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Application of Flow-of-Funds Data to Capital Market Analysis

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THE purpose of this paper is to analyze the uses to which flow-of-funds data may be put in the financial field, especially the analysis of the demand for and supply of funds in the markets for long-term capital and equity funds and short-term credit. The most important technique which has been developed for such analysis is within the framework known as "sources and uses of funds in the capital markets," or a similar title, and is now in use by many commercial banks, life insurance companies, investment counselors, bond houses, and government departments and agencies. This framework, referred to here for the sake of brevity as the "sources and uses statement," will first be described in some detail as to its purpose, its methodology, and its application. Next, the contribution which the flow-of-funds data of the Federal Reserve Board have made to the sources and uses analysis in the capital market will be examined. A more technical reconciliation of the two systems will then be studied; and, finally, the future of capital market analysis will be appraised against the background of the flow-of-funds system.

Analysis of Capital Markets through the Sources and Uses Statement

ORIGIN AND PURPOSE

Within the past twenty years, a comparatively refined technique for analyzing the trends and the past performance of the capital markets has evolved in research departments of certain government bodies and private financial organizations. This technique has been labeled with a variety of titles, and its precise format has undergone a considerable amount of refinement during those years. Even today, there remains a good deal of variation among analysts as to its exact coverage and definitions. However, the primary purpose has been

NOTE: In the preparation of this paper the author wishes to acknowledge invaluable aid from his colleague, Kenneth M. Wright, Assistant Director of Economic Research, Life Insurance Association of America (LIAA).

much the same, namely, to convey to financial officers and policy makers current, informed opinion regarding future trends of financing in terms of the prospective demand for funds, sources of supply in the market, and resultant pressures on interest rates. To accomplish this purpose effectively, it was recognized that the many facets of a complex market place would have to be summarized in a consistent fashion and put in terms familiar to those making use of such forecasts to set policy. Accordingly, the demand side has traditionally been analyzed in terms of market instruments such as corporate bonds and stocks; federal, state and local securities; mortgage loans; bank loans; etc. The supply side has been couched in the familiar terms of investor groups participating in the market—individual investors, banks, insurance companies, savings and loan associations, pension funds, the Federal Reserve, federal loan agencies, etc. It is worth emphasizing that these sources and uses statements were cast in terms of investing institutions and investment instruments, rather than by some legal or economic definition of sectors.

In addition to this general purpose of the analysis, the sources and uses statements have been designed to focus upon special problems in the capital market. For example, one of the earliest pioneers in this technique was the Treasury Department, which used such analysis during wartime bond drives to assess the ability of private investors and the banking system to absorb the public debt necessary to finance the war.¹ The Treasury continues, of course, to employ sources and uses analysis to appraise the market for government securities. The Federal Reserve has used such analysis to assess the role of the banking system in meeting the necessary requirements for federal financing and business loan expansion. It is also valuable as a means for understanding the impact of Federal Reserve policy. Various private investors, such as banks and insurance companies, have used the sources and uses technique to appraise the forthcoming demand and supply of funds, the better to gauge the trend of interest rates and the future direction of new investments. Regardless of the particular emphasis, it is important to note that, in each case, it has been necessary to view the capital market as a complex and interacting mechanism, taking into account all of its component parts and not merely a single segment, such as corporate bonds or mortgage loans.

It might also be pointed out that the sources and uses statement for the capital markets has proved invaluable for retrospective analysis, quite aside from its forecasting uses. Thus, this technique facilitates comparison over time of the relative importance of various

¹ See paper by R. Duane Saunders in the *Journal of Finance*, May 1956, pp. 277 ff.

borrowing groups and of various suppliers in the market, as to their stability or volatility, their responsiveness to changing yield differentials, and their behavior during the course of economic fluctuations. Moreover, it sheds some light on the impact of monetary policy and of federal debt management and budgetary policy upon the financial system. These aspects of the sources and uses techniques have recently engaged the attention of university economists, either independently or through research projects such as those now under way at the National Bureau and at Harvard University. I am hopeful that the National Bureau's study of the postwar capital market (incidentally, sponsored by the LIAA) will break new ground in the development of sources and uses data.

FORMAT OF THE SOURCES AND USES STATEMENT

An example of a sources and uses statement for the capital market for a single year is given in Table 1. This format is the one developed by the Life Insurance Association of America over the past several years. Although it is used here as the basis for describing the sources and uses system generally, we recognize its limitations. Reference will be made to other formats in current use, and this system will be compared with those.

The statement for a single year allows the entire capital market to be viewed at once. The columns are labeled according to the market instruments used by the demanders of funds; the rows list the principal investor groups supplying funds. Examination of a single column shows the total amount of funds raised through corporate bonds, for example, after allowing for refundings and retirements; it also shows the amount absorbed by each investor group. Examination of a single row reveals the total amount contributed to the market on balance by life companies, for example; it also shows the specific instruments in which this total amount was invested.

Taking all the rows and columns together produces an interlocking, mutually reacting statistical picture of the sources and uses of funds flowing through the capital market, as defined under this format. Each of these flows is on a *net* basis, depicting for the period under consideration the changes in the outstanding amounts of various debt and equity instruments and the increase or decrease in holdings of particular securities or loans by various investors. As will be seen in a later section, it is this measurement of flows on a net basis which enables the sources and uses statement to be tied in so readily with the flow-of-funds system.

Why are these data on a net basis? Why not use the full detail of gross new issues and gross redemptions by borrowers, and gross

ANALYSIS AND APPLICATIONS OF DATA

TABLE 1
SOURCES AND USES OF FUNDS IN THE CAPITAL MARKET, 1958
(billions of dollars)

Sources of Funds	Securities					Mortgages				Loans and Credit			Total Sources of Funds
	Corp. Bonds	Corp. Stocks	State and Local	U.S. Govt. Agency	Fed. 1-4	Family	Other	Business	Consumer	All Other			
Savings institutions	4.1	1.5	0.3	0.5	^a	7.8	1.8				0.4	16.4	
Life insurance companies	2.2	0.1	0.3	0.2	^a	0.9	0.9				0.3	4.9	
Savings and loan associations				0.7	^a	5.2	0.4					6.2	
Mutual savings banks	0.6	0.1	^a	-0.3	^a	1.5	0.6				0.1	2.5	
Corporate pension funds	1.3	1.3		^a	^a	0.1						2.7	
Banking system	-0.1		2.6	10.2	0.1	1.3	0.9		0.1	0.1	2.4	17.4	
Commercial banks	-0.1		2.6	8.1	0.1	1.3	0.9		0.1	0.1	2.4	15.2	
Federal Reserve Banks				2.1								2.1	
Government institutions	1.2		0.7	-0.5	^a	0.1	0.4					1.7	
State and local funds	1.2		0.4	0.3	^a	0.1	0.1					2.1	
Federal trust accounts				-0.8	^a							-0.8	
Federal loan agencies			0.2			^a	0.3					0.5	
All other investors	0.8	0.6	2.3	-2.2	-0.5	1.3	1.1		4.0	0.2		7.6	
Fire and casualty insurance companies	^a	0.1	0.6	-0.1	^a		^a					0.6	
Corporations			0.1	0.8	-0.2				4.0	-0.3		4.4	
Foreigners	^a	-0.1		^a								^a	
Individuals and others	0.7	0.5	1.6	-2.8	-0.3	1.3	1.1		0.5			2.5	
Total uses of funds	6.0	2.1	5.9	8.0	-0.5	10.4	4.2		3.9	0.3	2.7	43.0	

NOTE: Because of rounding, components may not add to totals.

^a Less than \$50 million.

purchases and sales by investors? An important reason is simply that gross statistics are not available for all of the institutions that make up the market. Another reason is that, for many purposes, the net flow has more economic significance by showing the net impact in the market of borrowing or lending by a particular group. Net accounting allows a better basis for comparing the importance of each group with the others, while gross data would allow some groups to show exaggerated influence by reason of sheer volume of activity, much of which is turnover in the market place. For example, it might be interesting to know the gross amount of government securities bought and sold by the commercial banks, either as new issues or in the secondary market; but the more important consideration is the amount retained as "permanent" financing of federal debt—the net increase in holdings. This is not to say that gross data have no value. We have felt in the life insurance business that the gross flow of funds for investment by life companies is highly useful information, especially in relation to forward investment commitments; and gross cash-flow data are now obtained quarterly. Interestingly, gross cash available to life companies for investment is close to double the net contribution life companies make each year to the capital markets. Such gross-flow information has largely been used as supplementary to the basic sources and uses statement, to provide more detailed analysis where this is considered helpful.

In short, the sources and uses statement has been traditionally prepared on the basis of net flows, derived, in practice, from available statistics on the net changes in outstanding liabilities such as corporate bonds, Treasury securities, mortgages, consumer credit, etc., and the net changes in the holdings of these assets by institutional investors, trust funds, banks, corporations, individuals, etc.

Table 1 has shown how sources and uses may be combined for a single year. Note that the sources are grouped in a functional way: savings institutions, banking system, government institutions, and all other investors. In Table 2, the format is rearranged to show a number of years at a glance for these major groups while Tables 3, 4, 5, and 6 present greater detail for each of the major types of investing groups. The exact tabular arrangement of the sources and uses statement can be varied in a number of ways, depending upon the focus of the analysis.

Another feature of the sources and uses statement that requires explanation is the fact that the numbers shown are in balance: sources are equal to uses; demand is equal to supply. Granted that *ex post* sources and uses must balance (apart from statistical discrepancies), how can this approach be used for *ex ante* purposes?

ANALYSIS AND APPLICATIONS OF DATA

TABLE 2
SOURCES AND USES OF FUNDS IN THE CAPITAL MARKET, 1954-58
(billions of dollars)

	Securities				Mortgages		Loans and Credit			Total Sources of Funds	
	Corp. Bonds	Corp. Stocks	State and Local	U.S. Govt.	Fed. Agency	1-4 Family	Other	Busi- ness	Con- sumer		All Other
TOTAL USES OF FUNDS											
1954	3.8	1.8	4.2	3.5	^a	9.6	2.9	1.4	1.0	2.0	30.2
1955	4.2	1.9	3.5	2.0	1.5	12.6	3.6	9.5	6.4	1.3	46.4
1956	4.7	2.5	3.3	-4.1	0.6	10.8	3.7	9.3	3.4	-0.2	34.0
1957	7.1	2.7	4.9	-1.7	2.1	8.6	3.5	5.3	2.7	0.6	35.8
1958	6.0	2.1	5.9	8.0	-0.5	10.4	4.2	3.9	0.3	2.7	43.0
SAVINGS INSTITUTIONS											
1954	3.3	1.1	0.7	-1.1	^a	7.6	1.4			0.2	13.2
1955	2.4	1.0	0.2	-0.2	0.1	9.6	1.6			0.2	14.9
1956	3.5	0.9	0.3	-1.3	0.2	8.4	1.7			0.3	14.0
1957	4.7	1.2	0.1	-0.8	0.4	6.5	1.5			0.4	14.0
1958	4.1	1.5	0.3	0.5	^a	7.8	1.8			0.4	16.4
BANKING SYSTEM											
1954	-0.2		1.8	4.6	^a	1.3	0.4	-0.3	^a	1.8	9.3
1955	-0.2		0.1	-7.5	0.5	1.8	0.6	6.4	2.3	1.1	5.0
1956	-0.4		0.2	-2.9	-0.2	1.2	0.5	5.5	1.3	-0.5	4.6
1957	0.1		1.0	-1.0	0.5	0.1	0.5	1.8	1.1	0.3	4.5
1958	-0.1		2.6	10.2	0.1	1.3	0.9	-0.1	0.1	2.4	17.4
GOVERNMENT INSTITUTIONS											
1954	0.7		^a	3.0	^a	^a	0.2				3.9
1955	0.6		0.4	2.9	0.1	0.3	0.3				4.6
1956	0.5		0.6	3.4	0.1	0.7	0.3				5.6
1957	1.2		0.7	2.2	0.1	1.3	0.4				5.8
1958	1.2		0.7	-0.5	^a	0.1	0.4				1.7
ALL OTHER INVESTORS											
1954	-0.1	0.7	1.6	-2.9	^a	0.7	0.9	1.7	1.1		3.7
1955	1.4	1.0	2.8	6.9	0.8	0.9	1.1	3.1	4.0		22.0
1956	1.1	1.6	2.3	-3.3	0.5	0.4	1.1	3.8	2.1		9.7
1957	1.0	1.5	3.0	-2.1	1.1	0.7	1.2	3.5	1.5		11.4
1958	0.8	0.6	2.3	-2.2	-0.5	1.3	1.1	4.0	0.2		7.6

NOTE: Because of rounding, components may not add to totals.

^a Less than \$50 million.

The usual approach is to presume that some one category of use or source is the dependent variable—e.g. liquid assets; the volume and direction of change indicated for this item is viewed as indicating market pressures. Frequently, in periods of general business expansion at high levels of activity, an apparent potential deficiency on the sources side is filled by an expansion of commercial bank credit; and, thus, light is shed on the importance of Federal Reserve policy as it may affect interest rates. The interest rate pressures inherent in the analysis are then outlined in the text accompanying the statistical statement.

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TABLE 3

SAVINGS INSTITUTIONS AS A SOURCE OF FUNDS IN THE CAPITAL MARKET, 1954-58
(billions of dollars)

	Securities			Mortgages			Loans and Credit			Total Sources of Funds	
	Corp. Bonds	Corp. Stocks	State and Local	U.S. Govt.	Fed. Agency	1-4 Family	Other	Business	Consumer		All Other
LIFE INSURANCE COMPANIES											
1954	2.0	0.3	0.5	-0.8	a	2.0	0.7			0.2	5.0
1955	1.8	0.2	0.2	-0.5	a	2.5	1.0			0.2	5.3
1956	1.9	0.2	0.2	-1.0	a	2.5	1.1			0.2	5.0
1957	2.4	0.1	0.1	-0.5	a	1.3	0.9			0.4	4.7
1958	2.2	0.1	0.3	0.2	a	0.9	0.9			0.3	4.9
SAVINGS AND LOAN ASSOCIATIONS											
1954				0.1		4.0	0.2				4.3
1955				0.3		5.0	0.3				5.6
1956				0.4	0.1	4.0	0.3				4.8
1957				0.4	0.2	4.0	0.3				4.9
1958				0.7	a	5.2	0.4				6.2
MUTUAL SAVINGS BANKS											
1954	0.1	0.1	0.2	-0.4	a	1.6	0.4			a	2.1
1955	-0.3	0.1	a	-0.3	0.1	2.1	0.4			a	2.1
1956	0.1	0.1	a	-0.5	0.1	1.9	0.4			a	2.0
1957	0.6	0.1	a	-0.4	0.1	1.1	0.3			a	1.8
1958	0.6	0.1	a	-0.3	a	1.5	0.6			0.1	2.5
CORPORATE PENSION FUNDS											
1954	1.2	0.7		a	a	a					1.9
1955	0.9	0.7		0.3	a	a					1.9
1956	1.5	0.9		-0.2	a	0.1					2.2
1957	1.7	1.0		-0.3	0.1	0.1					2.6
1958	1.3	1.3		a	a	0.1					2.7
TOTAL SAVINGS INSTITUTIONS											
1954	3.3	1.1	0.7	-1.1	a	7.6	1.4			0.2	13.2
1955	2.4	1.0	0.2	-0.2	0.1	9.6	1.6			0.2	14.9
1956	3.5	0.9	0.3	-1.3	0.2	8.4	1.7			0.3	14.0
1957	4.7	1.2	0.1	-0.8	0.4	6.5	1.5			0.4	14.0
1958	4.1	1.5	0.3	0.5	a	7.8	1.8			0.4	16.4

NOTE: Because of rounding, components may not add to totals.

^a Less than \$50 million.

THE DEFINITION OF THE CAPITAL MARKET

A basic problem that has yet to be resolved among analysts of the capital market as a whole is agreement on a definition of the market to be examined. The format used by the LIAA is only one of several variations. This section emphasizes the differences in approach, but it should be recognized that the similarities are far greater than the differences. It is generally agreed that the statement should be based on *net flows*, and that meaningful analysis requires simultaneous examination of a large number of interacting market forces. The

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TABLE 4

THE BANKING SYSTEM AS A SOURCE OF FUNDS IN THE CAPITAL MARKET, 1954-58
(billions of dollars)

	Securities			Mortgages			Loans and Credit			Total Sources of Funds	
	Corp. Bonds	Corp. Stocks	State and Local	U.S. Govt.	Fed. Agency	1-4 Family	Other	Business	Consumer		All Other
COMMERCIAL BANKS											
1954	-0.2		1.8	5.6	^a	1.3	0.4	-0.3	^a	1.8	10.3
1955	-0.2		0.1	-7.4	0.5	1.8	0.6	6.4	2.3	1.1	5.1
1956	-0.4		0.2	-3.0	-0.2	1.2	0.5	5.5	1.3	-0.5	4.5
1957	0.1		1.0	-0.3	0.5	0.1	0.5	1.8	1.1	0.3	5.1
1958	-0.1		2.6	8.1	0.1	1.3	0.9	-0.1	0.1	2.4	15.2
FEDERAL RESERVE SYSTEM											
1954				-1.0							-1.0
1955				-0.1							-0.1
1956				0.1							0.1
1957				-0.7							-0.7
1958				2.1							2.1
TOTAL BANKING SYSTEM											
1954	-0.2		1.8	4.6	^a	1.3	0.4	-0.3	^a	1.8	9.3
1955	-0.2		0.1	-7.5	0.5	1.8	0.6	6.4	2.3	1.1	5.0
1956	-0.4		0.2	-2.9	-0.2	1.2	0.5	5.5	1.3	-0.5	4.6
1957	0.1		1.0	-1.0	0.5	0.1	0.5	1.8	1.1	0.3	4.5
1958	-0.1		2.6	10.2	0.1	1.3	0.9	-0.1	0.1	2.4	17.4
MEMORANDUM: COMMERCIAL BANK LIABILITIES AND CAPITAL ACCOUNTS											
	Demand Deposits, adj.		U.S. Govt. Demand Deposits		Time Deposits		Capital Accounts				
1954	4.1		^a		3.2		1.0				
1955	3.4		-0.5		1.5		0.7				
1956	1.5		^a		2.2		1.0				
1957	-1.1		0.2		5.5		1.1				
1958	5.3		0.4		7.1		1.1				

NOTE: Because of rounding, components may not add to totals.

^a Less than \$50 million.

differences arise as to exclusion or inclusion of factors on the fringes of the central market place.

The LIAA framework includes both long-term demands, such as mortgage loans and corporate bonds, and short-term instruments, such as bank loans, Treasury bills, and short-term commercial paper. The basis of this treatment is the belief that the interrelations between the two maturity ends of the market are too close to be separated for analysis. Factors that influence the short-term market are thought likely to spill over into the long-term market in terms of interest rate pressures and volume of financing. For example, at certain times finance companies borrow on short-term from commercial banks; and at others, on long-term by means of subordinated

APPLICATION TO CAPITAL MARKET ANALYSIS

TABLE 5

GOVERNMENT INSTITUTIONS AS A SOURCE OF FUNDS IN THE CAPITAL MARKET, 1954-58
(billions of dollars)

	Securities				Mortgages		Loans and Credit			Total Sources of Funds	
	Corp. Bonds	Corp. Stocks	State and Local	U.S. Govt.	Fed. Agency	1-4 Family	Other	Business	Consumer		All Other
STATE AND LOCAL GOVERNMENT FUNDS ^a											
1954	0.7		0.3	1.7	^b	0.1	0.1				2.9
1955	0.6		0.4	0.8	0.1	0.1					2.0
1956	0.5		0.5	1.1	0.1	0.1	0.1				2.4
1957	1.2		0.5	1.0	0.1	0.1	0.1				3.0
1958	1.2		0.4	0.3	^b	0.1	0.1				2.1
FEDERAL AGENCY AND TRUST ACCOUNTS											
1954				1.3	^b						1.3
1955				2.1	^b						2.1
1956				2.3	^b						2.3
1957				1.2	^b						1.2
1958				-0.8	^b						-0.8
FEDERAL LOAN AGENCIES											
1954			-0.3			-0.1	0.1				-0.3
1955			^b			0.2	0.3				0.5
1956			0.1			0.6	0.2				0.9
1957			0.2			1.2	0.2				1.6
1958			0.2			^b	0.3				0.5
TOTAL GOVERNMENT INSTITUTIONS											
1954	0.7		^b	3.0	^b	^b	0.2				3.9
1955	0.6		0.4	2.9	0.1	0.3	0.3				4.6
1956	0.5		0.6	3.4	0.1	0.7	0.3				5.6
1957	1.2		0.7	2.2	0.1	1.3	0.4				5.8
1958	1.2		0.7	-0.5	^b	0.1	0.4				1.7

NOTE: Because of rounding, components may not add to totals.

^a Includes operating funds as well as retirement and sinking funds.

^b Less than \$50 million.

debentures from life insurance companies, with changes in spreads between short and long rates being a driving force. In addition, the statistical problem of separating long from short with precision is very difficult.

However, analysts with a basic interest in long-term rates have found it worthwhile to concentrate on a sources and uses statement for long-term funds by specifically excluding short-term demand or supply factors where they can be identified. The annual forecasts of Salomon Bros. & Hutzler use this approach, and the system used by Scudder, Stevens and Clark concentrates on long-term funds. On the other hand, recent forecasts of the Bankers Trust Company have dealt with both a short-term market and a long-term market, treated separately, but the definition of these two markets has undergone some change. The forecasts of R. W. Pressprich & Co., a New York

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TABLE 6

ALL OTHER INVESTORS AS A SOURCE OF FUNDS IN THE CAPITAL MARKET, 1954-58
(billions of dollars)

	Securities				Mortgages			Loans and Credit			Total Sources of Funds
	Corp. Bonds	Corp. Stocks	State and Local	U.S. Govt.	Fed. Agency	1-4 Family	Other	Business	Consumer	All Other	
FIRE AND CASUALTY INSURANCE COMPANIES											
1954	0.1	0.2	0.8	0.1	^a		^a				1.2
1955	^a	0.2	0.8	-0.1	^a		^a				0.9
1956	0.1	0.2	0.6	-0.4	^a		^a				0.5
1957	0.2	0.2	0.6	-0.2	^a		^a				0.8
1958	^a	0.1	0.6	-0.1	^a		^a				0.6
NONFINANCIAL CORPORATIONS											
1954			0.2	-2.3	^a			1.7	0.7		0.3
1955			0.2	3.8	0.2			3.1	3.3		10.6
1956			0.1	-4.8	0.1			3.8	1.4		0.6
1957			0.1	-1.7	0.4			3.5	0.9		3.2
1958			0.1	0.8	-0.2			4.0	-0.3		4.4
FOREIGN INVESTORS											
1954	^a	0.1		0.4							0.6
1955	^a	0.1		1.2							1.4
1956	^a	0.3		0.2							0.5
1957	0.1	0.1		-0.1							0.1
1958	^a	-0.1		^a							^a
INDIVIDUALS AND OTHERS											
1954	-0.1	0.3	0.7	-1.2	^a	0.7	0.9		0.4		1.6
1955	1.4	0.6	1.8	1.9	0.6	0.9	1.1		0.7		9.0
1956	1.0	1.2	1.5	1.7	0.4	0.4	1.1		0.7		8.1
1957	0.8	1.2	2.3	-0.1	0.7	0.7	1.2		0.7		7.4
1958	0.7	0.5	1.6	-2.8	-0.3	1.3	1.1		0.5		2.5
TOTAL ALL OTHER INVESTORS											
1954	-0.1	0.7	1.6	-2.9	^a	0.7	0.9	1.7	1.1		3.7
1955	1.4	1.0	2.8	6.9	0.8	0.9	1.1	3.1	4.0		22.0
1956	1.1	1.6	2.3	-3.3	0.5	0.4	1.1	3.8	2.1		9.7
1957	1.0	1.5	3.0	-2.1	1.1	0.7	1.2	3.5	1.5		11.4
1958	0.8	0.6	2.3	-2.2	-0.5	1.3	1.1	4.0	0.2		7.6

NOTE: Because of rounding, components may not add to totals.

^a Less than \$50 million.

investment firm, analyze the market first in terms of investment funds, then in terms of the seasonal needs of Treasury financing and bank borrowing by business, and finally combine these into an overall market forecast.

Another major area of difference occurs with respect to federal borrowing and lending. The LIAA sources and uses statement defines as the use of funds by the federal government the net increase in gross public debt. In contrast, the sources and uses statement of the Federal Reserve Bank of New York includes only the net cash borrowing of the federal government, thereby ignoring the investments

by federal trust accounts in Treasury securities and other noncash debt transactions. Until this last year, one of the most widely used sources and uses statements, by Bankers Trust Company, excluded Treasury securities entirely from its analysis, on both the sources and the uses side. The Salomon Bros. & Hutzler forecasts have also dealt only with the nonfederal demand and supply of funds. Current analysis by Scudder, Stevens and Clark includes only the net long-term borrowing of the federal government.

Borrowing in the public market by the federal agencies, such as the Federal National Mortgage Association, Federal Land Banks, and the Home Loan Banks, was ignored for several years by most analysts as of negligible importance. However, such borrowing came to more than \$2 billion in 1957 and is, therefore, included today by most capital market analysts. On the other hand, lending activities of the federal agencies have been slighted by most analysts, except for lending in the mortgage market, where the amounts involved were sizable. In addition to mortgage lending, federal agencies also make loans to state and local governments (mainly through the Public Housing Authority), to agriculture (through Federal Intermediate Credit Banks and the Commodity Credit Corporation), to business (through a variety of agencies, including the Small Business Administration and the Maritime Commission). The omission of this lending activity from the sources and uses statement has been through lack of statistical data rather than conceptual differences. Improved statistical sources in the future should bring a change in the treatment given such loans.

In another area, funds raised by foreign corporations and foreign governments (including the World Bank) have been excluded from the LIAA sources and uses framework, both on the demand and supply side of the table. Other analyses, such as those of Bankers Trust Company and Salomon Bros. & Hutzler, take account of foreign securities that are floated in the United States and taken by United States investors. The statement used by R. W. Pressprich & Co. includes the entire net outflow of capital from the United States as the measure of foreign demand being supplied by United States investors. If foreign demand is to be included in the statement, there is some logic to including not only net security flotations by foreign corporations and business, but also the loans abroad by the Treasury, the economic aid programs, the Export-Import Bank, and private commercial banks. It is the added complexity of adding a foreign dimension to the definition of capital markets that has kept the LIAA from including these in its framework.

At the same time, foreign investors in the securities of United

States corporations or the Treasury are shown specifically in the LIAA statement. Although not too important in the corporate bond market, foreign investors are a substantial factor in the short-term government securities market, since the reserves of foreign central banks and working balances of foreign private banks partly take this form.

One of the more controversial items included in the LIAA statement for the capital markets has been net business receivables, that is, the trade credit extended by corporations to other firms, net of the trade payables owed by corporations to other corporations. In brief, an increase in net business receivables represents a flow of credit from corporate business to unincorporated business, largely to finance inventories and business equipment. As such, these flows represent an alternative to bank loan financing for these concerns, and are thought to deserve a place in capital market analysis. The corporation extending such credit does so at a predetermined rate of interest, and there is often a fixed date for payment of the amount due.

Several good reasons have been advanced against the inclusion of trade credit in the system. First, receivables are not a market instrument in the same sense as bonds, stocks, mortgages, and bank loans included in the system. Secondly, they represent a "duplicating flow" of the funds borrowed by a corporation from a bank or through bond issues to finance receivables. To show both the bank borrowing and the extension of receivables credit by the same corporations would, it has been argued, produce double counting in the flow-of-funds statement.

This question of duplicating flows will be considered at length in the next section. At the present time, both the LIAA and the Bankers Trust Company include net business receivables as a use of funds by unincorporated business, while other analysts do not.

A persistent problem that arises in defining the capital market is that of duplicating flows or double counting. This question can best be illustrated by considering the two extreme positions. First, it can be argued that the measure of demand for capital and credit should be limited to "ultimate" or "final" demand from borrowers using such funds for spending on goods and services. Those borrowing in order to relend to another user of funds would be excluded from the uses side of the capital market statement. This excluded group would obviously exclude financial intermediaries such as savings banks and savings and loan associations and life insurance companies, which accumulate funds from the saving public and invest these same funds in the capital market. This definition would also exclude as final users the sales finance companies, which borrow through bank loans

and bond issues in order to extend installment credit to those buying consumer durables. Any user of funds who is also a source of funds would be ruled out from the demand side of the statement.

One advantage of such an approach is that it places the focus of the analysis upon those groups ultimately responsible for the demand and for the pressure placed on interest rates. It also relates capital market financing more directly with the real side of the economy, with expenditures on goods and services.

As a practical matter, this approach is difficult to implement with existing statistics. It is virtually impossible, for example, to exclude those bank loans which are used wholly or in part to finance receivables from other firms or from consumers through charge accounts or installment loans. If the installment credit or trade credit itself is eliminated to prevent duplication, the framework will not show the "final demander" of funds. Aside from the statistics, it is conceptually difficult to be certain that trade credit is being financed by bank loans or bond issues, and not by the retained earnings of the corporation.

The other extreme in the question of duplicating flows of funds is to ignore the idea of ultimate versus intermediate users of funds, and show each and every flow that can be ascertained. The flow from saver to corporate pension fund, from pension fund to sales finance company, from finance company to the user of automobile installment credit—all would be shown within the system. The advantage of such an approach is completeness in showing all the channels of funds into, around, and through the capital markets. The complex mechanism of the market is thereby laid out in full. The disadvantage is that the framework becomes cumbersome under the weight of this complexity, and inclusion of all the crosscurrents makes it more difficult to relate to interest rate pressures within the system. Moreover, the absolute size of the grand total of sources or uses loses all economic significance because of the duplication included in the flows.

The financial side of the Federal Reserve flow-of-funds system is very similar to the extreme just outlined. This is not to criticize the flow-of-funds system, since its avowed purpose is to set forth the flows of money and credit between all sectors of the economy and financial system. But from the standpoint of capital market analysis, to try to use the flow-of-funds system as it stands would be considered by most as unwieldy and awkward.

The framework developed by those appraising the capital market through sources and uses statements has fallen between the two extremes outlined above. Every system now in use has some flows

that may be considered as duplicating or double-counted. Perhaps more by intuition than by design, the systems now in use count as a use of funds those demands expressed by issuing a market instrument, such as a security, or note, or receipt, but not those "demands" by financial intermediaries which give rise to deposit slips, policy reserves, or pension rights.

Up to this point, this paper has reviewed the origin, purpose, and methodological problems of a sources and uses statement for the capital market. While this discussion has been largely independent of the flow-of-funds system, the similarity in approach and in basic problems has doubtless been evident. Having laid this groundwork, it is now possible to turn to the flow-of-funds system as developed by the Federal Reserve Board and to examine the contribution which this system has made or is making to financial analysis of the capital market.

Contributions of the Flow-of-Funds Data to Capital Market Analysis: A General Appraisal

The appearance in late 1955 of the Federal Reserve study *Flow of Funds in the United States, 1939-1953* was welcomed enthusiastically by the research groups conducting capital market analysis along the lines discussed above. Perhaps more than any others, capital market analysts were pleased and gratified to see the Federal Reserve study in print. While some economists wondered what possible use could be made of the flow-of-funds system, and others wondered how it related to national income and product accounting, capital market analysts found themselves right at home with the data. First of all, the financial transactions specified in the flow-of-funds system were cast in terms of the familiar market instruments, such as corporate securities, federal obligations, mortgage loans, etc. Secondly, the flows shown were all on a *net* basis and, therefore, similar to the sources and uses statements that had already been developed. Finally, the sectoring of the flow of funds was in familiar institutional terms. At last, it was felt, we have a full-blown, authoritative system of financial accounts cast in our own language of financial markets and flows—rather than of income and product.

The advantages of having flow-of-funds data readily available were several. First and foremost, the flow-of-funds statistics had the advantage of *comparability*, having been refined and adjusted to a consistent basis as between types of transactions, economic sectors, and years included. This aspect of the Federal Reserve's study should not be overlooked; the problem of preparing data that are consistent

in definition between components and over time is a very time-consuming and painstaking one. In addition to bringing together the basic statistics from a multitude of public and private sources, it is necessary to place them on a net-flow basis, to correct for valuation factors, and to fill in basic gaps through reliance on benchmarks and partial information. All of this is beyond the power of most private research groups to accomplish with the limited staff available for capital market analysis. Imagine the effort that would be required for private research organizations to develop and maintain national income and product accounts without the help of the finished statistics prepared by the Department of Commerce! It cannot be over-emphasized that the preparation and dissemination of flow-of-funds data by the Federal Reserve is of great importance to capital market analysts.

The second advantage of the flow-of-funds data is the *comprehensive* nature of the accounts. There are two aspects to this characteristic. First, the flow-of-funds system attempts to include all types of financial flows and not merely the major categories. For example, the accounts include loans by credit unions to their members and changes in mortgage holdings by private mortgage companies. Insistence upon this degree of precision has encouraged the preparation by other government agencies of better statistics in the fringe areas of the capital market, and broadened the horizon of the analyst as to the amount of detail needed to describe the market. In addition to this type of completeness, the flow-of-funds system has tied together the financial data familiar to capital market analysts with the "nonfinancial transactions" that accompany or underlie the financial behavior of each sector. Thus, it is a simple matter to view the changes in mortgage indebtedness of consumers against the background of their purchases and sales of residential property and, indeed, against their entire pattern of income and expenditures. The same is true for corporations and government. The comprehensive nature of the flow-of-funds account has, therefore, added a new dimension to the tools of analysis developed by financial economists in their own sources and uses statements.

At the same time, it must be recognized that the flow-of-funds study as originally published in 1955 had its shortcomings for financial-market readers. The sector groupings were too broad and inclusive, often lumping under one sector institutions with essential differences in investment practices, legal status, type of regulation, and tax status. An example is the consolidation into a single sector of the commercial banks, Federal Reserve Banks, mutual savings banks, and Treasury monetary funds. Such a grouping may have

satisfied certain theoretical or conceptual requirements, but for the capital market analyst it tended to obscure rather than elucidate activity in this area. In this and other sectors, the regrouping that has been done during the past year represents a considerable improvement.

Another decided drawback in flow-of-funds data as originally published was that it was on an annual basis only, and with a substantial time lag. The data are now on a quarterly basis from 1952 onward, and the time lag has been reduced from about a year to a matter of months, or even weeks for certain data. The importance of quarterly data may seem fairly obvious, but might be discussed briefly. Even those forecasters working on an annual basis require quarterly data in preparing sources and uses statements. In order to understand fully what current trends are under way, as a basis for forecasting future trends, quarterly data are essential. Since there are strong seasonal movements in the capital market flows, a correct appraisal of the trend of the first three quarters can be made only against comparable quarters of several previous years. Here again, the basic data-providing function of the Federal Reserve study of the flow of funds is of great service to the analyst.

Beyond this rather practical advantage, quarterly data are necessary to provide the refinement and sensitivity that must go into appraising the impact and timing of changes in the monetary policy, debt management policy, or budgetary policy of the federal government.

The above appraisal of the positive contributions of the flow-of-funds data has centered upon the net-flow data. It must be pointed out, too, that the published tables also provide underlying data on sector and subsector *holdings* of financial assets and liabilities, from which the flows are derived. Data in this form are also of great value to financial analysis of the economy and the sectors concerned, particularly in such problems as the structure of institutional investment portfolios, the structure of indebtedness of various economic sectors, or the historical trend of the growth in debt and the ownership of debt by the several investor groups.

*Reconciling the LIAA Sources and Uses Statement
for the Capital Market with the Flow-of-Funds Data:
The Broad Relationship*

The broad structural relationship between these two systems can be seen by a glance at the flow-of-funds accounts in Table 7, marked to show the parts that correspond to the sources and uses statement of Table 1 now in use by the LIAA.

At this point it may be worth reviewing the logic of *excluding* certain parts of Table 7 from the sources and uses statement, rather than explaining the reason for including the other parts. Note that the Federal Reserve has labeled this panel in Table 7 as "credit and equity market instruments." However, two categories have been omitted. "Proprietors net investment in unincorporated business" has never been used in the sources and uses statement; although it is close in concept to a corporate stock, it is not an asset that is considered a "market instrument" in the usual sense. The category "miscellaneous financial transactions" is a catch-all which has not been used in the less refined statement.

The flow of funds between business and consumers on the one hand and financial institutions on the other, in the form of time deposits, savings and loan shares, savings through life insurance, etc., are deliberately excluded from the sources and uses statement on the ground that such flows do not take place in the capital market under discussion. It is true that the flow from consumers into savings deposits has a close relationship to the flow from savings institutions into mortgages and securities, but it is only the latter that is under consideration. To include both would be to increase the problem of duplicating flows. In general, it is felt best to consider the flows into financial intermediaries as important, but subsidiary, factors determining capital market trends, just as the flows of consumer income and consumer expenditures are important, but subsidiary, to the capital market being analyzed.

Although currency and demand deposits are a financial asset or liability similar to many others included in the sources and uses statement, these cash balances are specifically excluded from the system. Demand deposits are not usually considered as instruments for which there is a market as such. In any case, the counterpart to demand deposits appears in the sources and uses statement for the capital market in the form of bank loans and bank investments in securities and mortgages.

We may turn now to consider the specific factors and transactions that are common to both the flow-of-funds system and the sources and uses statement. For this purpose, comparison of the rows and columns in Table 1 and Table 7 reveals the close relationship of the two systems. The discussion that follows will touch upon the minor differences that exist within this broad area of similarity, with respect to the sectoring of groups and the transaction structure. It may be noted at the outset, however, that it is still an open question as to precisely which groupings and definitions are more useful for the analysis of particular problems in the financial field.

ANALYSIS AND APPLICATIONS OF DATA

TABLE
A SUMMARY OF THE FLOW
S = Sources of Funds
(Annual flows, in

	Business							
	Consumer		Corporate		Non-corporate		Farm	
	S	U	S	U	S	U	S	U
A	Current surplus (from sector account)		50.8	24.0	9.4	3.8		
B	Net investment flows (C + I)			54.1	24.4	9.4	3.8	
C	Capital expenditures, net			52.1	34.7	10.4	3.3	
D	Private plant and equipment				28.8	9.9	4.1	
E	Private nonfarm residential construction			16.0	0.8	0.8		
F	Real estate transfers and government construction		23.5	25.6	0.2			
G	Inventories				5.4	-0.3	-0.8	
H	Consumer durables		6.3	40.2				
I	Net investment in financial claims			2.0	-10.3	-1.0	0.5	
J	Net acquisition of financial assets			16.7	4.4	0.9	a	
K	Net increase in liabilities		14.7		14.7	1.9	-0.5	
L	Credit and equity market instruments		14.7	4.5	14.7	4.0	1.9	0.7
M	Federal obligations			1.2	-4.4			a
N	State and local obligations			1.9	0.1			a
O	Corporate bonds			1.2	3.7			
P	Corporate stocks			2.8	2.1			
	Mortgages							
Q	1-4 family properties		11.1	0.4	-0.1	-0.1		
R	Other			1.3	2.0	1.0	0.8	
S	Credit							
S	Consumer		3.4		0.3	0.3		
T	Security		a	a				
	Loans							
U	Bank n.e.c.				3.7	2.2	a	
V	Other		0.3		0.1	0.1	0.3	-0.2
W	Trade credit				3.0	6.1	1.9	0.4
X	Proprietors' net investment in unincorporated business		-4.4				-3.4	-1.1
Y	Miscellaneous financial transactions				0.2	1.8	a	a
Z	Fixed-value redeemable claims			12.6	-0.2	a		
a	Savings deposits, shares, and bond			8.9	-0.2			
b	Time deposits and PSS deposits			3.7				
c	Savings and loan and credit union shares			5.3				
d	U.S. savings bonds			-0.2	-0.2			
e	Savings through life insurance			3.4				
f	Miscellaneous deposits			0.3	a	a		
g	Cash balances			-0.3	0.6	0.2		
h	Currency and demand deposits			-0.3	0.6	0.2		
i	Gold and Treasury currency							
j	Discrepancy and valuation adjustment			-3.3	-0.3			
	Memoranda:							
k	Bank credit in J and K		2.5		3.4	2.5	-0.3	

Beginning with the definitions in Table 1, the first broad grouping of categories shown as "sources of funds" is that for savings institutions. The flow-of-funds accounts also have a sector shown as "savings institutions" which differs from Table 1 by including only mutual savings banks, savings and loan associations, and credit unions. Life insurance companies and corporate pension funds

APPLICATION TO CAPITAL MARKET ANALYSIS

7
 OF FUNDS ACCOUNTS, 1956
 U = Uses of Funds
 (billions of dollars)

Government				Financial Institutions															
Federal		State and Local		Com-mercial Banking		Savings Insti-tutions		Insurance		Finance n.e.c.		Non-profit		Rest-of-World		Total		Discrep-ancy	
S	U	S	U	S	U	S	U	S	U	S	U	S	U	S	U	S	U	S	U
9.5		8.6		1.2		0.6		5.2		-0.3		1.9		-1.4		113.5		-4.3 ¹	
9.5			9.9		1.2		0.6		5.2		0.1		2.4		-2.0		118.5		
	2.8		11.1		0.3		0.3		0.4				2.8				117.9		
					0.3				0.1				2.8				46.0		
																	17.6		
	2.8		11.1						0.2								23.7		(-3.2)
																	39.7		
																	4.2		
																	6.3		
																	40.2		
	6.8		-1.2		0.9		0.6		4.8		0.1		-0.4		-2.0		0.6		-0.6
	1.4		2.4		5.1		7.6		8.3		1.8				1.6		50.2		
-5.3		3.6		4.3		7.0		3.5		1.7		0.4		3.6		49.6			
-3.2	1.2	3.6	2.3	0.4	5.2	-0.2	7.6	^a	8.6	1.2	1.5	0.4		3.2	1.8	36.1	37.4		-1.3
-3.6			1.2		-2.6		0.3		-1.3		0.3		0.5		0.8	-3.6	-4.0		0.3
	0.1	3.5	0.5		0.2		^a		1.0		-0.2					3.5	3.5		
			0.4		-0.4		0.1		3.7	1.0	-0.1		0.1	0.3	0.1	5.0	5.0		
				0.4		^a			1.0	1.1	0.3		-0.6	0.1	0.3	3.8	3.8		
	0.6		0.1		1.2		6.0		2.6		-0.1					10.8	10.8		
	0.2		0.1		0.5		0.6		1.1		^a	0.1				3.9	3.9		
					1.3		0.4				1.1					3.4	3.4		
					-0.8					-0.7	^a			^a	^a	-0.7	-0.7		
	0.1				6.0	^a			-0.4		0.1			0.4		5.9	6.0		-0.1
0.3	0.1	0.1		^a	-0.2	-0.2	^a	^a	0.2	0.2	0.1		0.2	0.2	0.2	0.6	0.6		^a
									0.1							5.5	6.8		-1.2
									0.1							-4.4	-4.4		
	0.1						0.1		0.2					2.2	0.5	2.4	2.7		-0.3
-2.1	0.4		-0.1	2.1	-0.5	7.2	-0.1	3.5	-0.2	0.5			-0.2	0.4	-0.1	11.7	11.5		0.2
-1.8	^a		-0.1	2.1	-0.5	7.3	-0.1		-0.2				-0.2		-0.1	7.5	7.5		0.1
-0.2	^a			2.1		1.8	-0.1								-0.1	3.7	3.6		0.1
						5.4	0.1									5.4	5.4		
-1.5			-0.1		-0.5		-0.2		-0.2				-0.2			-1.5	-1.5		
0.2								3.2								3.4	3.4		
-0.6	0.5			0.1	^a	^a	^a	0.3		0.5				0.4	-0.1	0.7	0.6		0.1
^a	-0.2		0.2	1.7	0.4		0.1		-0.1		0.2		0.2		-0.1	1.7	1.3		0.5
^a	-0.2		0.2	1.7			0.1		-0.1		0.2		0.2		0.2	1.7	1.2		0.6
^a					0.4				^a		-0.4		-0.4		-0.3	^a	0.1		-0.1
			-1.3		^a										0.7		-5.0		
-3.1		0.2			4.8	^a			-1.1		0.2			0.4		4.7	4.8		-0.1

Note: Details may not add to totals because of rounding.
¹ Total net current surplus (line A) minus total capital expenditures, net (line C).
² Included in over-all nonfinancial discrepancy shown on line A.
^a Less than \$50 million.

(shown as savings institutions in Table 1) are grouped in Table 7 under the insurance sector, along with the fire, marine and casualty insurance companies. Several questions can be raised about the sector groupings in Table 7. First of all, does the limiting of "savings institutions" to the three specified above imply that other financial institutions are not "savings institutions"? Many would agree that

corporate pension funds and life insurance companies are generally considered savings institutions and are responsive to much the same trends and influences as the mutual savings banks and savings and loan associations. To place life companies and pension funds in the same sector as fire and casualty insurance companies combines institutions with totally different income tax status and totally different investment practices. While there is great stability in the total flow of funds through life companies and pension funds, there is a well-known instability of the asset growth of fire and casualty insurance concerns because of changing loss situations and rate trends.

The banking system of Table 1 differs from the commercial banking system of Table 7 in that the latter includes Treasury and monetary funds such as the Exchange Stabilization Fund and the gold and silver accounts. Table 1 groups under "government institutions" the following: state and local government funds (including retirement funds and operating funds), federal loan agencies, and federal trust accounts. The state and local funds have their exact counterpart in the flow-of-funds data of Table 7. The federal loan agencies are contained in Table 7 under federal government uses of funds in the form of mortgages, state and local obligations, and other loans. However, there is no counterpart to the category "federal trust accounts" shown in Table 1, consisting of the net investment in Treasury securities by the OASI, NSLI, and similar federal trust accounts. The reason for this gap is that in the flow-of-funds system, transactions between segments of the federal government (defined to include agencies and instrumentalities except the Federal Reserve) are washed out because the accounts are on a *consolidated* basis. Nowhere is the existence of such trust accounts shown, nor is their buying and selling of government securities in the public market accounted for. This would appear to be an important loss of detail in the system.

The sector shown as "all other investors" in Table 1 is made up of groupings not listed above. These include fire and casualty insurance companies mentioned above as listed in the insurance sector of Table 7. The corporations shown in Table 1 include not only corporations shown as a separate sector in Table 7, but also the sales finance companies, which are combined in Table 7 with other institutions under the sector "finance n.e.c." The category "foreigners" in Table 1 is identical to the rest-of-the-world sector in Table 7. Individuals and others are a residual group making up the balance, including consumers, noncorporate business, farm business, non-profit institutions, mortgage companies, brokers and dealers, and investment companies.

Next, we shall consider the differences between the two systems

with regard to transaction structure, i.e. corporate bonds and stocks, federal obligations, mortgage loans, etc. In the LIAA sources and uses statement shown in Table 1, corporate bonds and stocks include only the net issues of domestic corporations; the flow-of-funds system in Table 7 includes foreign corporation issues. The data in Table 7 also make a distinction between net bond and stock issues of nonfinancial corporations, on the one hand, and the issues of sales finance companies and open-end investment companies (these are included in "finance n.e.c."). In fact, the net issues of stock by investment companies (mutual funds) has been excluded from Table 1 on the ground that it is a duplicating flow through a financial intermediary that reinvests the proceeds in stocks. As discussed earlier, there are good reasons for specifying this type of flow; and many sources and uses systems attempt to do so.

The concept of state and local government securities used in the LIAA system is identical with the flow-of-funds data and, in fact, draws entirely upon it as the most complete and authoritative source of data on financing in this field. Likewise, there is an identity in the mortgage statistics used in the two systems. At an earlier stage, the LIAA study broke its mortgage loans into residential, commercial, and farm mortgages, but has now switched to the flow-of-funds breakdown between one-four family and other mortgages because of the completeness and ready availability of the statistics on ownership and mortgage indebtedness prepared by the Federal Reserve Board. This is also true for two other categories appearing in Table 1: federal agency securities and consumer credit. In both cases, the flow-of-funds system provides the detailed historical statistics in the form needed by the capital market analysts.

There are, however, a number of differences in the treatment of federal obligations. The LIAA system in Table 1 separates federal agency (nonguaranteed) securities from the direct and guaranteed issues; these are combined in the flow-of-funds accounts in Table 7 as "federal obligations," although the breakdown is available in supporting tables provided by the Board. Another difference is the exclusion of United States savings bonds from this category in the flow-of-funds system; these are shown in Table 7 under the heading "fixed-value redeemable claims" along with time deposits and savings and loan shares. Such a distinction may be sensible from the standpoint of classifying asset characteristics or forms of saving, but it is a refinement that has not concerned the capital market analyst; the fact that savings bonds are nonmarketable is not sufficient to treat them separately, since many of the other assets in the sources and uses statement are likewise nonmarketable. Other differences

between the two systems are mainly questions of classification. The "business credit" category of Table 1 includes commercial and industrial loans by commercial banks, plus net business receivables (trade credit) by corporations to noncorporate business. Both of these appear in Table 7, but are not grouped in this way. The "all other" category of loans and credit in Table 1 includes policy loans by life insurance companies and all other domestic loans by commercial banks, including security loans. This is a type of "miscellaneous" classification, and could easily be expanded to include such fringe items as security credit by brokers and dealers, loans to business and agriculture by federal loan agencies, and a whole host of minor financial transactions not specified elsewhere within the sources and uses statement.

Having reviewed all these conceptual and technical differences, it is well to remember that the similarities in the two systems far outweigh the differences in classifying particular transactions and particular sectors. The comparison made here has been against the present LIAA form of the sources and uses statement. This form has moved in recent years toward the form used by the flow-of-funds system, as noted above. Other research groups making use of the sources and uses approach have chosen to follow still other definitions or classifications in their analysis.

Summary and Conclusions

The following conclusions emerge as the principal features of the foregoing discussion. First, the techniques developed in the framework of a sources and uses statement for the capital markets have proved a fruitful means of both forecasting future trends in the capital markets, including trends in interest rates, and analyzing past relationships between the factors of demand and supply in the market. Although there are a number of differences between the sources and uses statements currently in use within various government departments and agencies, banks, insurance companies, and bond houses, the basic approach and coverage of these systems is very similar. Each of these groups conceives of the demand side of the market in terms of capital and credit instruments, such as bonds, stock, mortgages, and loans, and views the supply side of the market in terms of institutional groupings, such as commercial banks, mutual savings banks, life insurance companies, pension funds, individual investors, etc.

Secondly, this paper has concluded that the flow-of-funds system of accounting and the body of statistics prepared by the Federal

Reserve both have made a considerable contribution to capital market analysis. The measurement through net flows, cast in terms of market instruments and institutional grouping of investors, produces flow-of-funds data on financial transactions ready-made for capital market analysts. Moreover, the nonfinancial transactions worked out in the flow-of-funds accounts for the same sectors provide a new and important dimension to the analysis of the capital markets by facilitating study of the "real" factors of sector income and expenditure in their relationship to "financial" transactions. The comprehensive nature of the flow-of-funds system has also broadened the horizon of the capital market analyst by calling to his attention neglected areas of the capital market which, nevertheless, have an important bearing on its operations. Finally, the preparation by the Federal Reserve Board of quarterly data, comparable between years and consistent in definition, makes the flow-of-funds accounts a veritable gold mine of statistical information necessary to capital market analysis through the sources and uses statement. These are the advantages and contributions of the flow-of-funds system, and the refinement in capital market analysis during the past several years has been a direct outgrowth.

Despite the strides that have been made, there are still drawbacks in having capital market analysis based upon frameworks that are confusing by their differences while being conceptually almost identical. What is needed at this stage is a greater degree of uniformity and standardization in the statistical framework for describing and analyzing the capital and credit market. An analogy may be made to the statistical and conceptual complexities originally involved in the national income and product accounts, which have now been brought together into a relatively few broad groupings of economic activity. The existence of this standard statistical framework for national income does not rule out rearrangements of the accounts for special purposes or delving into the underlying statistics to analyze particular problems. Instead, there has developed under the leadership of the Department of Commerce an extremely valuable tool with which economists appraise the past and forecast the future. The Federal Reserve Board has provided leadership in financial analysis through its path-finding study of the flow of funds in the United States. They are also active currently in a reformulation of savings statistics. The Federal Reserve would perform a genuine and lasting service to the cause of financial knowledge and the spread of general understanding of our financial mechanism if it would use its leadership to develop a basic capital markets statement of accounts which could serve as the standard model or foundation for analysis of trends in the financial field.

C O M M E N T

SALLY S. RONK, Bankers Trust Company

Dr. O'Leary has very ably described the genesis of the sources and uses of funds statements as a technique for analyzing developments and pressures in the capital markets. He has also made some comparisons of these statements with the flow-of-funds tables, and has pointed out that the comprehensive nature of the flow-of-funds system has "broadened the horizon of the capital market analyst by calling to his attention neglected areas of the capital market which, nevertheless, have an important bearing on its operations." On the other hand, he has indicated that the flow-of-funds system as it now stands is unwieldy and awkward from the standpoint of capital market analysis.

At Bankers Trust Company, we have given much time and attention over the years to developing a set of tables for analyzing the flow of funds in the capital and credit markets. We have found this undertaking, which is a major task for a small economics department, to be valuable, providing a useful tool for analysis and forecasting. If the flow-of-funds tables were constructed in such a way as to make our own efforts in this direction unnecessary, we would be grateful. I agree with Dr. O'Leary, however, that more work needs to be done ". . . to develop a basic capital markets statement of accounts which could serve as the standard model for analysis of trends in the financial field."

Admittedly, one cannot help but be awed by the comprehensiveness and fine detail of the flow-of-funds study. It is a monumental job of balancing out changes in assets and liabilities throughout the economy by major sectors. The focus of the study is primarily on general economic analysis, such as the behavior of economic groups, saving and investment analysis, and the bases of economic growth. The availability of this information does much to facilitate understanding of the financial system and the interplay of financial and physical factors.

However, the capital market analyst is interested in the direct interaction between the major users of credit and the major suppliers of credit. In other words, his main interest is in how the large users of credit are financed. To meet this need of the capital market analyst, most sources and uses statements include tables showing how the major types of credit instruments have been placed with the major classes of investors over the years. The flow-of-funds system, on the other hand, presents no such comparative analysis; the data are, of course, available in the annual and quarterly summaries; but the information is presented in a form little suited to a study of the

direct relationships involved. This seems to reflect the fact that the flow-of-funds tables are oriented toward analysis not of supply and demand in the credit markets, but of the interaction of financial and nonfinancial factors within each major economic group or sector.

In the flow-of-funds system, increases in assets are consistently defined as uses of funds and increases in liabilities as sources. This, of course, is precise and logical and is in accord with accepted principles of accounting; but it is not the way the financial community views the flows of funds in the credit markets. Rather, users of funds here are the borrowers, who then use the proceeds for investment in plant and equipment, inventories, real estate, etc. Conversely, the sources of funds are the lending institutions, individuals, and others who provide the capital by investing in bonds and mortgages. In the sources and uses summary statements, therefore, uses of funds are considered to be demands for credit, and sources of funds are the supply. Obviously, this reversal of terminology arises because of the different orientation of the two types of analysis.

In addition to being confusing as to terminology, I fear that the flow-of-funds summary tables are too complex for the average financial analyst. Much educational work will have to be done within the financial community before the summary tables can be helpful and informative.

A difficulty doubtless lies with the form of presentation. The student of finance is interested primarily in credit and equity market instruments; these, however, account for less than one-third of the items listed in the summary flow-of-funds tables as now constructed. The other factors shown in the flow-of-funds summaries comprise partly nonfinancial factors and partly those financial factors which either do not bear directly on the capital markets or, as in the case of time deposits and savings shares, are already represented in institutional funds and, therefore, from the point of view of supply and demand in the credit markets, constitute double counting.

A source of confusion also is the juxtaposition of sources against uses in the summary flow-of-funds tables. As a practical matter, the market clearly identifies certain types of credit instruments with the sectors in which they originate. For example, Treasury and municipal securities are obviously issued by the respective government units; corporate bonds, as well as multifamily and commercial mortgages, emanate from the business sector; home mortgage and, of course, consumer debt are incurred by consumers. There may be a few cases where the sector of origin is not readily apparent from the type of instrument itself; but in those instances, this information is usually not material to the study of the capital markets. For the

most part, therefore, the alignment of sources against uses by sector, insofar as credit market instruments are concerned, is not very helpful and, at the very least, makes the use of the tables cumbersome and confusing. For the technically erudite, the form in which the flow-of-funds summary is presented is an impediment, while for the financially unsophisticated it may prove to be a pitfall in their analysis.

My comments so far have related to the presentation of the flow-of-funds summary framework and the difficulties encountered in applying it, even by the financially sophisticated, to analysis of the capital and credit markets. Experience has shown that the lack of clear presentation invites misleading conclusions.

My comments do not mean, however, that the concepts in the flow-of-funds system differ materially from those in the sources and uses statements. I have compared the flow-of-funds figures on credit and equity market instruments with those from Bankers Trust Company's *Investment Outlook for 1959* and have found very close similarity between the two systems as regards coverage.

Neither system has achieved a complete differentiation between the short- and long-term credit markets. The flow-of-funds system distinguishes between short-term direct federal government obligations and other federal obligations; but it does not attempt to segregate short maturities of state and local government bonds, construction loans, etc. The Bankers Trust study separates instruments by type: stocks, bonds (excluding United States government), and mortgages are called "investment funds"; loans and other forms of credit are designated short-term funds; and the publicly held debt of the United States government and its agencies is shown separately with no attempt to differentiate according to maturities.

Based on figures for the year 1957—the latest year for which published data were available when Bankers Trust Company completed its 1959 *Investment Outlook*—the stated totals are very close. According to the flow-of-funds data,¹ credit and equity market instruments increased \$36.7 billion, which is the amount shown as the total uses of funds in the Bankers Trust sources and uses statement.² Table 1 shows changes in the major credit and equity market instruments in 1957 given by the two studies, but with the instruments in the flow-of-funds study rearranged to conform to the Bankers Trust framework.

The statistical identity between the totals in the two studies is deceptive. The Bankers Trust study includes net trade payables of

¹ *Federal Reserve Bulletin*, August 1959, Table 3.

² *Investment Outlook for 1959*, Part IV.

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TABLE 1
COMPARISON OF FEDERAL RESERVE AND BANKERS TRUST USES OF FUNDS FOR
CREDIT AND EQUITY MARKET INSTRUMENTS, 1957
(billions of dollars)

	Bankers Trust Total	Flow-of- Funds Total	Difference
Investment funds			
Corporate and foreign bonds	7.9	7.5	0.4
Corporate stock	2.7	4.0	-1.3
Real estate mortgages	12.1	12.1	
State and local obligations	5.0	4.7	0.3 ^a
Total	27.6	28.3	-0.7
Short-term funds			
Consumer credit	2.7	2.7	
Other, excluding trade payables	3.1	4.5	-1.4 ^a
Total	5.8	7.2	-1.4
U.S. government and agency publicly held debt	-0.7	1.3	-1.9
Total funds, excluding trade payables	32.7	36.7	-4.0
Net trade payables of noncorporate business	4.0		
Total uses of funds	36.7		

SOURCE: "A Quarterly Presentation of Flow of Funds, Saving, and Investment," *Federal Reserve Bulletin*, August 1959; and *Investment Outlook for 1959*, Bankers Trust Company, New York.

^a The difference in state and local obligations is accounted for by the handling of federal government loans to state and local governments. They are included with state and local government debt in *Investment Outlook* and with federal government loans (in "short-term funds," above) in "Flow of Funds." Consequently, short-term funds omitted from *Investment Outlook* totaled only \$1.1 billion.

noncorporate business in total uses of funds, whereas the flow-of-funds statement does not count them as credit and equity market instruments. When correction is made for this difference, the total uses of funds shown in the Bankers Trust study is \$4 billion below the comparable figure in the flow-of-funds analysis.

A reconciliation between the two totals is shown in Table 2. This reconciliation is based on the published figures and thus includes differences in estimation. Excluding these differences, it will be noted that the Bankers Trust study omitted over \$2 billion of instruments included in the flow-of-funds statement and that the

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TABLE 2

RECONCILIATION OF FEDERAL RESERVE AND BANKERS TRUST USES OF FUNDS
FOR CREDIT AND EQUITY MARKET INSTRUMENTS, 1957
(billions of dollars)

Bankers Trust total		32.7
Omitted by Bankers Trust but included in "flow of funds":		
Investment company issues	1.0	
Finance company loans to business, etc.	1.0	
Federal govt. loans to business, foreign govts. and savings and loan assns.	0.6	
Customers' net free credit balances		
Customers' net debit balances	-0.4	
Other corporate stocks	0.3	
		2.5
		35.2
Omitted from "flow of funds" but included by Bankers Trust:		
Consumer-held savings bonds	-1.9	
Corporate and foreign bonds (difference in estimate)	0.4	
		-1.5
"Flow of Funds" total		36.7

flow-of-funds statement omitted consumer-held savings bonds. It would be desirable to include in the Bankers Trust study some of the items currently excluded, notably customers' net free credit balances, customers' net debit balances, and the federal government loans currently omitted; and we are planning to add these items in the future. The different treatment of the other items, however, reflects partly the multiple counting in the flow-of-funds analysis and partly variations in the definitions of credit and equity market instruments.

The Bankers Trust study includes net purchases of stocks by investment companies but, contrary to flow-of-funds treatment, excludes net purchases of investment company issues by individuals on the grounds that this would be double counting. On the other hand, the flow-of-funds study counts finance company loans to business as credit and equity market instruments but, as noted previously, excludes net receivables of other business corporations. This seems to me to be a logical way of handling finance company lending to business; however, since the Bankers Trust study includes net trade payables of noncorporate business in total uses of funds, these loans are reflected in that figure.

The flow-of-funds system omits consumer-held savings bonds from credit and equity market instruments on the ground that they are similar to savings deposits; while we agree on the exclusion of the

TABLE 3
COMPARISON OF FEDERAL RESERVE AND BANKERS TRUST SECTOR TAKINGS OF
CREDIT AND EQUITY MARKET INSTRUMENTS, 1957
(billions of dollars)

Sector	Used by Bankers Trust	Used in Flow of Funds
Life insurance companies	4.9	
Corporate pension funds	2.5	
Fire and casualty insurance companies	0.8	
Insurance	8.2	8.3
Mutual savings banks	1.8	
Savings and loan associations	4.7	
Credit unions	0.4 ^a	
Savings institutions	6.9	7.2
Finance n.e.c.		2.3
Nonbank financial		17.8
State and local government retirement funds	1.6	
Other state and local government	0.6	
State and local government	2.2	2.8
Commercial banks	5.0	5.1
Monetary authorities	-0.7	-0.8
Commercial banking system	4.3	4.3
Federal government	1.5	2.3
Business		
Nonfinancial corporations	-1.0	
Nonfarm nonfinancial corporations		-1.2
Finance n.e.c.		(2.3) ^b
Noncorporate	0.3 ^c	0.2
Farm		
Investment companies	1.0	
Individuals and others	8.9 ^d	
Consumer	9.9	9.7
Rest-of-the-world	0.4	0.6
Total	32.7	36.7

^a Consumer credit only.

^b Included in nonbank financial sector in the flow of funds; listed in parentheses here for comparison.

^c Other consumer lenders.

^d Excluding state and local governments—other.

latter from uses of funds, we include savings bonds because they fulfill part of the borrowing requirements of the Treasury.

One of the great forward steps achieved by the flow-of-funds accounts is the elimination from the corporate business sector of companies doing financial business. For a better appraisal of capital market trends, however it would be desirable to have finance companies shown separately, and not included in the catch-all classification "finance n.e.c." along with brokers and dealers, investment companies, factors, mortgage companies, and agencies of foreign banks, etc.

Actually, the most serious impediment to applying the flow-of-funds data to analysis of the capital markets lies in the way institutions are grouped into sectors in the flow-of-funds system. Dr. O'Leary has pointed out some of these difficulties: institutions with different modes of operation, different methods of obtaining funds, and different investment practices are grouped in the same broad sector. This sectoring problem in the flow-of-funds accounts is highlighted in Table 3, which compares changes in credit and equity market instruments in 1957 for the sectors used in the Bankers Trust study with those used in the flow-of-funds study.

It is readily apparent from this table that most of the detail in the Bankers Trust study is concentrated in the nonbank financial sectors at the top of the table, sectors where the bulk of credit and equity market instruments—at least those of long maturity—are lodged, whereas the flow-of-funds study concentrates mainly on the consumer and business sectors. Thus, in its efforts to be all-inclusive, the flow-of-funds analysis places disproportionate emphasis, from our point of view, upon the business and consumer sectors, which usually are of secondary importance in providing funds to the capital markets. As shown in Table 4, the Bankers Trust residual category "individuals and others," which includes the consumer sector (consisting of individuals, personal trust, and nonprofit organizations) and in addition, farm and nonfarm noncorporate business, farm credit cooperatives, brokers and dealers, and agencies of foreign banks, is not too dissimilar in magnitude from the total for the consumer sector in the flow-of-funds system. For purposes of capital market analysis, therefore, the fine breakdown of the residual is much less important than the breakdown of the nonbank financial sectors.

Thus, I heartily concur in Dr. O'Leary's conclusion that the flow-of-funds framework is confusing. As long as the flow-of-funds tables are presented as they now are we shall have to continue adhering to the sources and uses approach in our analysis of the capital markets and shall need to fashion our own tables accordingly.

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TABLE 4
 CREDIT AND EQUITY MARKET INSTRUMENTS TAKEN BY BANKERS TRUST
 "INDIVIDUALS AND OTHERS" VS. TAKINGS BY FEDERAL RESERVE
 "CONSUMER SECTOR," 1957
 (billions of dollars)

	<i>Individuals and Others, (Bankers Trust Residual)</i>	<i>Consumer Sector, ("Flow of Funds")</i>	Total	<i>Difference Accounted for by Difference in Coverage of Instruments (Table 1)</i>
Investment funds				
Corporate and foreign bonds	1.7	1.1	0.6	0.4
Corporate stocks	0.2	1.8	-1.6	-1.3
Real estate mortgages	2.5	2.1	0.4	
State and local obligations	2.6	2.3	0.3	0.3
Total	7.0	7.3	-0.3	-0.7
Short-term funds				
Consumer credit				
Other, excluding trade payables	0.4 ^a		0.4	
Total	0.4		0.4	
U.S. government and agency publicly held debt				
	1.5	2.5	-1.0	-1.9
Total, excluding trade payables	8.9	9.7	-0.8	-2.6

^a Discrepancy.

The flow-of-funds study has been helpful in providing statistics in fields where current data are not readily obtainable, and we shall continue to rely on these estimates. In sum, the flow-of-funds approach and presentation implements but does not supplant the sources and uses analysis for purposes of appraising developments in the credit and capital markets.

