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# The Impact of Severe Monetary Restraint on Money Flows

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SPEAKING at the Eleventh Annual Meeting of the Board of Governors of the International Monetary Fund, Ralph Young referred to the need to "construct a statistical bridge between the money surface of things and the product surface . . . so that monetary and other public policies are determined with as much understanding as possible."<sup>1</sup> With this goal in mind, I have examined the two six-quarter periods—December 31, 1951, to June 30, 1953; and June 30, 1956, to December 31, 1957—to see if I could detect significant changes in the pattern of money flows through the capital market during periods of severe monetary restraint.

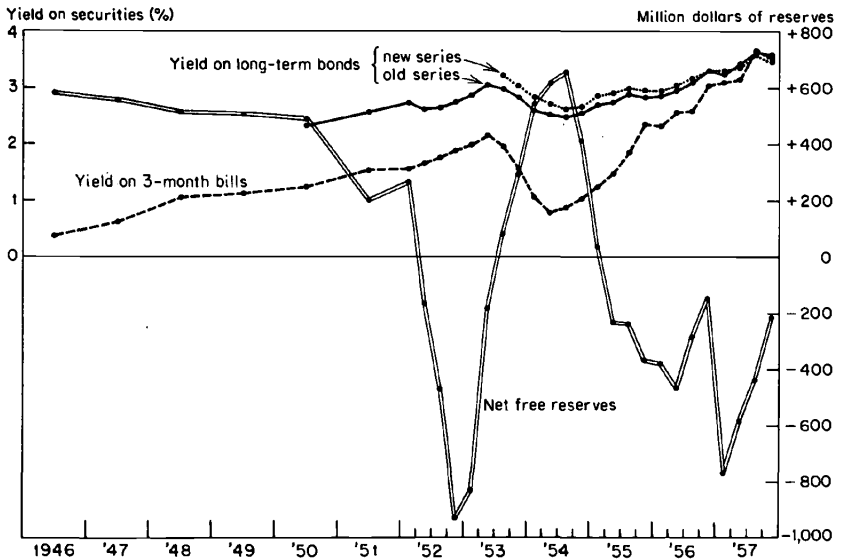
Before I go on to indicate the procedures I have used, I should like to congratulate the economists in the Board of Governors of the Federal Reserve System for the rich body of data they have made available to us. Despite my own failure to find significant changes in the pattern of money flows through the capital market during these periods, I have faith that these data will eventually give us useful information about the impact of monetary policies on the functioning of the economy.

## *Procedure*

My first problem was to divide the 1946–57 period into two parts: the tight-money periods and the easy-money periods. Consider, in this connection, the average yields on federal government securities and average net free reserves reported in Chart 1. Clearly the six quarters ending on June 30, 1953, were tight-money periods. Net free reserves were less than zero beginning in the second quarter of 1952, and the bill rate was rising throughout the period. The last tight-money period is somewhat harder to define. Net free reserves were less than zero starting in the second quarter of 1955, and the bill rate rose rather sharply during 1955. At the same time, bank loans

<sup>1</sup> Ralph A. Young, *The Federal Reserve Flow-of-Funds Accounts*, at the Fund Informal Session on "Recent Developments in Monetary Analysis," September 25, 1956, Press Release No. 11.

CHART 1  
Average Yields on Federal Government Securities and Net Free  
Reserves, 1946-57



Source: *Federal Reserve Bulletin*.

continued to rise sharply during 1955 and early 1956, from about \$86 billion on December 31, 1955, to about \$105 billion on June 30, 1956.<sup>2</sup> It was only after June 30, 1956, that there was a marked slowing down in the growth of bank loans. Accordingly, I have chosen as the second tight-money period the six quarters beginning on June 30, 1956, and ending on December 30, 1957. I have some hesitation about including the last quarter of 1957, in view of the slight decline in the bill rate and the rise in net free reserves. But in view of the relatively high level of the bill rate and the negative net free reserves, I have included all four quarters of 1957 in the tight-money periods. In this way, we can think of the 1946-57 period as being largely an easy-money period, interrupted by two six-quarter tight-money periods, ending on June 30, 1953, and on December 31, 1957.

Perhaps I should comment on definitions of tight-money implicit in the selection of these periods. The Federal Reserve may be said to have exercised some measure of restraint throughout the entire period. Therefore, to designate certain periods as tight-money and

<sup>2</sup> "Consolidated Condition Statement for Banks and the Monetary System," *Federal Reserve Bulletin*, July, 1957, p. 784.

others as easy-money periods is to ignore the different gradations of tightness and their effects on money flows.

However, my objectives in this paper are very limited. I am not interested in developing a model which would permit us to predict the way different gradations of monetary restraint affect money through the capital market. Rather, I am interested in determining the extent to which the pattern of money flows through the capital market is affected by severe monetary restraints of the type characteristic of the periods from mid-1952 to mid-1953 and mid-1956 to mid-1957. I leave it to others to investigate changes in money flows characteristic of various parts of the tight-money periods.

I had hoped to be able to use quarter-by-quarter figures relating the tightness of money, as measured by the bill rate, to the money flows during that quarter. But there appeared to be so much seasonality in the quarterly data and, in view of the limited number of quarters to be studied, so little opportunity to introduce seasonal corrections that I decided to use annual totals. Because of limitations of data, I used calendar-year totals through 1952 and fiscal-year totals from June 30, 1953, to June 30, 1957. To give me more data during the tight-money periods, I also used annual totals for the years ending in March and June of 1953 and September and December of 1957.

Using what might be said to be a naïve empirical approach, I have summarized the money-flow figures for each sector, separating the tight-money periods from the easy-money periods to see if the tight-money periods appeared to be different from the other periods. I then developed a hypothesis to explain the developments which the figures seemed to suggest.

### *Empirical Results*

#### CONSUMERS

The series of tables given below are, I believe, self-explanatory to persons who have worked with these data. My objective was so to combine the data as to reveal differences—particularly with respect to financing media and patterns—between the tight- and easy-money periods.

In Table 1 I have summarized the financial transactions of consumers taken as a group. The column headings, together with the footnotes to this table, will explain the derivation of the figures. I must report that, using these data, I could not find any significant changes in the capital expenditures of consumers or in the amount of

## ANALYSIS AND APPLICATIONS OF DATA

TABLE  
SOURCES AND USES OF FUNDS, CON  
(billions of

Year Ending	Available from Income			Available from Credit			Total Available (7)
	Current Surplus (1)	Capital Expen- ditures (2)	+ Available - Required (3)	Mort- gages (4)	Other Credit (5)	+ Available - Required (6)	
Dec 30, 1946	30.1	21.0	9.1	2.5	1.1	3.6	12.7
Dec 30, 1947	23.8	28.2	-4.4	3.3	3.3	6.6	2.2
Dec 30, 1948	32.1	33.7	-1.6	3.7	2.8	6.5	4.9
Dec 30, 1949	31.7	33.8	-2.1	3.4	3.3	6.7	4.6
Dec 30, 1950	38.9	40.7	-1.8	6.3	5.0	11.3	9.5
Dec 30, 1951	42.0	39.9	2.1	6.1	1.3	7.4	9.5
Dec 30, 1952	45.5	41.6	3.9	5.7	5.0	10.7	14.6
Mar 30, 1953	46.5	43.3	3.2	5.8	6.4	12.2	15.4
Jun 30, 1953	48.1	44.7	3.4	6.4	6.2	12.6	16.0
Jun 30, 1954	49.4	45.9	3.5	6.4	1.8	8.2	11.7
Jun 30, 1955	46.6	50.8	-4.2	10.3	5.8	16.1	11.9
Jun 30, 1956	49.6	53.6	-4.0	10.0	5.6	15.6	11.6
Jun 30, 1957	52.0	52.0	0.0	8.3	3.5	11.8	11.8
Sep 30, 1957	52.6	51.9	0.7	7.7	3.6	11.3	12.0
Dec 30, 1957	51.4	51.3	0.1	7.3	2.7	10.0	10.1

money available from credit sources to consumers during the tight-money periods, with the exception of mortgage money. *A priori*, we would expect funds available from mortgage credit to rise during prosperous periods. Yet mortgage credit did not rise during the first tight-money period. And during the second tight-money period mortgage credit advanced to consumers declined.

Possibly as a result of the limitations on the amount of mortgage credit, consumers, instead of absorbing funds from the capital market, tended to supply funds to the capital market during tight-money periods. But, again, the data are merely suggestive. Consumers also advanced funds to the capital market in 1951 and 1954, both of which we have classified as easy-money periods.

IMPACT OF RESTRAINT ON MONEY FLOWS

1  
 SUMERS, SELECTED PERIODS, 1946-57  
 dollars)

<i>Used for Cash and Govt. Securities</i>			<i>Used for Indirect Finance</i>			<i>Used for Direct Finance</i>		
Currency and Demand Deposits	Federal Obliga- tions	Total	Life Insurance	Time and Savings Deposits	Total	Pro- priators' Net Investment	Securities Other than of Govt.	Total
(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
3.3	0.9	4.2	2.5	7.1	9.6	1.7	-0.5	1.2
-0.1	1.8	1.7	2.5	5.2	9.7	0.6	0.8	1.4
-1.1	-0.2	-1.3	2.6	2.3	4.9	3.2	2.0	5.2
-2.1	1.1	-1.0	2.6	2.6	5.2	1.4	0.7	2.1
0.9	-0.4	0.5	2.8	2.4	5.2	4.7	1.2	5.9
2.5	-1.4	1.1	2.7	4.4	7.1	3.2	2.0	5.2
2.8	-0.2	2.6	2.8	7.8	10.6	1.2	3.1	4.3
3.5	-0.4	3.1	2.8	8.1	10.8	1.2	3.1	4.3
2.6	2.8	5.4	2.8	8.4	11.2	1.2	3.3	4.5
0.1	-1.8	1.7	2.8	8.5	11.3	0.8	2.2	3.0
0.4	1.0	1.4	2.8	8.8	11.6	-0.2	1.9	1.7
-0.5	2.3	1.8	3.2	9.1	12.3	-2.6	6.2	3.6
-0.5	0.3	-0.2	3.4	11.0	14.4	-3.6	6.4	2.8
-1.0	1.7	0.7	3.3	11.3	14.6	-3.2	6.8	3.6
-1.9	0.8	-1.1	3.2	12.0	15.2	-2.8	6.2	3.4

SOURCE: *Summary of the Flow-of-Funds Accounts*, derived as indicated for each column: (1) row A of *Summary*; (2) row C; (3) columns 1 minus 2; (4) rows Q and R; (5) rows S, T, U, V, and Y; (6) columns 4 and 5; (7) columns 3 and 6; (8) row g; (9) rows d and M; (10) columns 8 and 9; (11) row e; (12) rows b, c, and f; (13) columns 11 and 12; (14) row X; (15) rows N, O, and P; and (16) columns 15 and 16.

The amounts consumers used to acquire cash and federal government securities do not seem to be related to the tightness of money. The total increased during the first tight-money period, and decreased during the second period. Nor does there appear to be a relation between the total amount used for the direct purchase of securities and for direct investment in nonincorporated business during tight-money periods. I thought I had detected an increased purchase of securities during these periods, but the evidence is not convincing.

The only change which seems to show up in the data is the increased tendency on the part of consumers, during periods of tight money, to hold time deposits, savings deposits, and shares in savings and loan

## ANALYSIS AND APPLICATIONS OF DATA

TABLE  
SOURCES AND USES OF FUNDS, CORPORATE  
(billions of)

Year Ending	Available from Income			Cash and Government Securities		
	Current Surplus (1)	Capital Expendi- tures (2)	+ Available - Required (3)	Cash Balances (4)	Federal Obligations (5)	Change in Liquid Assets (6)
Dec 30, 1946	5.8	18.1	-12.3	1.0	-6.9	-5.9
Dec 30, 1947	14.4	17.3	-2.9	2.1	-1.2	0.9
Dec 30, 1948	18.7	19.6	-0.9	0.1	0.7	0.8
Dec 30, 1949	15.7	13.9	1.8	1.0	2.0	3.0
Dec 30, 1950	24.4	23.6	0.8	1.6	2.9	4.5
Dec 30, 1951	24.0	29.5	-5.5	1.7	1.1	2.8
Dec 30, 1952	16.7	22.9	-6.2	0.7	-0.8	-0.1
Mar 30, 1953	17.6	22.7	-5.1	-0.8	0.5	-0.3
Jun 30, 1953	19.8	24.1	-4.3	0.0	-0.2	-0.2
Jun 30, 1954	16.2	20.1	-3.9	-0.3	-2.0	-2.3
Jun 30, 1955	24.5	22.9	1.6	2.2	2.2	4.4
Jun 30, 1956	25.5	31.5	-6.0	-0.5	-1.1	-1.6
Jun 30, 1957	26.1	34.3	-8.2	0.3	-1.4	-1.1
Sep 30, 1957	26.3	33.7	-7.4	0.6	-0.9	-0.3
Dec 30, 1957	25.1	32.4	-7.3	-0.6	-1.1	-1.7

associations. During both tight-money periods, the dollar amounts devoted to these uses rose; but it is difficult to say whether this was due to prosperity or to tight money.

Perhaps the most significant findings derived from the data are that (1) during most of the years, consumers were users rather than suppliers of capital market funds; and (2) in all periods, consumers tended to channel their funds into the capital market through financial intermediaries rather than through direct investments. But these findings are not related to the tightness or ease of the money market. They are, rather, related to the anatomy of the financial markets.

## BUSINESS

In Table 2, I have summarized the financial transactions of corporate business. During the two tight-money periods, corporate business tended to require larger amounts of outside funds than during the

IMPACT OF RESTRAINT ON MONEY FLOWS

2

BUSINESS, SELECTED PERIODS, 1946-57  
(dollars)

<i>Available from Short-Term Credit</i>			<i>Available from Long-Term Liabilities</i>			<i>Total Sources</i>
<i>Bank Credit</i>	<i>Net Short-Term Credit Funds</i>	<i>Total</i>	<i>Mortgages</i>	<i>Other Long-Term Securities</i>	<i>Total</i>	
(7)	(8)	(9)	(10)	(11)	(12)	(13)
2.4	-0.4	1.8	1.3	2.1	3.4	5.2
1.9	-2.7	-0.8	1.5	4.1	5.6	4.8
0.4	-3.0	-2.6	1.2	5.2	6.4	3.8
-2.0	-2.3	-4.3	1.4	4.1	5.5	1.2
2.1	-4.2	-2.1	1.8	2.9	4.7	2.6
4.6	-2.3	2.3	1.5	5.5	7.0	9.3
2.6	-4.0	-1.4	1.3	6.9	8.2	6.8
1.6	-3.0	-1.4	1.2	6.7	7.9	6.5
0.8	-1.0	-0.2	1.2	6.0	7.2	7.0
-0.8	-0.5	-1.3	1.3	5.3	6.6	5.3
0.7	-2.5	2.2	2.2	4.0	6.2	8.4
4.1	-1.7	2.4	2.1	5.2	7.3	8.1
1.9	-4.7	-2.8	1.4	8.4	9.8	7.0
1.4	-3.6	-2.2	1.4	8.7	10.1	7.9
1.0	-5.1	-4.1	1.4	9.0	10.4	6.3

SOURCE: *Summary of the Flow-of-Funds Accounts*, derived as indicated for each column: (1) rows A minus C; (2) row C; (3) columns 1 minus 2; (4) row g; (5) rows M and d; (6) columns 4 and 5; (7) row U; (8) rows S, T, V, W, and Y; (9) columns 7 and 8; (10) rows Q and R; (11) rows N, O, and P; (12) columns 10 and 11; and (13) columns 9 and 12.

other periods—and since the tight-money periods occurred during prosperous periods, this is what we would expect. During the two tight-money periods, corporate businesses appeared to finance their needs by (1) selling federal government obligations and (2) issuing their own long-term obligations—primarily bonds and other securities. During both tight-money periods, corporations reduced their holdings of cash and government securities, although they also reduced them in 1946 and during the two years between the two tight-money periods. During both periods, corporate businesses tended to reduce their reliance on mortgage borrowing and to increase their sales of long-term securities. But, again, it is difficult on the basis of the evidence to say that this was due to tight money. Possibly these developments were also associated with the fact that businesses tended during these periods to increase their investments in fixed assets.



## ANALYSIS AND APPLICATIONS OF DATA

TABLE  
SOURCES AND USES OF FUNDS, NONCORPORATE  
(billions of dollars)

Year Ending	Available from Income			Cash and Government Securities		Change in Liquid Assets (6)
	Current Surplus (1)	Capital Expenditures (2)	+ Available - Required (3)	Cash Balances (4)	Federal Obligations (5)	
Dec 30, 1946	2.9	5.5	-2.6	—	0.0	0.0
Dec 30, 1947	3.6	6.9	-3.3	0.3	0.0	0.3
Dec 30, 1948	4.3	6.9	-2.6	-0.7	—	-0.7
Dec 30, 1949	4.7	6.1	-1.4	0.2	—	0.2
Dec 30, 1950	5.8	10.4	-4.6	0.4	0.0	0.4
Dec 30, 1951	6.6	8.5	-1.9	1.1	—	1.1
Dec 30, 1952	6.1	7.1	-1.0	-0.4	0.0	-0.4
Mar 30, 1953	5.4	7.7	-2.3	-0.3	0.0	-0.3
Jun 30, 1953	5.6	8.3	-2.7	-0.2	0.0	-0.2
Jun 30, 1954	5.8	7.9	-2.1	0.2	0.0	0.2
Jun 30, 1955	8.5	10.1	-1.6	0.4	0.0	0.4
Jun 30, 1956	9.8	11.0	-1.2	0.2	0.0	0.2
Jun 30, 1957	8.3	10.0	-1.7	0.2	0.0	0.2
Sep 30, 1957	9.5	10.3	-0.8	0.3	0.0	0.3
Dec 30, 1957	10.1	10.8	-0.7	0.4	0.0	0.4

Perhaps more interesting than these tendencies are the changes in the net short-term credit situation of corporations taken as a group. During both periods, funds available from bank credit tended to decline, falling from \$4.0 billion in 1951 to \$0.8 billion in the year ending June 30, 1953, and from \$4.1 billion for the year ending on June 30, 1956, to \$1.0 billion for the year ending on December 30, 1957. During both these tight-money periods, corporations advanced funds by short-term credit to other groups in the economy, and thus served as a conduit to channel the funds obtained from the sale of long-term securities to other groups. On balance, corporations loaned more on short-term than they received during both periods. During the first tight-money period, corporations cut down on their net lending, presumably as a result of the reduction

## IMPACT OF RESTRAINT ON MONEY FLOWS

 BUSINESS, SELECTED PERIODS, 1946-57  
 (dollars)

<i>Available from Short-Term Credit</i>			<i>Available from Long-Term Liabilities</i>			
Bank Credit (7)	Net Short- Term Credit Funds (8)	Total (9)	Mortgages (10)	Other Long- Term Securities and Proprietors' Net		<i>Total Sources (13)</i>
				Investment (11)	Total (12)	
2.1	-1.1	2.0	0.7	1.0	1.7	3.7
1.8	-0.5	1.3	0.9	1.5	2.4	3.7
0.2	-0.5	0.7	0.6	0.6	1.2	1.9
—	-0.2	-0.2	0.6	1.2	1.8	1.6
2.3	-0.6	1.7	0.9	3.5	4.4	6.1
-0.4	-1.2	-1.6	0.5	1.7	2.2	0.6
-0.8	1.3	0.5	0.5	—	0.5	1.0
0.0	1.6	1.6	0.5	0.1	0.6	2.1
1.0	0.6	1.6	-0.1	0.2	0.1	1.2
0.7	1.9	2.6	0.6	0.2	0.8	3.4
1.3	-0.1	1.2	1.2	-0.2	1.0	2.2
2.1	0.4	2.5	0.9	-1.8	-0.9	1.6
2.3	2.2	4.5	0.7	-2.8	-2.1	2.4
1.7	1.8	3.5	0.6	-2.6	-2.0	1.5
0.9	2.3	3.2	0.6	-2.4	-1.8	1.4

SOURCE: *Summary of the Flow-of-Funds Accounts*, derived as indicated for each column: (1) row A minus C; (2) row C; (3) columns 1 minus 2; (4) row g; (5) rows f and d; (6) columns 4 and 5; (7) row U; (8) rows S, T, V, W, and Y; (9) columns 6 and 8; (10) rows Q and R; (11) rows N, O, P, and X; (12) columns 10 and 11; and (13) columns 9 and 12.

in bank loans; but during the second tight-money period, they increased their net lending.

The picture which seems to emerge from an examination of these data is that corporate businesses must rely heavily on the capital market for the financing of their capital expenditure programs during all periods; and during the tight-money periods, because of the limited availability of bank and mortgage credit, corporate dependence on the capital market seems to be enhanced. However, the data merely suggest these conclusions; we need more data before we can generalize.

In Table 3 I have shown the same figures for noncorporate business. I have not been able to detect any developments which are unique to the tight-money periods. It is interesting to note that noncorporate

ANALYSIS AND APPLICATIONS OF DATA

TABLE 4  
SOURCES AND USES OF FUNDS, FARM BUSINESS, SELECTED PERIODS, 1946-57  
(billions of dollars)

Year Ending	Available from Income			Available from Short-Term Credit			Available from Long-Term Liabilities			Total Sources (11)	
	Current Surplus (1)	Capital Expendi- tures (2)	+ Available - Required Balance (3)	Cash Balance (4)	Bank Credit (5)	Net Short- Term Credit Funds (6)	Total (7)	Proprietors' Net Investment (8)	Mort- gages (9)		Total (10)
Dec 30, 1946	1.3	1.7	-0.4	0.6	0.3	-0.1	0.2	0.7	0.1	0.8	1.0
Dec 30, 1947	1.6	1.6	0.0	-0.1	0.3	0.2	0.5	-0.8	0.2	-0.6	-0.1
Dec 30, 1948	2.1	7.1	-5.0	-0.4	0.3	1.4	1.7	2.6	0.2	2.8	4.5
Dec 30, 1949	2.4	4.2	-1.8	-0.4	0.1	0.8	0.9	0.2	0.3	0.5	1.4
Dec 30, 1950	2.9	4.5	-1.6	-0.1	0.5	-0.7	-0.2	1.3	0.5	1.8	1.6
Dec 30, 1951	3.3	6.1	-2.8	0.2	0.6	0.3	0.9	1.6	0.6	2.2	3.1
Dec 30, 1952	3.4	6.2	-2.8	—	0.1	0.8	0.9	1.2	0.6	1.8	2.7
Mar 30, 1953	3.3	6.2	-2.9	—	0.0	1.1	1.1	1.1	0.6	1.7	2.8
Jun 30, 1953	3.4	5.3	-1.9	—	-0.2	0.4	0.2	1.0	0.6	1.6	1.8
Jun 30, 1954	3.5	4.2	-0.7	—	-0.2	-0.2	-0.4	0.6	0.4	1.0	0.6
Jun 30, 1955	3.7	4.2	-0.5	—	0.4	0.4	0.8	0.0	0.7	0.7	1.5
Jun 30, 1956	3.9	4.3	-0.4	—	0.2	0.4	0.6	-0.8	0.8	0.0	0.6
Jun 30, 1957	3.8	4.1	-0.3	-0.2	0.0	-0.2	-0.2	-0.6	0.7	0.1	-0.1
Sep 30, 1957	4.0	3.9	0.1	-0.2	0.0	-0.7	-0.7	-0.3	0.6	0.3	-0.4
Dec 30, 1957	3.8	4.9	-1.1	-0.2	0.3	-0.1	0.2	0.0	0.6	0.6	0.8

SOURCE: Summary of the Flow-of-Funds Accounts, derived as indicated for each column: (1) rows A minus C; (2) row C; (3) columns 1 minus 2; (4) row g; (5) row U; (6) rows S, T, V, W, and Y; (7) columns 8 and 9; (8) row X; (9) rows Q and R; (10) columns 8 and 9; and (11) columns 7 and 10.

## IMPACT OF RESTRAINT ON MONEY FLOWS

businesses are heavily dependent on short-term credit advanced to them by banks and other businesses. From 1951 to 1957, with the exception of one year, noncorporate businesses received net advances from other businesses; and a substantial portion of their net requirements were supplied by these sources. But this is an *obiter dictum*. I could see no relation between tight money and the net, short-term advance from other businesses.

Table 4 presents the same data for farm business. As in the case of noncorporate business I can see no relation between the financing pattern and tight money. It is interesting to note the heavy reliance of farm business on the net investment of proprietorships and on mortgage lending. But, as far as I can see, the amounts available from these sources are not related to the tightness or ease of the money market.

Table 5 summarizes the data for all business (corporate, noncorporate, and farm) taken as a group. As we would expect, the data in this table are dominated by the corporate figures already discussed in Table 2. As I have indicated, businesses tend to sell federal government securities and their own long-term securities during tight-money periods to replace funds available by bank and mortgage credit. However, I must hasten to add that the data merely suggest this; we shall need a much longer series of tight-money periods before we can say anything definitive about these tendencies.

Perhaps more important than the relations between tight-money periods and financing patterns is the general picture of business financing which we get from this table. The net amount of funds from the sale of short-term assets and from short-term credit is very small, usually less than two billion dollars. Indeed, I have the impression that much of the short-term credit advanced to businesses by banks and financial institutions filters through businesses to finance the purchase of products being sold by businesses to other groups in the economy. The bulk of the outside funds to finance the capital expenditures must, of necessity, come from mortgages and the sale of long-term securities. And during tight-money periods it would appear that businesses must, if anything, increase their reliance on the capital market. But, I repeat, the data only suggest this; they are not conclusive.

## FINANCIAL INSTITUTIONS

Tables 6, 7, and 8 summarize the same data from the point of view of the financial institutions. Consider the data in Table 6. Commercial banks throughout the entire period received funds from (1) stockholders (current surplus minus capital expenditures) and (2) time

## ANALYSIS AND APPLICATIONS OF DATA

TABLE  
SOURCES AND USES OF FUNDS, AL  
(billions o

Year Ending	Available from Income			Cash and Government Securities		
	Current Surplus (1)	Capital Expendi- tures (2)	+ Available - Required (3)	Cash Balances (4)	Federal Obligation (5)	Change in Cash and Government Securities (6)
Dec 30, 1946	12.5	25.3	-15.3	1.6	-6.9	-5.3
Dec 30, 1947	19.6	25.8	-6.2	2.3	-1.2	1.1
Dec 30, 1948	25.1	33.6	-8.5	-1.0	0.7	-0.3
Dec 30, 1949	22.8	24.2	-1.4	0.8	2.0	2.8
Dec 30, 1950	33.1	38.5	-5.4	1.9	2.9	4.8
Dec 30, 1951	33.9	44.1	-10.2	3.0	1.1	4.1
Dec 30, 1952	26.2	36.3	-10.1	0.3	-0.8	-0.5
Mar 30, 1953	26.3	36.6	-10.3	-1.1	-0.5	-0.6
Jun 30, 1953	28.6	37.7	-8.9	-0.3	-0.2	-0.4
Jun 30, 1954	25.5	32.2	-6.7	0.1	-2.0	-2.1
Jun 30, 1955	36.7	37.2	-0.5	2.6	2.2	4.8
Jun 30, 1956	39.2	46.8	-7.6	-0.3	-1.1	-1.4
Jun 30, 1957	38.2	48.4	-10.2	0.3	-1.4	-1.1
Sep 30, 1957	39.8	47.9	-8.1	0.7	-0.9	-0.2
Dec 30, 1957	39.0	48.1	-9.1	-0.4	-1.1	-1.5

and savings depositors. In addition, during nine of the twelve years, the commercial banks liquidated securities in their portfolios. During the period as a whole, the banks used the funds received from these sources, together with the funds available from monetary expansion (increase in average and demand deposits) to make loans to customers. These customer loans took the form of either mortgage or short-term credit. Did this pattern change during the two periods of severe monetary restraint? Mortgage lending by commercial banks declined, particularly during the 1956-57 tight-money period. Possibly because of the decline in mortgage lending, the amounts advanced in short-term credit to customers did not decline as much as one would have expected, averaging about \$5 billion in the first tight-money period and about \$4.5 in the second tight-money period. Omitting the depression years of 1949 and 1954, the average

## IMPACT OF RESTRAINT ON MONEY FLOWS

5

 BUSINESS, SELECTED PERIODS, 1946-57  
 (dollars)

<i>Available from Short-Term Credit</i>			<i>Available from Long-Term Liabilities</i>			
Bank Credit	Net Short- Term Credit Funds	Total	Mortgages	Other Long- Term Securities	Total	<i>Total Sources</i>
(7)	(8)	(9)	(10)	(11)	(12)	(13)
4.8	-1.6	3.2	2.1	2.8	5.9	9.1
4.0	-3.0	1.0	2.6	4.8	7.9	8.4
0.9	-1.1	-0.2	2.0	8.4	10.4	10.2
-1.9	-1.7	-3.6	2.3	5.5	7.8	4.2
4.9	-5.5	-0.6	3.2	7.7	10.8	10.3
4.8	-3.2	1.6	2.6	8.8	11.4	13.0
1.6	-1.9	-0.3	2.4	8.3	10.7	10.4
1.6	-0.3	1.3	2.3	7.9	10.2	11.5
1.6	0.0	1.6	1.7	7.2	8.9	10.5
-0.3	1.2	0.9	3.3	6.1	8.4	9.3
2.4	-2.2	-0.8	4.1	3.8	7.9	7.1
6.4	-0.9	5.5	3.8	2.6	6.4	10.5
4.2	-2.7	1.5	2.8	5.0	7.8	8.2
3.1	-2.5	0.6	2.6	5.2	8.4	9.0
2.2	-2.9	-0.7	2.6	6.6	9.2	8.5

SOURCE: *Summary of the Flow-of-Funds Accounts*, derived as indicated for each column: (1) row A minus C; (2) row C; (3) columns 1 minus 2; (4) row g; (5) rows M and d; (6) columns 4 and 5; (7) row U; (8) rows S, T, V, W, and Y; (9) columns 7 and 8; (10) rows Q and R; (11) rows N, O, P, and X; (12) columns 10 and 11; and (13) columns 9 and 12.

amount of short-term credit advanced to borrowers was about \$4.5 billion.

It is interesting in Tables 7 and 8 to see that savings institutions and insurance companies do tend to act differently during tight-money periods. The savings institutions continue during tight-money periods to channel savings to customers largely via the mortgage market. During the first tight-money period savings institutions received a larger flow than they had been receiving from depositors during the preceding years. Indeed, the flow was almost doubled. But during the second tight-money period they received a reduced flow from depositors. In both cases the savings institutions channeled all they received into the mortgage market.

In contrast, insurance companies reduced their direct loans to customers, largely mortgage loans, during both tight-money periods.

## ANALYSIS AND APPLICATIONS OF DATA

TABLE 6  
SOURCES AND USES OF FUNDS, COMMERCIAL BANKS, SELECTED PERIODS, 1946-57  
(billions of dollars)

YEAR ENDING	SOURCES			USES					Total Uses (8)	USES MINUS SOURCES (9)	CURRENCY AND DEMAND DEPOSITS (10)
	Current Sur- plus Minus Capital Expenditure (1)	Time and Savings Deposits (2)	Total Sources (3)	Securities (4)	Mortgages (5)	Short-Term Credit (6)	Total (7)				
Dec 30, 1946	0.5	3.8	4.3	-16.3	2.5	2.8	5.3	-11.0	-15.3	-14.6	
Dec 30, 1947	0.2	1.4	1.6	-5.6	2.2	5.0	7.2	1.6	0.0	3.6	
Dec 30, 1948	0.5	0.6	1.1	-5.6	1.3	3.4	6.7	1.1	0.0	-0.5	
Dec 30, 1949	0.4	0.6	1.0	-1.0	0.7	-0.3	0.4	-0.6	-1.6	-0.1	
Dec 30, 1950	0.6	0.4	1.0	-0.9	2.0	7.3	9.3	8.4	7.4	5.2	
Dec 30, 1951	0.6	2.0	2.6	3.4	1.1	4.6	5.7	9.1	6.5	6.8	
Dec 30, 1952	0.2	2.9	3.1	3.8	1.1	5.2	6.3	10.1	7.0	6.5	
Mar 30, 1953	0.9	2.9	3.8	1.5	1.2	5.6	6.8	8.3	4.5	3.6	
Jun 30, 1953	1.0	2.9	3.9	-0.3	1.1	4.6	5.7	5.4	1.5	0.5	
Jun 30, 1954	0.7	4.3	5.0	6.4	1.0	1.6	2.6	9.0	4.0	3.3	
Jun 30, 1955	0.4	2.2	2.6	-0.7	2.6	-0.9	1.7	1.0	-1.6	4.1	
Jun 30, 1956	0.7	1.5	2.2	-6.7	1.9	9.8	11.7	5.0	2.8	2.2	
Jun 30, 1957	0.9	4.1	5.0	-2.3	0.8	5.2	6.0	3.7	-1.3	0.2	
Sep 30, 1957	0.9	4.5	5.4	0.4	0.7	4.7	5.4	5.8	0.4	1.8	
Dec 30, 1957	0.7	4.9	5.6	0.5	0.7	3.1	3.8	4.3	-1.3	-0.6	

SOURCE: Summary of the Flow-of-Funds Accounts, derived as indicated for each column: (1) rows A minus C; (2) rows b, c, and f; (3) columns 1 and 2; (4) rows M, N, O, and P; (5) rows

Q and R; (6) rows S, T, U, V, and Y; (7) columns 5 and 6; (8) columns 4 and 7; (9) columns 8 minus 3; and (10) row g.

TABLE 7  
SOURCES AND USES OF FUNDS, SAVINGS INSTITUTION, SELECTED PERIODS, 1946-57  
(billions of dollars)

YEAR ENDING	SOURCES			USES					CURRENCY AND DEMAND DEPOSITS (10)	
	Current Sur- plus Minus Capital Expenditure (1)	Time and Savings Deposits (2)	Total Sources (3)	Securities (4)	Mortgages (5)	Lent to Customers Short-Term Credit (6)	Total (7)	Total Uses (8)		SOURCES MINUS USES (9)
Dec 30, 1946	0.4	2.6	3.0	+0.9	2.0	0.2	2.2	3.1	-0.1	0.1
Dec 30, 1947	0.2	2.3	2.5	+0.2	2.1	0.0	2.1	2.3	0.2	—
Dec 30, 1948	0.2	1.9	2.1	-0.3	2.2	0.4	2.6	2.3	-0.2	0.1
Dec 30, 1949	0.3	1.4	1.7	+0.1	2.2	0.2	2.4	2.5	-0.8	0.1
Dec 30, 1950	0.3	2.3	2.6	-0.7	3.7	-0.2	3.5	2.8	-0.2	0.1
Dec 30, 1951	0.2	3.2	3.4	-0.7	3.6	0.1	3.7	3.0	0.4	0.2
Dec 30, 1952	0.3	4.9	5.2	+0.4	4.2	0.2	4.4	4.8	0.4	0.1
Mar 30, 1953	0.4	5.2	5.6	+0.7	4.6	0.4	5.0	5.7	-0.1	0.1
Jun 30, 1953	0.4	5.7	6.1	+0.9	4.9	0.4	5.3	6.2	-0.1	—
Jun 30, 1954	0.3	5.8	6.1	+0.1	5.6	0.5	6.1	6.2	-0.1	0.2
Jun 30, 1955	0.6	7.1	7.7	+0.2	7.7	0.1	7.8	8.0	-0.3	0.2
Jun 30, 1956	0.5	7.4	7.9	-0.0	7.1	0.5	7.6	7.6	0.3	0.2
Jun 30, 1957	0.5	6.8	7.3	+0.6	6.2	0.9	7.1	7.7	-0.3	0.0
Sep 30, 1957	0.6	6.9	7.5	+0.7	5.8	0.9	6.7	7.4	0.1	0.0
Dec 30, 1957	0.5	6.1	6.6	+0.9	5.7	0.8	6.5	7.4	-0.8	6.0

SOURCE: Summary of the Flow-of-Funds Accounts, derived as indicated for each column: (1) rows A minus C; (2) rows b, c, and f; (3) columns 1 and 2; (4) rows M, N, O, and P; (5) rows Q and R; (6) rows S, T, U, V, and Y; (7) columns 5 and 6; (8) columns 4 and 7; (9) columns 3 minus 8; and (10) row g.



ANALYSIS AND APPLICATIONS OF DATA

TABLE 8  
SOURCES AND USES OF FUNDS, INSURANCE COMPANIES, SELECTED PERIODS, 1946-57  
(billions of dollars)

YEAR ENDING	SOURCES			USES						CURRENCY AND DEMAND DEPOSITS (10)
	Current Sur- plus Minus Capital Expenditure (1)	Available from Insurance Premiums (2)	Total Sources (3)	Securities (4)	Mortgages (5)	Lent to Customers Short-Term Credit (6)	Total (7)	Total Uses (8)	SOURCES MINUS USES (9)	
Dec 30, 1946	2.4	2.6	5.0	3.7	0.5	0.4	0.9	4.6	0.4	0.2
Dec 30, 1947	3.0	2.5	5.5	3.2	1.6	0.1	1.7	4.9	0.6	0.5
Dec 30, 1948	3.1	2.6	5.7	3.0	2.2	0.2	2.4	5.4	0.3	—
Dec 30, 1949	3.5	2.6	6.1	3.2	2.2	0.3	2.5	5.7	0.4	0.1
Dec 30, 1950	3.4	2.8	6.2	2.2	3.3	0.2	3.5	5.7	0.5	0.2
Dec 30, 1951	3.9	2.8	6.7	2.4	3.3	0.3	3.6	6.0	0.7	0.2
Dec 30, 1952	3.3	3.2	6.5	5.2	2.0	0.0	2.0	7.2	-0.7	0.1
Mar 30, 1953	4.3	3.2	7.5	5.9	2.0	0.0	2.0	7.9	-0.4	0.1
Jun 30, 1953	4.6	3.2	7.8	6.1	2.1	0.0	2.1	8.2	-0.4	-0.2
Jun 30, 1954	5.1	3.2	8.3	5.4	2.3	0.3	2.6	8.0	0.3	0.1
Jun 30, 1955	4.5	3.4	7.9	4.6	3.1	0.3	3.4	8.0	-0.1	-0.1
Jun 30, 1956	5.0	3.6	8.6	4.1	3.8	0.4	4.2	8.3	0.3	0.1
Jun 30, 1957	5.0	3.6	8.6	4.9	3.0	0.4	3.4	8.3	0.3	0.1
Sep 30, 1957	5.0	3.6	8.6	5.1	2.6	0.5	3.1	8.2	0.4	0.1
Dec 30, 1957	5.0	3.6	8.6	5.3	2.2	0.4	2.6	7.9	0.7	0.0

SOURCE: Summary of the Flow-of-Funds Accounts, derived as indicated for each column: (1) rows A minus C; (2) row e; (3) columns 1 and 2; (4) rows M, N, O, and P; (5) rows Q and R; (6) rows S, T, U, V, and Y; (7) columns 5 and 6; (8) columns 4 and 7; (9) columns 3 minus 8; and (10) row g.

During the first tight-money period, the total amount lent directly to borrowers declined from \$3.6 billion in 1951 to an average of about \$2.0 billion in 1952 and the first half of 1953. During the comparable 1956-57 tight-money period, the total declined from \$4.2 billion to an average of about \$3 billion. During the same periods, insurance companies tended to channel a somewhat larger percentage of their funds into the capital market to purchase long-term securities.

To summarize, commercial banks and insurance companies, taken together, tend to limit their direct loans to customers during tight-money periods. At the same time they tend, as a group, to acquire long-term securities. Savings institutions, on the other hand, continue to use all of their funds to service customers, largely in the mortgage market. All financial institutions, taken together, tend to limit somewhat their direct loans to customers and to use more of their funds for capital market purchases of securities. Again, I should like to make the point that the evidence is merely suggestive—not conclusive.

And so I must conclude that the naïve empirical approach to the problem of detecting significant changes in the “money surface of things” during tight-money periods was not very useful. I feel that we have learned something about the anatomy of the capital market but very little about changes in the money surface of things during tight-money periods.

### *A Hypothesis To Be Tested*

Possibly I would have gotten better results if I had started with a more sophisticated hypothesis as to the effects of tight money. Having looked at the data I am going to suggest a hypothesis which is not inconsistent with the data but which the data are not adequate to test. The hypothesis consists of three propositions and a conclusion:

1. It is presumed that there is a pattern of customer relations which characterizes the capital and credit markets. Small businesses tend to depend on banks and on suppliers of raw materials for a flow of credit. Home builders tend to depend on savings and loan institutions to finance construction loans, etc.
2. During tight-money periods the credit and capital market institutions, realizing that the tightness is likely to be temporary, attempt to maintain these customer relations by rationing credit. They do this rather than increase the price of credit as far as the tightness of the money market would permit because they value their customer relations and want to keep at least some of their customers during these tight-money periods.

3. But this rationed flow of funds is inadequate during tight-money periods to finance the planned rate of investment. As a result businesses endeavoring to maintain a high rate of investment must seek a larger percentage of their funds from nontraditional and noncustomer sources. These other sources—such as the capital market—are (a) usually higher-cost sources, even during easy-money periods, and (b) carry some sort of a “finder’s fee” in their costs. This finder’s fee may be so labeled (as when contractors seek construction loans from unusual sources), or it may be merely the flotation costs of an investment banker.

4. Thus, tight money limits investment spending by imposing the special penalties and costs attached to selling securities in the open market rather than through the matrix of customer relationships characterizing financial institutions.

### *Conclusion*

Are the data we have examined consistent with this hypothesis? The answer is that the data are not inconsistent with this hypothesis, but neither are they conclusive. Consumers faced with limitations on the amount of mortgage credit tend to have a net balance to put into the capital market, largely through financial intermediaries. Corporate businesses, to get the funds to invest in new plants and equipment, are forced to depend somewhat more heavily on the sale of government securities during tight-money periods than during other periods. Both banks and insurance companies tend to limit their loans to customers and to increase their purchases of securities. Thus, the data do suggest an increasing impersonalization of the credit market during tight-money periods.

### COMMENT

JOHN G. GURLEY, Brookings Institution

Dean Weiler and I for the past few months have both been poring over the same data—he for this conference and I for the Joint Economic Committee. I agree with him that it is a highly frustrating business. But I definitely part company with him when it comes to congratulating those economists who made my many sleepless nights possible!

Dean Weiler reports that he has failed to find anything really significant regarding changes in the pattern of money flows between periods of tight and easy credit conditions. I wish he had not put it like that, for the results that I got are similar to—or at least consistent

with—his. I would like briefly to describe my results first, and then compare them with his.

I organized the data on an annual basis for the period 1947–58. In this period, there were three short business cycles, 1947–49, 1950–54, and 1955–58. I have called each of the three beginning years a “recovery year.” Each of the three ending years is called a “recession year,” and the years in between are termed “prosperity years.”

Four basic relationships seem to emerge from the flow-of-funds data. The first three have to do with annual issues of primary securities, the composition of these issues, and the purchasers of these issues. The fourth concerns the relation of liquidity to rates of interest. I shall speak about each in turn.

Primary security issues include federal, state, and local government securities, corporate bonds and stocks, mortgages, consumer short- and intermediate-term debt, trade debt, and “other” bank loans, the latter being all bank loans not covered by the previous categories.

As a ratio to GNP (in current prices), annual issues of primary securities were an increasing function of the change in the annual rate of growth of national output, irrespective of the direction of such change. During recovery years, when the growth rate changed markedly, primary issues were unusually large relative to GNP. During prosperity years, when there were comparatively small changes in the growth rate, primary issues were relatively light. Finally, during recession years, when there were again significant changes in the growth rate, primary issues became quite heavy. Put differently, aggregate expenditures for current output were financed more from external sources and less from internal ones during recovery and recession years than during prosperity years.

There seems to be a simple explanation for this. When national output is growing steadily from year to year, the distribution of income among economic units is likely to be quite stable relative to the distribution of spending among them. Steady output growth can generally be expected to preclude large shifts in expenditures and incomes among economic units. On the other hand, large changes in the growth rate of output, whether positive or negative, are likely to “wrench apart” the two distributions, opening up large budget imbalances among economic units. This is because such changes in the growth rate of output imply sizable increases or decreases in expenditures of some economic units relative to their current income; these in turn lead to sizable changes in income of other economic units relative to *their* expenditures. And these imbalances are generally financed by heavy issues of primary securities and heavy acquisitions of financial assets.

The second relationship concerns the composition of primary security issues. Many things show up here, but I shall comment on only one finding. Divide total primary issues into two groups. The first includes all government securities, corporate bonds and stocks, and mortgages. The second comprises trade debt, other bank loans, and consumer debt. It is found that the first group made up about one-half of total primary issues during recovery years, rose to higher proportions during each of the prosperity years, and reached a peak of 90 per cent during recession years. This behavior was remarkably consistent from one short cycle to the next.

The third relationship has to do with the proportions of primary security issues purchased by financial institutions, on the one hand, and by all others—whom I shall call ultimate lenders—on the other. For this purpose, I have defined financial institutions to include the monetary system (made up of Federal Reserve and commercial banks) and nonmonetary intermediaries, which comprise life insurance companies, savings and loan associations, mutual savings banks, credit unions, and the Postal Savings System. However, adding one or two others, such as private noninsured pension funds, does not change the results significantly.

These financial institutions purchased about 35 per cent of total primary security issues during recovery years, 50 per cent during prosperity years, and 70 per cent during recession years—and this pattern was highly consistent from cycle to cycle except for one year. Moreover, when primary issues were weighted heavily by federal government securities, the monetary system purchased relatively more; and nonmonetary intermediaries, relatively less. On the other hand, when primary issues were weighted heavily by corporate bonds and mortgages, the tables were turned: nonmonetary intermediaries then purchased the lion's share while the monetary system trailed behind. The two together, however, purchased 35, 50, or 70 per cent, depending on the phase of the short cycle.

The final relationship purports to explain the level of long-term interest rates in terms of the ratio of the public's liquid assets to the level of GNP. Liquid assets include the money supply, time deposits, all other deposits and shares in financial institutions, and United States government, nonmarketable securities (mostly savings bonds). The annual ratios of liquid assets to GNP were plotted against the corporate (Aaa) bond yield for the period 1945-58.<sup>1</sup> The observations trace out a smooth curve that at first falls fairly sharply from left to right, and then moves almost horizontally to

<sup>1</sup> In constructing this demand schedule, money was weighted one, and nonmonetary liquid assets, one-half.

form a very long tail. At the beginning of the postwar period, the economy was far out on this tail. Significant increases in interest rates were achieved only after the economy, after more than a decade, had worked its way along this long path to the steeper portion of the demand schedule for liquidity.

The final step is to bring these relationships together to describe the financial aspects of short-cycle and long-term behavior of the economy during the postwar period. In the early years of the period, there was a substantial amount of excess liquidity in the economy with respect to commodity markets. With respect to security markets, the large volume of liquid assets had moved the economy, as I said, far out on the tail of the demand schedule for liquidity. General equilibrium would be achieved only at higher interest rates and price levels; and in the absence of sharp reductions in liquidity, the equilibrating mechanism was bound to work principally through prices rather than interest rates.

Starting from this position, the economy proceeded through three short business cycles, typically in this way. During recovery years, external financing was relatively heavy, as reflected in high ratios of primary security issues to GNP. Half of these issues took the form of trade debt, consumer debt, and other bank loans, and were financed by corporate business, sales and personal finance companies, and commercial banks. Financial institutions purchased 35 per cent of all primary security issues, which represented a fairly large part of the relatively small issues of long-term securities. In these recovery years, long-term interest rates rose slowly, because the liquidity position of the economy, built up in the preceding recession year, was only gradually reduced, and because long-term issues were relatively light. On the other hand, short-term interest rates were under greater pressure, partly because external financing tended to be dominated by short issues.

During the next phase of the cycle, in prosperity years which roughly correspond to Dean Weiler's tight-money periods, external financing was reduced, and a larger proportion of expenditures for current output was financed out of current incomes and by shifting existing holdings of financial assets from one sector to another. Thus, primary security issues fell as a percentage of GNP. These issues, however, were composed much more of long-term securities and much less of short-term. Financial institutions purchased half of total primary security issues, with nonmonetary intermediaries participating most heavily when corporate bonds and mortgages happened to be a large portion of total issues. Despite this intermediation, and the resulting creation of liquid assets, the economy's

liquidity position continued to deteriorate, sending long-term rates of interest higher. This upward pressure on long-term rates was intensified by the relatively large volume of long-term issues. At the same time, upward pressure on short-term rates was lessened.

Finally, during recession years, external financing once again increased, as primary security issues grew relative to the level of total expenditures. These issues were composed almost entirely of government securities, corporate bonds and stocks, and mortgages. The other issues all but disappeared. However, financial institutions purchased almost three-quarters of total primary issues, creating a roughly equivalent amount of liquid assets. This, together with the decline in GNP, improved the liquidity position of the economy significantly, and long-term interest rates declined. Short-term rates declined even more.

At the close of each short cycle during the postwar period, the economy's liquidity position was lower than at the start, the rise in liquidity during recession years not making up for the fall in recovery and prosperity years. Liquidity deterioration, however, was due predominantly to the relative decline in the money supply, and hardly at all to relative declines in nonmonetary liquid assets. The long trek back along the almost horizontal tail of the demand schedule for liquidity was accomplished slowly and jerkily by the monetary authorities: slowly, because of the continued rapid rise of nonmonetary liquid assets in the face of monetary restraint; jerkily, because each recession poured large amounts of liquid assets back into the economy. It was not until 1955, a decade after the start of the postwar period, that liquidity positions were reduced sufficiently to have significant impacts on long-term interest rates—though excess liquidity, *with respect to commodity markets*, was largely eliminated by 1949.

I have presented my findings with much more bravado than Dean Weiler presented his, and perhaps with no justification. Dean Weiler compared two periods of tight money—January 1952 to June 1953, and June 1956 to December 1957—with the remaining years of the postwar period. Since these tight-money periods include three of my five prosperity years, I can move with a fair amount of confidence from one to the other. Dean Weiler seems to have three principal conclusions—all tentative—one pertaining to consumers, one to corporate business, and one to financial institutions.

Consumers, he found, tended to purchase more time deposits, savings deposits, and savings and loan shares during periods of tight money than at other times. Assuming that this statement implies deviations from an upward trend, I have only a few small qualifications. First, the growth of these assets was lowest during recovery

years, higher during prosperity years, but still higher during recession years. Hence, it would seem best in this case to compare tight-money periods with recovery and recession years separately, and not with both combined. Second, the growth of these assets tended to be higher, given tight-money periods, when corporate bonds and mortgages were an especially large proportion of total issues. This suggests that pressure on financial institutions from the demand side of the loanable funds market induced them to seek funds more actively. Third, it should be noted that the accelerated growth of these assets in 1957—a year included in the tight-money period—was largely due to the growth of time deposits, that this growth coincided with a boost in the interest rate paid on these deposits, and that during the same year the demand for United States savings bonds declined by almost \$2 billion.

With respect to corporate business, Dean Weiler found that this sector tended to issue more long-term securities and less short-term (i.e. bank loans) during periods of tight money, and that it tended to sell federal government securities. Looking at the other side of the market, Dean Weiler also found that all financial institutions, taken together, tended to limit their purchases of mortgages and short-term debt and to increase their purchases of long-term securities.

As I have noted, bank loans, trade debt, and consumer debt fall steadily during the cycle as a proportion of total issues, from 50 per cent to less than 10 per cent. Taking their place are government securities, corporate bonds and stocks, and mortgages. Thus Dean Weiler's finding concerning corporate business and financial institutions is not surprising. He did, however, fail to mention that financial institutions may reduce their purchases of mortgages during tight-money periods because other yields are rising relative to the fixed interest rate on mortgages.

At the end of his paper, Dean Weiler presents a hypothesis about the effects of tight money on investment spending. He supposes that during such periods the economy finds it more difficult to obtain loanable funds from financial institutions—from traditional sources. The institutions begin to ration funds, some demands go unsatisfied, and so primary securities are sold increasingly to the open markets and to unusual sources, where the rate of interest, considering all allied costs, is higher. In this way, tight money tends to reduce investment spending.

On the whole, I think this is correct, though it does raise the question of why the economy finds it more difficult to obtain funds from financial institutions during tight-money periods, since economic units are purchasing more claims on these institutions during such



periods than during recovery years—since, that is to say, financial institutions are purchasing a larger proportion of total primary issues during such periods than during recovery years. But the answer to this, I think, is fairly clear, and it can be illustrated with an exaggerated case. Suppose that during recovery years all primary issues take the form of consumer debt, trade debt, and bank loans. These issues are purchased by sales and personal finance companies, by business firms, and by commercial banks. Nonmonetary intermediaries stand still. Now we move into the prosperity years of the cycle. All primary issues now take the form of government securities, corporate bonds and stocks, and mortgages. Borrowers form long lines in front of our financial institutions, deserting the lenders who aided them during the recovery year. The intermediaries press hard for additional funds, raising interest rates on their deposits and shares, stepping up advertising, offering free trips to Atlantic City, and so on. This results in an increase in purchases by economic units of claims on these intermediaries, enabling the latter to take a larger proportion of primary issues than they did in the recovery years. But, given the drastic change in the composition of primary issues and the resulting increase in demands on them, this is not enough. And the rest of Dean Weiler's story follows.