

are such as to make general re-
 . . . undesirable" (1947, p. 38).
 ng consumer credit control in
 ar, the authority for which had
 aired, the Board noted that:

One reason why consumer buying on instal-
 is subjected to special regulation is that
 in the volume of such buying has a
 disturbing influence on business stability. Pur-
 chases on an instalment basis are likely to be
 large at a time of general prosperity [and] are
 likely to increase still further a demand for
 goods that is already larger than can be easily
 supplied. On the other hand, at a time of de-
 pression and unemployment . . . the necessity
 for many purchasers on instalment to meet their
 payments tends to reduce still further the
 amount of money available to consumers for
 current purchases. It is believed by many that
 regulation of instalment purchases, prescribing
 stiffer terms in a boom period and permitting
 easier terms in a depression, would tend to re-
 duce somewhat the swings from prosperity to
 depression and would therefore support the
 main purposes of Federal Reserve policy [1947,
 p. 46].

In addition, it was also noted that con-
 sumer-credit controls "tended to cause
 competitive business forces to take the
 direction of lowering prices instead of
 keeping them up by means of offering
 easier and easier credit terms" (1947, p.
 46). The Board concluded that selective
 controls over stock market and consumer
 credit had been developed far enough to
 be "a useful complement to the older and
 more general instruments. . . . They are
 flexible in themselves and can help to
 make credit policy in general more
 flexible" (1947, p. 47).

By the 1954 edition a considerable de-
 gree of disenchantment was evident.
 This was still two years before the start
 of the inconclusive Federal Reserve-Na-
 tional Bureau Study of Consumer Credit,
 three years before its completion. Margin
 requirements still found favor, although

it was no longer a "merit" but merely a
 flat statement of fact that "selective
 methods make it possible to reach spe-
 cific credit areas without imposing
 stronger credit measures than might
 otherwise be appropriate" (1954, p. 57).
 The section on consumer-credit controls
 still mentioned the "price competition in-
 stead of progressive easing of credit
 terms" point, but the long paragraph re-
 produced above regarding the cyclically
 aggravating impact of consumer credit is
 no longer in evidence. Instead, the read-
 er is warned that before imposing selec-
 tive credit controls one should be sure
 that their contribution will be great
 enough "to outweigh the burdens of reg-
 ulation, on both those subject to it and
 those administering it" (1954, p. 67).

By the 1961 edition we have come full
 circle. Margin requirements are still ap-
 proved on the grounds, as in 1939, that
 excessive use of stock market credit may
 have wide ramifications, and that by way
 of margin requirements the System can
 exercise an influence in this area without
 employing its general controls. "Such use
 of the general instruments, to be effec-
 tive, would necessarily run the risk of
 undesirable, broader effects" (1961, p.
 61). Although it would appear that the
 same argument could be applied in the
 consumer-credit area, in the 1961 edition,
 as in 1939, there is no mention whatso-
 ever of selective controls over consumer
 credit.¹¹

¹¹ In a letter to Senator Douglas in late 1959
 Chairman Martin noted that the imposition of
 consumer-credit controls "would be preferable to
 either calculated or uncontrolled inflation, but we
 should recognize that they involve a degree of
 regimentation never before accepted in this country
 except in time of war" (*Employment, Growth, and
 Price Levels*, Hearings before the Joint Economic
 Committee, Eighty-sixth Congress, 1st sess.,
 [Washington: Government Printing Office, 1959], p.
 3455; see also pp. 1490-91).

III. THE THEORY OF MONETARY CONTROL

Tastes differ with respect to the extent to which economists desire or believe it necessary to spell out the detailed process through which they visualize monetary policy as influencing aggregate spending and the level of income. By and large, quantity theorists seem to confine themselves to explanations in terms of a stable demand for cash balances that is primarily a function of income, often expressed as a stable velocity. Beyond that, the particular categories of spending affected by monetary policy are rarely specified. Keynesians (if one may use that term to cover a wide variety of views when it comes to the subject of monetary policy) analyze the process more in terms of the interest elasticity of the demand for idle balances and the interest elasticity of particular sectors of investment and consumer spending. The quantity theory implies a low interest elasticity of demand for idle balances, that is, an insensitivity of hoarding to monetary expansion (no liquidity trap) and an insensitivity of dishoarding to monetary contraction (no substantial release of idle balances to augment active balances in periods of tight money). It also implies a substantial interest elasticity of investment or consumer spending.

The explanations in the various editions of *Purposes and Functions* of the mechanism through which monetary policy is seen as influencing aggregate spending cannot be placed squarely into either camp. In terms of the method of approach—not the conclusions—perhaps the first two editions are more inclined toward a quantity-theory orientation and the last two toward a Keynesian approach. But this is an inadequate charac-

terization, for the first two editions continuously stress that while the Reserve "can create credit when demand, can encourage the demand by making funds abundant and can create deposits by open purchases of securities, they cannot create a demand for credit or cause created deposits to be actively used" (p. 86). And while the broad outlines of the Keynesian framework are discernible in the last two editions, the analysis contains unique contributions of its own. In Tobin's words, in commenting on Federal Reserve testimony during the Patman Hearings, which is essentially reproduced in the 1954 edition, this "third school sets forth a new theory of monetary control which claims that both of the old schools are asking the wrong questions. According to this theory, monetary controls work much more through restricting the availability of credit than through increasing its cost, much more through restraints on lenders than through reactions of borrowers."¹²

The various editions of *Purposes and Functions* differ greatly in the attention they devote to the theory of monetary control. In 1939, discussion was limited to the assertion that the effects of monetary policy "extend to all forms of economic activity and are felt indirectly by everyone" (1939, p. 11). However, the only causal process mentioned was that through its control over bank reserves the central bank influenced both the availability and the cost of bank credit

¹² James Tobin, "Monetary Policy and Management of the Public Debt," *Review of Economics and Statistics*, XXXV, No. 2 (May, 1953), 118-27. Tobin concludes: "Only the future will tell whether this kind of monetary policy will do the job to the satisfaction of the monetary authorities themselves, or whether in the end they will conclude that monetary control can only be successful through the more pronounced changes in interest rates on which central banks traditionally relied in the past."

and thereby the money supply. It was implied that this in turn influenced aggregate spending, but there was no analysis of how this occurred or which particular types of expenditure might be affected.¹³

In the 1947 edition, the principal purpose of the Federal Reserve was seen as the regulation of "the supply, availability, and cost of money" in order to avoid both inflation and depression. But the only description of exactly how monetary policy contributed to this end was confined to a general statement to the effect that if the supply of money is "too scarce, too dear, or too hard to get" it will lead to depression, while if it is "too plentiful, too cheap, or too easily obtainable" it will lead to inflation. Relying on its control over member-bank reserves, the Federal Reserve evidently steered a middle course between Scylla and Charybdis.

The 1954 edition thus represented the first real attempt to explain the process, as the Federal Reserve saw it, through which monetary policy works. Both it and the 1961 edition utilize roughly the same framework for this analysis. Within that framework, however, a number of changes appear between 1954 and 1961, clearly reflecting both the experience gained and professional discussion in the intervening years. It will facilitate comparison to trace through the entire process step by step, comparing the 1954 with the 1960 analysis at each stage. At the risk of caricaturing a complex and subtle explanation in the interest of brevity, the following is the essence of the process of restraint as seen by the Board.¹⁴

¹³ All editions of course mention that the structural reforms instituted by the Federal Reserve Act, such as establishing a lender of last resort, correcting the pyramiding of reserves, and making the currency more elastic, make financial panics less likely than before 1914.

1. The Federal Reserve puts pressure on member-bank reserve positions, initially probably through open-market operations, thereby hampering the banks' ability to make loans and create money. There is no difference between the 1954 and 1961 editions regarding this first step.

2. 1954: To some extent, the banks then turn to the discount window for additional reserves. However, such funds are only temporary at best. In addition, member-bank reluctance, administrative supervision of the discount window, and raising the discount rate in line with short-term market rates, all operate to limit recourse to this source of funds. The banks are thus forced to sell short-term government securities to obtain the reserves necessary to satisfy loan demands. While an individual bank can indeed augment its reserves in this fashion, this will draw reserves from other banks and no net addition to reserves will take place. "Consequently, banks as a group cannot expand their total supply of lendable funds in this way except when such paper is being bought by the Federal Reserve System" (1954, p. 126).

1961: The 1961 edition is the same as the above except for the substitution of the phrase "total loans and investments" for the expression "total supply of lendable funds" in the concluding quotation.

3. 1954: The sales of short-term securities by the banks, and perhaps by the System as well, if it wants to intensify the pressure, drive short rates up. With yields now more attractive, "nonbank investors may be induced to buy more of them, using temporarily idle deposit balances. Sales of short-term paper by banks

¹⁴ Anti-depression policy is by and large explained as merely the opposite of anti-inflation policy. One possible exception is the view that if a boom gets out of hand it will make it more difficult for monetary policy to cure a subsequent recession.

to other investors and the use by banks of the proceeds to make loans will shift the ownership of deposits and may increase the activity of existing deposits, but such sales will not increase total bank reserves so as to permit an increase in total bank credit and deposits" (1954, p. 126).

1961: The tone of the 1961 edition is much less sanguine than the above quotation. In its place is substituted the following: With yields on short-term securities now more attractive, "nonbank investors may use temporarily idle balances" to buy them, "or they may even be induced to economize on cash balances held for current payments. When banks sell short-term paper to other investors and use the proceeds to make loans, ownership of deposits may shift from holders of idle balances to borrowers who are spenders and will shortly disburse the proceeds. To the extent that this occurs, the velocity of existing deposits will increase. Total bank reserves and total bank credit and deposits do not increase in this process, but the volume of money transactions increases as the existing supply of money is used more actively" (1961, p. 127).

4. 1954: The sale of short-term securities soon depletes bank liquidity, so that the banks become increasingly reluctant to reduce their short-term holdings further. They are also by now reluctant to sell longer-term issues as well. The rise in short rates has exerted an upward pressure throughout the yield curve, bringing about lower capital values on longer issues.¹⁵ "Many banks . . . are reluctant to sell securities at a loss. As the potential loss becomes greater, this reluctance

deepens" (1954, pp. 126-27). In addition, monetary restraint has injected a note of caution and uncertainty into the business outlook. Because of these factors, banks start to conserve their liquidity and stop selling securities in order to make loans.

1961: The 1961 edition reproduces the concept of the erosion of bank liquidity, with consequent reluctance of the banks to continue their sales of short-term issues. However, the "uncertainty effect"—the dampening influence of a restraining monetary policy on expectations regarding future business conditions—is not mentioned at all and the so-called "lock-in effect" is sharply downgraded: "Banks are influenced to some extent by potential capital losses on the securities in their portfolios and they hesitate to sell securities at a loss. Income tax considerations and strict earnings calculations, however, may moderate or even negate the deterrent effect of such losses on continued sales of such securities" (1961, pp. 127-28).

5. Both the 1954 and 1961 editions stress that this process of monetary restraint leads to credit rationing by banks as well as to higher interest charges. The credit rationing takes the form of more careful screening of loan applicants and greater over-all selectivity in lending practices and standards. One of the reasons for this mentioned in the 1954 edition, however, is not in evidence in 1961, namely, the effect of a tight money policy in inducing a reassessment of prospective business developments.

6. 1954: Non-bank financial institutions have not escaped unscathed. In the first place, the prospect of continued monetary tightness also tempers their optimism about future business trends. In addition, rising interest rates and concomitant lower capital values of the

¹⁵ Neither edition makes any serious attempt to argue that only *small* changes in interest rates will suffice to lock lenders into their existing portfolios (cf. Tobin, *op. cit.*), although there is some suggestion of this in the 1954 edition, pp. 44 and 145-46.

securities they hold produce a less ebullient market atmosphere and a general decline in their liquidity. The size and wide distribution of the public debt are important in this process. Thus financial institutions "become less willing to sell prime securities to acquire higher yielding but more risky assets, partly because they can sell the prime securities only at a loss, which they hesitate to accept. They also become more interested in retaining in or adding to their portfolios the more liquid types of assets, because of concern about the decline in the market value of their entire investment portfolio and the general uncertainty about future developments" (1954, p. 129). As a result, they "become less willing to make any but the best grade loans and investments, and they generally exercise greater caution in accepting credit applications from marginal risks" (1954, p. 128).

1961: It is clear that in the 1954 edition the reaction of non-bank financial institutions to monetary policy was seen as a significant aspect of the mechanism of restraint. Indeed, it was largely on this base that the availability doctrine was initially constructed. In the 1961 edition, however, the lending behavior of non-banks is not viewed as nearly so susceptible to System control as in 1954. As elsewhere, the uncertainty effect has been discarded and the lock-in effect qualified. In addition, the large and widely distributed federal debt, and the highly developed financial structure it serves to interconnect, are no longer viewed as unmixed blessings: "Because market sectors are related . . . the effect of reserve banking policy . . . is transmitted throughout the national credit market and has an influence generally . . . on the willingness and ability of non-bank financial institutions to lend. At the

same time, the broadening of the credit market and the growth of financial intermediaries *enlarge the sources of credit available to borrowers, intensify competition on the side of supply, and increase the potentiality for accelerated credit expansion*" (1961, p. 104). Similarly, it is now noted that rising interest rates may *attract* funds to some financial institutions: The size of the cash balances that businesses and individuals find it desirable to hold depends in part on the level of interest rates. The form in which contingency or speculative balances are held—whether as demand deposits that bear no interest or as interest-earning assets—is highly sensitive to the interest return. Insofar as rising interest rates . . . lead to a greater preference for interest-earning assets, some additional flow of credit may become available out of what would otherwise be idle balances. Such an addition to the flow of available credit tends to offset somewhat the credit-restraining effects of anti-inflationary monetary policy" (1961, pp. 130, 133).¹⁶ Elsewhere, however, it is alleged that the attraction of funds to non-bank financial institutions under the stimulus of rising interest rates "helps to correct forces making for inflationary tendencies" because it enables a larger proportion of borrowing to

¹⁶ Considerably more attention is devoted to the topic of monetary velocity in the 1961 edition than in any previous edition. See especially pp. 127-33. The 1961 edition concludes: "In assessing the effect on economic activity of changes in the money supply, it is important to recognize that there is no simple automatic measure of the appropriate relationship between the amount of money outstanding and the level of economic activity. A given volume of money, for example, can be associated with either higher or lower levels of total spending depending on how often it is used. With the changing use of cash balances a potential countervailing force to restrictive or expansive monetary policy, it is necessarily incumbent on the monetary authorities to pay close attention to monetary velocity and to weigh its strength carefully in determining possible actions" (1961, pp. 129, 132).

be met through the facilities of these institutions and thereby "reduces pressures leading to bank credit and monetary expansion" (1961, p. 140).

7. 1954: All that remains is to identify the particular categories of final expenditure affected. Restraint is exerted on borrowing and thereby on spending by *three* main channels: (a) the higher interest cost, (b) the greater difficulty of obtaining a loan from almost any lender, even if one is willing to pay the going rate, and (c) the clouding of business prospects in general, due to the monetary uncertainties that stem from rising interest rates, lower capital values, and the declared intent of the central bank to maintain price stability. It is emphasized that it is marginal borrowing and spending decisions that will be affected. The particular spending categories likely to be most influenced are long-term investment in plant and equipment, inventory accumulation, residential construction, and consumer spending. These direct effects are likely to set in motion a sequence of secondary multiplier and accelerator repercussions that will magnify the initial impact.

1961: Restraint is exerted on borrowing and thereby on spending through *two* main channels: (a) the higher interest cost, and (b) the greater difficulty of obtaining a loan, especially from commercial banks, even if one is willing to pay the going rate. It is still emphasized that it is marginal borrowing and spending decisions that will be affected; "The result usually is a smaller increase in spending than transactors desired rather than an actual contraction in spending. For this reason, the curtailment in spending is difficult to observe" (1961, p. 135). The particular spending categories likely to be most influenced are much the same as above. However, in the absence of the

uncertainty effect and with the grading of both the lock-in effect and the responsiveness of non-bank financial institutions, it is implied, although not explicitly stated, that somewhat more reliance must now be placed on the reactions of borrowers to interest costs relative to former emphasis on the behavior of lenders in restricting the availability of credit. As before, the direct effects are seen as likely to set in motion a sequence of secondary multiplier and accelerator repercussions that will magnify the initial impact.

In summary, the major changes between 1954 and 1961 in the process of monetary restraint, as seen by the Board, are the following: (1) The large and widely distributed Federal debt, and a highly developed financial system, are no longer viewed as unmixed blessings since they facilitate the mobilization of idle balances and the creation of credit despite the actions of the central bank. (2) The lending behavior of non-bank financial institutions is no longer viewed as highly susceptible to System control. (3) It is now recognized that stability in bank reserves and the money supply, and in total bank loans and investments, may still permit an expansion in total credit and in total spending, due to higher monetary velocity resulting from dishoarding and economizing on cash balances induced by higher interest rates. (4) The lock-in effect with respect to sales of securities, particularly by banks, has been sharply downgraded. (5) The uncertainty effect, the thesis that central-bank policies introduce an element of caution and restraint into the short-term business outlook, and thereby curtail the desire to borrow and the willingness to lend, has been discarded. (6) In addition to the renewed attention men-

bove regarding the importance of rates relative to liquidity preference. Somewhat increased emphasis is placed on the importance of interest rates as a cost factor to borrowers. Reasoning by lenders, however, is considered to be of great significance. What can we conclude from this excursion through more than twenty years of *Purposes and Functions*, through many aspects of central banking theory about which, it should again be stressed, there is little or no consensus within the profession? Many conclusions are possible regarding the evolution and present state of particular doctrines. However, I would

like to emphasize a conclusion of a somewhat different nature. Without regard to the merits of specific positions, past or present, it is obvious, at least from this particular chain of evidence, that the thinking of the monetary authorities has not been parochial or dogmatic. It has instead been eclectic, pragmatic, and responsive to both experience and discussion within the profession. It has shown itself capable of change and adaptation in light of trends in both economic conditions and economic analysis. A word of commendation is in order, after which we can, with better conscience, return to the fray.



