to which asset price changes are a leading indicator of changes in prices in general.⁴⁴ On a priori grounds, they assert, the answer is ambiguous. Asset prices depend on the expected income they produce. But "income" in this sense is also ambiguous. It may reflect rent, interest or dividends, but it may include a measure, sometimes the entirety, of capital gains. The authors perform a number of econometric tests and conclude

⁴¹ Hoyt 1933, ch. 14.

⁴² "Bank rescued in Japan is sign of deeper woes", *New York Times*, 1994 October 13, p. D.2.

⁴³ Kindleberger 1986, pp. 112-16.

⁴⁴ Borio *et al.* 1994, pp. 60ff.

that while asset price behavior may contain useful information in many cases, it did not do so for Japan. Put more simply, one would expect the prices of output and assets to move together in an economy dominated by money changes, but if inflation had a strong component of wage increases, the general price level might rise but profits and equity prices fall. In addition, there can be simple bubbles fed by relaxation in credit conditions, an expanded money supply, or by "herd" psychology, which happen not to reach down to the general price level (of output) in the short run. In Sweden share prices tripled from 1985 to 1989 – the BIS aggregate asset index almost doubled – while the price index of "domestic supply" rose only 13 percent (International Monetary Fund 1992). The Bank of Japan felt confident in lowering its discount rate in 1986 and 1987, at the suggestion of the Federal Reserve System,⁴⁵ thereby reducing the level of interest rates as a whole, despite the fact that share prices were rising from 200 to 500 percent of the 1985 level, largely because it focused attention on wholesale and consumer prices. Consumer prices inched up only from 100 in 1985 to 101.4 in 1988, while wholesale prices actually fell over the same period from 100 to 91.8.⁴⁶

IV

With output, wholesale and/or consumer, prices moving one way, and asset prices another, monetary authorities with only one string to their bow are in a quandary. The dilemma inherent in conflict between domestic and foreign goals of a central bank is well known, and has given rise in the literature to the "assignment problem".⁴⁷ A theoretical solution to the problem is to use monetary policy to meet the international objective, fiscal policy for the domestic. This is a counsel of perfection, however, since while monetary policy can be implemented readily by an independent or quasi-independent central bank, changes in government spending and taxes as a rule go through a drawn-out legislative process; if initiated when the dilemma is first perceived, the fiscal changes desired are more

⁴⁵ Volcker and Gyohten 1992, pp. 271ff. and chronology, p. 357.

⁴⁶ Keizai Koho Center 1994, pp. 70 and 72.

⁴⁷ Mundell and Swoboda eds. 1969, esp. paper by Egon Sohmen and comment of R.N. Cooper.

than likely to be achieved only after the problem has disappeared. In consequence, the usual theoretical solution is to use monetary policy for domestic purposes, and neglect international objectives or hope that they will be taken care of by flexible exchange rates. In the latter case, however, there is another difficulty, since capital movements may respond to domestic monetary policy, offset it to a degree, and complicate matters on the international front.

Margin requirements, as already noted, might have served as an instrumental variable, but lost a great deal of their force because of the development of stock market futures and options. In the *Audacity* interview, Paul Volcker remarked:

"In 1986 someone remembered that the Federal Reserve had the authority over margin requirements and stock purchases, and complained to us: 'Look, somebody's going to buy our company. It's highly leveraged, and they're planning to use the stock they're going to buy as collateral for the borrowing. That's against the law. You have to look into that'.

Well we did, although margin requirements were really designed to inhibit excessive market speculation, not corporate acquisitions [...] whatever we ruled, it wouldn't make much difference. If we said it violated the margin requirements, the raiders would find some other way to borrow without directly securing the loan with that stock [...] maybe we weren't as courageous as we should have been. It did not make much difference what we ruled, because the market could find a way around it".⁴⁸

Since World War II, many countries, especially the United Kingdom, the United States, and the Scandinavian, have tried to devise measures for monetary policy beyond controlling the money supply and the rate of interest. One was limitation on the amount of total credit in the banking system. An international measure was to set a standard on bank capital at 8 percent of liabilities, agreed by central banks at the Bank of International Settlements. The familiar "moral suasion" has been attempted – warnings that the system was moving to excess in a given direction. The International Monetary Fund told U.S. bank officials, and repeated the admonition in statements at its Annual Meeting in 1976, that borrowing from banks by developing countries was building to a debt crisis. The next year Arthur Burns proposed that banks compile standardized information on developing-country debt and the part in it of bank lending. The

⁴⁸ Smoler 1994, p. 10.

IMF warning was ignored by both central and private banks; the latter opposed the Burns' proposal when it was discussed at the BIS.⁴⁹ Defending rational expectations, Harry Johnson once suggested that if a central bank or government agency knew something the market did not know, it should publicize it.⁵⁰ Like most other economists, however, he dismissed moral suasion as a virtually complete waste of time. The classic case is Paul M. Warburg's speech in February 1929 that the New York stock market was too high, a pronouncement which interrupted the market's ascent for a few days only.

Ceilings on credit that individual banks were allowed to extend in Britain and Scandinavia were judged to be ineffective as means of monetary control. The sharp increase of asset prices in Sweden, Norway, and Finland, however came about when these controls were removed in a wave of deregulation.

Regulation and deregulation are a hoary subject. The issue rose to prominence after World War II particularly with books on financial repression and on the need for financial deepening by Ronald McKinnon and Edward Shaw, respectively, based on the study of banking in South Korea. The South Korean government did remove a number of bank rules that favored particular borrowers, large companies, exporters and the government itself, only to have the deregulation followed by an explosion of lending and a financial crisis.⁵¹ McKinnon's reaction to the crisis in South Korea and to similar inflationary bursts which followed deregulation in Chile and other countries in South America was not that deregulation was a mistake, but that it was important to undertake it in a proper sequence.⁵² Analogous issues arose in the shift from Socialist to market economies in Eastern Europe and the former constituent parts of the Soviet Union. Some believe in scrapping controls in one fell swoop; others incline to one or a few steps at a time to allow markets to adjust to the new conditions. A more extreme position takes the form of "free banking", in which banks are not regulated in any way, and even central banks are abolished, sometimes with the substitution of an unbreakable rule, increasing the monetary base at a fixed percentage annually.⁵³

⁴⁹ James 1994, p. 447.

⁵⁰ Reference lost.

⁵¹ McKinnon 1973; Shaw 1973.

⁵² McKinnon 1994.

⁵³ E.g. Selgin 1986.

Most mainstream economists, however, are prepared to rely on monetary policy, with the general rule that that policy should be directed to stability of the "general price level", however defined, but not including asset prices.

V

Strong, Keynes and Volcker are undoubtedly right that it is difficult to the point of impossibility to work out an additional simple rule to restrain asset inflation without running a non-negligible risk of harming output and employment. But dilemmas and tradeoffs are fundamental facts of governing. A similar difficult choice in the summer of 1994 was revealed at the Jackson Hole conference of the Federal Reserve Bank of Kansas City, reported in the press, when Alan Greenspan, the chairman of the Federal Reserve Board, advocated tighter monetary policy to fend off prospective inflation, while Alan Blinder, the vice chairman, worried that higher interest rates might direct effort away from fuller employment. The sometime dilemma between domestic and international goals has been mentioned more than once. There are dozens more: between central bank service as a lender of last resort and moral hazard, as in insurance, that protection against loss from disaster increases its likelihood as those protected act with less caution; between full disclosure called for in a democracy to avoid the government or central bank favoring "insiders", and secrecy so as not to alarm the public about the safety of the system;⁵⁴ between government regulation and market disci-

⁵⁴ For a discussion of the importance of the dissemination of financial information in the United States, see Smith and Sylla 1993. A view somewhat disturbing from an ethical point of view is that insider trading serves a useful purpose to the extent that it spreads information. On secret last-resort lending, note the Bank of England's rescue of the William Deacons Bank in January 1929, with various conditions calling for non-disclosure, and the Bank of Italy "salvaging" (to use the Italian expression) the Credito Italiano and the Banca Commerciale Italiana, along with other banks, in deep secrecy in early 1930 (Kindleberger 1986, p. 102n; and Kindleberger 1993, p. 360). A Democratic amendment to the renewal of the Reconstruction Finance Corporation legislation in July 1932, calling for publicizing the names of borrowing banks, effectively closed off that avenue of banks in trouble, as it would have advertised the parlous condition of such banks (Kindleberger 1986, p. 195).

pline;⁵⁵ for an individual bank whether to write off problem loans or work them out, etc.

Outside banking, many more policy dilemmas and analytical questions exist: whether it is more efficient for a country, market or firm to be pluralistic with initiative and creativity diffused through many parts of the whole, or more centralized and disciplined. The fundamental difficulty here is that on stable trend a decentralized system is more efficient, assuming no economies of scale at the center, whereas in crisis, central direction is needed to organize rescue efforts coherently. Unhappily, shifts back and forth between the two systems as conditions change is almost impossible because of the inflexibility of institutions, the Coase theorem to the contrary notwithstanding. On shipboard, the captain may stay below in his cabin in smooth sailing, but must come back on deck or to the bridge to assume responsibility in storm or in navigating tricky passages. Any rule that consigned him to one place or the other would be wrong.

Many, perhaps most, economists believe in rules, and especially in rules to be laid down in macroeconomic policy. Ignore asset markets is one such. Design policy exclusively for domestic goals is another. When asset and output prices are stable or move in the same direction, or domestic and international goals call for the same policy response, both of which happen much of the time, such rules are supportable. When speculation threatens substantial rises in asset prices, with a possible collapse in asset markets later, and harm to the financial system, or if domestic conditions call for one sort of policy, and international goals another, monetary authorities confront a dilemma calling for judgment, not cookbook rules of the game. Such a conclusion may be uncomfortable. It is, I believe, realistic.

⁵⁵ In a presidential address to the American Finance Association, James van Horne admitted that some financial innovations led to excess, driven by herd instinct, but opposed regulation by the Securities and Exchange Commission (SEC) or the Financial Accounting Standards Board (FASB), stating that the ultimate discipline must come from the market. The choice between regulation and the market may depend on cultural aspects of a society. Norwegian shipowners policed themselves against risking sailors' lives in unseaworthy vessels, while British shipowners did not, and ultimately, after Parliamentary investigations, were regulated by the Board of Trade (Kindleberger 1992, pp. 34-40).

REFERENCES

- AKERLOF, GEORGE A. and PAUL M. ROMER (1993), "Looting: the economic underworld of bankruptcy for profit", *Brookings Papers on Economic Activity*, reprinted in National Bureau of Economic Research, Reprint no. 1868, pp. 1-73.
- BANK FOR INTERNATIONAL SETTLEMENTS (1986), *Recent Innovations in International Banking*, prepared by a Study Group, Sam Y. Cross, Federal Reserve Bank of New York, Chairman, established by the Central Banks of the Group of Ten Countries, Basle.
- BANK FOR INTERNATIONAL SETTLEMENTS (1991), *Annual Report*, Basle.
- BANK FOR INTERNATIONAL SETTLEMENTS (1992), *Annual Report*, Basle.
- BANK FOR INTERNATIONAL SETTLEMENTS (1993), *Annual Report*, Basle.
- BANK FOR INTERNATIONAL SETTLEMENTS (1994), *Annual Report*, Basle.
- BORIO, C.E.V., N. KENNEDY and S.D. PROWSE (1994), "Exploring aggregate price fluctuations across countries: measurement, determinants and monetary policy implications", *BIS Economic Papers*, no. 40, April, pp. 1-101.
- CAMPBELL, JOHN Y. (1994a) "Asset pricing", *NBER Reporter*, Program Report, Spring, pp. 1-4.
- CAMPBELL, JOHN Y. (1994b), "The New Palgrave Dictionary of Money and Finance", *Journal of Economic Literature*, 32 (2), pp. 667-73.
- CAMPBELL, JOHN Y. (1994c), "What moves the stock market?", *NBER Reporter*, Research Summaries, Fall, pp. 8-10.
- CASE, KARL E. and ROBERT SHILLER (1986), "The behavior of home buyers in boom and post-boom markets", *New England Economic Review*, November-December, pp. 29-46.
- CHANDLER, LESTER V. (1956), *Benjamin Strong, Central Banker*, Washington: Brookings Institution.
- The Economist* (1994), vol. 332, No. 7877, August 20.
- FRIEDMAN, MILTON and ANNA JACOBSON SCHWARTZ (1963), *A Monetary History of the United States, 1867-1960*, Princeton: Princeton University Press.
- HOYT, HOMER (1933), *One Hundred Years of Land Values in Chicago: The Relationship of the Growth of Chicago to the Rise of Its Land Values, 1830-1933*, Chicago: University of Chicago Press.
- INTERNATIONAL MONETARY FUND (1992), *International Financial Statistics*, Washington.
- JAMES, HAROLD (1994), "International monetary cooperation since Bretton Woods," draft manuscript, October.
- KEIZAI KOHO CENTER (1994), *Japan, 1994: An International Comparison*, Tokyo.
- KEYNES, JOHN MAYNARD (1930), *A Treatise on Money*, 2 vols., New York, Harcourt, Brace.
- KEYNES, JOHN MAYNARD (1936), *The General Theory of Employment, Interest and Money*, New York: Harcourt, Brace.

- KINDLEBERGER, CHARLES P. (1986), *The World in Depression, 1929-1939*, revised edition, Berkeley: University of California Press.
- KINDLEBERGER, CHARLES P. (1989), *Manias, Panics and Crashes: A History of Financial Crises*, 2nd edition, New York: Basic Books.
- KINDLEBERGER, CHARLES P. (1991), "International (and interregional) aspects of financial crises", in Martin Feldstein ed., *The Risk of Economic Crisis*, Chicago: University of Chicago Press, pp. 128-32.
- KINDLEBERGER, CHARLES P. (1992), *Mariners and Markets*, New York: Harvester/Wheatsheaf.
- KINDLEBERGER, CHARLES P. (1993), *A Financial History of Western Europe*, 2nd edition, New York: Oxford University Press.
- KORTY RESEARCH (1994), *Investment Direction*, October.
- MCKINNON, RONALD I. (1973), *Money and Capital in Economic Development*, Washington: Brookings Institution.
- MCKINNON, RONALD I. (1994), *The Order of Economic Liberalization: Financial Control in the Transition to a Market Economy*, 2nd edition, Baltimore: Johns Hopkins University Press.
- MUNDELL, ROBERT A. and A.K. SWOBODA eds. (1969), *Monetary Problems of the International Economy*, Chicago: University of Chicago Press.
- NBER Reporter*, various issues, Cambridge, Mass.
- New York Times*, various issues.
- REED, M.C. (1975), *Investment in Railways in Britain: A Study in the Development of the Capital Market*, London: Oxford University Press.
- SELGIN, GEORGE (1986), *The Theory of Free Banking*, Totowa: Rowan and Littlefield.
- SHAW, EDWARD S. (1973), *Financial Deepening in Economic Development*, New York: Oxford University Press.
- SMITH, GEORGE DAVID and RICHARD SYLLA (1993), "The transformation of financial capitalism: an essay on the history of American capital markets", *Financial Markets, Institutions and Instruments*, 2 (2), pp. 1-62.
- SMOLER, FREDERIC (1994), "A view from the Fed: an interview with Paul A. Volcker", *Audacity*, 3 (1), Fall, pp. 6-15.
- SUMMERS, LAWRENCE H. (1985), "On economics and finance", *Journal of Finance*, 11 (3), July, pp. 633-65.
- TINBERGEN, JAN (1965), *On the Theory of Economic Policy*, 2nd edition, Amsterdam: North Holland.
- VAN HORNE, JAMES C. (1985), "Financial innovation and excesses", *Journal of Finance*, 11 (3), July, pp. 621-31.
- VOLCKER, PAUL A. and TOYOO GYOHTEN (1992), *Changing Fortunes: The World's Money and the Threat to American Leadership*, New York: Times Books.