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CHAPTER 6

Trends in Financing of Capital Formation:
Structure of External Financing

In the preceding chapter we discussed long-term movements in the shares of internal and external funds in the financing of capital formation or of total uses. The main conclusions were that for the business sector as a whole the ratio of internal funds to either gross capital formation or total uses rose over the period; that, with the inclusion of nonfarm residential and related construction to make up the total private sector, the upward trend in the share of internal financing disappeared or was attenuated; and that, with the addition of governments, particularly the federal, the share of internal funds for the economy as a whole declined slightly and the share of external financing rose.

In the present chapter, we concentrate upon long-term movements in the structure of external financing. External funds may be secured through the issue of stock, which carries no specific debt obligations but represents an equity in the enterprise seeking funds; or by the assumption of debt by that enterprise. Within debt proper, a distinction can be drawn between long-term and short-term, the two differing in economic import. Finally, in the analysis of the mechanism of financing, we should attempt to separate funds flowing directly from owner to user (as when an individual buys securities newly issued by a corporation or advances mortgage money directly to a borrower) from funds flowing from owner to some financial intermediary (savings bank, building and loan association, life insurance company, or the like), which accepts responsibility for choosing the borrower to whom the funds will be loaned. These three aspects of the structure of ex-

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ternal financing—the share of equity funds, the relative weight of short-term and long-term debt financing, and the share of financial intermediaries—are discussed in this chapter.

Distribution, by Category of User of Funds

First, we present the distribution of external financing, by category of user. Obviously, for some categories—households, unincorporated firms, and governments—equity financing is out of the question.[1] Then, too, the extent to which, by and large, the groups of users can and do have recourse to short-term or long-term debt differs, and the degree to which they rely upon financial intermediaries for supply of funds also differs. It is, therefore, useful to observe the shares of the groups of users in total external financing in the economy (Table 47).

Table 47 is derived directly from Tables 45 and 46 and the estimates are therefore subject to all the qualifications noted for those tables. These, however, do not affect the major conclusions now listed.

1. As one would expect, within the business sector, corporations accounted for the overwhelming proportion of external financing, ranging from about two-thirds to almost nine-tenths of the total (excluding the World War II period). More important, the long-term trend in corporations' share in the external financing of the total business group was upward—from about seven-tenths in the first two decades of the century to close to nine-tenths in the 1920's and in the post-World War II years. This trend resulted partly from the rise in the share of corporations in total business activity, and partly from the drop in the share of external in total financing—at least for agriculture—a decline not evident for corporations as a whole.

2. When we add external financing of households, represented by nonfarm residential construction, to derive the private sector as a whole, the picture changes. Then the long-term trends in the shares of agriculture and nonfarm unincorporated business are downward and even the share of corporations fails to rise, or shows a slight decline. The change is due to the sharp upward movement in the share of external financing of nonfarm residential construction commented upon in Chapter 5.

[1] Unincorporated enterprises are a special case. Part of the increase in the net worth of unincorporated business may represent new funds attracted from the outside; but we cannot separate them from the funds that represent reinvested earnings, and such outside funds are likely to be provided by contributors personally connected with the individual entrepreneur.

TABLE 47

SUMMARY: DISTRIBUTION OF EXTERNAL FINANCING, BY CATEGORY OF USER OF FUNDS, 1900–1956

(amounts in billions of dollars, averages per year)

Category of User	Periods				1940–1944		Longer Periods				
	1900–1909 or 1901–1910 (1)	1910–1919 or 1911–1920 (2)	1920–1929 or 1921–1930 (3)	1930–1939 or 1931–1940 (4)	1940–1945 or 1941–1945 (5)	1945–1955 or 1946–1956 (6)	1900–1919 or 1901–1920 (7)	1920–1939 or 1921–1940 (8)	1940–1955 or 1941–1956 (9)	1900–1929 or 1901–1930 (10)	1930–1955 or 1931–1956 (11)
VOLUMES											
1. Agriculture	0.27	0.97	0.34	0.10	−0.40	0.85	0.62	0.22	0.43	0.53	0.30
2. Nonfarm unincorporated business	0.16	0.38	0.35	−0.33	0.05	1.51	0.27	0.01	1.02	0.30	0.48
3. Corporations	1.42	2.73	4.76	−0.40	2.49	14.32	2.08	2.18	10.38	2.97	6.07
4. Total business, lines 1, 2, and 3	1.85	4.08	5.45	−0.63	2.14	16.68	2.96	2.41	11.83	3.79	6.85
5. Households [a]	0.43	0.65	2.87	0.86	1.09	7.70	0.54	1.86	5.50	1.32	3.64
6. Total private, lines 4 and 5	2.28	4.73	8.32	0.23	3.23	24.38	3.50	4.28	17.33	5.11	10.49
7. State and local governments	0.23	0.48	1.10	0.29	−0.60	2.90	0.36	0.70	1.73	0.60	1.16
8. Federal government	0.03	2.35	−0.80	4.50	40.10	3.47	1.19	1.85	15.68	0.53	11.21
9. Total, lines 6, 7, and 8	2.54	7.56	8.62	5.02	42.73	30.75	5.05	6.82	34.74	6.24	22.86

RATIOS TO TOTAL IN LINE 4											
10. Agriculture	0.15	0.24	0.06	—	-0.19	0.05	0.21	0.09	0.04	0.14	0.04
11. Nonfarm unincorporated business	0.09	0.09	0.06	—	0.02	0.09	0.09	b	0.09	0.08	0.07
12. Corporations	0.77	0.67	0.87	—	1.16	0.86	0.70	0.90	0.88	0.78	0.89
RATIOS TO TOTAL IN LINE 6											
13. Agriculture	0.12	0.21	0.04	—	-0.12	0.03	0.18	0.05	0.02	0.10	0.03
14. Nonfarm unincorporated business	0.07	0.08	0.04	—	0.02	0.06	0.08	b	0.06	0.06	0.05
15. Corporations	0.62	0.58	0.57	—	0.77	0.59	0.59	0.51	0.60	0.58	0.58
16. Households [a]	0.19	0.14	0.34	—	0.34	0.32	0.15	0.43	0.32	0.26	0.35
RATIOS TO TOTAL IN LINE 9											
17. Agriculture	0.11	0.13	0.04	0.02	-0.01	0.03	0.12	0.03	0.01	0.08	0.01
18. Nonfarm unincorporated business	0.06	0.05	0.04	-0.07	b	0.05	0.05	b	0.03	0.05	0.02
19. Corporations	0.56	0.36	0.55	-0.08	0.06	0.47	0.41	0.32	0.30	0.48	0.27
20. Households [a]	0.17	0.09	0.33	0.17	0.03	0.25	0.11	0.27	0.16	0.21	0.16
21. State and local governments	0.09	0.06	0.13	0.06	-0.01	0.09	0.07	0.10	0.05	0.10	0.05
22. Federal government	0.01	0.31	-0.09	0.90	0.94	0.11	0.24	0.27	0.45	0.08	0.49

Because of rounding, detail will not necessarily add to total.

[a] Nonfarm residential construction.

[b] Less than 0.005.

SOURCE: Based on Tables 45 and 46.

3. The addition of external financing by governments, particularly the federal, alters the picture even more. In total external financing by the economy, the rise in the share of the federal government is so marked that the shares of all other user groups necessarily decline (see, in particular, columns 10 and 11). When we examine the selected short periods, thus excluding the huge federal financing during World War II, the share of nonfarm residential construction in external financing exhibits some rise, while that of state and local governments appears stable. The share of nonfarm unincorporated business is either stable or shows only a very slight decline—but the estimates are too crude to be assigned much weight. Even these selected periods, however, indicate that the shares in total external financing accounted for by agriculture and, particularly important, by corporations declined. Thus the ratio for corporations was 0.56 in the first decade of the century, 0.55 in the 1920's, and 0.47 in the post-World War II years.

The general impression is one that could have been inferred from the summary in Chapter 5. With the business sector tending, more than the others, to show a rise in the share of internal financing and thus a decline in the share of external funds, a decline in the share of the business sector in total external financing was bound to occur unless total financing of the business sector accounted for a significantly rising share of total financing in the economy. But total uses in the business sector accounted for about 0.7 of total uses in the economy in the first decade of the century, and somewhat over 0.6 in the 1920's and the post-World War II years (see Table 46, lines 4 and 15). With the relatively constant weight of the business sector in the distribution of total uses (sources), the decline in the share of external financing within it, and the rise in the share of external financing in the other sectors in the economy, the share of the business sector in total external financing in the economy inevitably declined.

Share of Equity Financing

The issuance of stock (common or preferred) is a practice that can be followed by business corporations alone, and by only a selected group of them. The stock issues covered in the estimates include only those offered for public placement, and for obvious reasons exclude shares issued upon incorporation to former individual owners of assets, and stocks tendered upon consolidation in payment for existing assets. In order to place a new stock issue on the market with any rea-

sonable hope of selling it, a corporation must have attained a certain size and maturity, with a record of past performance and evidence of continuity and stability. These preconditions necessarily limit the candidates to a relatively small fraction of all corporations, though the small number, because of individual size, may account for a large proportion of all corporate assets and sales.[2]

With this in mind, we turn to Table 48, which summarizes the available estimates on the structure of external financing by all nonfinancial corporations. We have to observe not only the net stock issues, but also the other major categories of external financing in order to compare the trends in the share of equity funds with other relevant changes in total external funds.

The movement of the ratio of net stock issues to all external funds is not consistent. Even if we consider only the shorter, normal periods, we find that it was 0.31 in the first period of the century, rose to 0.43 in the 1920's, and then dropped sharply to 0.21 in the post-World War II decade. Likewise, for the three long periods in lines 10 to 12, the ratio moved from 0.29 in 1901–1922, to 0.63 in 1923–1939, and then down to 0.22 in 1940–1955. For the two long periods, 1901–1929 and 1930–1955 (lines 13 and 14), the ratio was 0.35 and 0.27, respectively.

These are the shares of equity funds in total external financing. Changes in them can arise from either or both of two sources—the changing importance of long-term funds in the total of external funds, and the changing weight of equity funds in total long-term funds. We treat bonds and notes as long-term (notes and accounts payable as short-term),[3] and mortgage loans also as long-term; then we compare net stock issues with total long-term external funds (column 12). The ratio of net stock issues to total long-term external financing rose somewhat (column 12), from 0.38 in 1901–1912 to 0.48 in 1913–1922, then declined slightly to 0.47 in 1923–1929. Equity funds dominated all long-term external financing in 1930–1945, because both bonds and mortgage loans were being reduced rather than increased. But in

[2] This argument does not apply to sales of equity securities to insiders by new corporations without use of the investment banking machinery. Goldsmith's series in lines 1 to 6 of Table 48 includes a rough allowance for such sales.

[3] Short-term bonds and notes have been but a minor fraction (a few percentage points) of the total of bonds and notes for all years since 1919, with the exception of 1919, 1920, and 1932–1934 (see *Historical Statistics of the United States, 1789–1945*, and *Continuation*, Series N-225 and N-226). Likewise, long-term funds, i.e., funds whose length of life approximates that of goods included under durable capital formation, can be but a minute fraction of notes and accounts payable in column 6 of Table 48.

TABLE 48

STRUCTURE OF EXTERNAL FINANCING, NONFINANCIAL CORPORATIONS, 1901–1955

(amounts in billions of dollars)

Periods	Net Stock Issues (1)	Net Bonds and Notes (2)	Mortgage Loans (3)	Total Long-Term External Financing (1)+(2)+(3) (4)	Tax Accruals (5)	Notes and Accounts Payable (6)	Total Short-Term External Financing (5)+(6) (7)	Total External Financing (4)+(7) (8)	Ratio of: (1) to (8) (9)	(2) to (8) (10)	(4) to (8) (11)	(1) to (4) (12)	(2) to (4) (13)
				GOLDSMITH ESTIMATES									
1. 1901–12	5.6	8.2	0.8	14.6	0.2	3.0	3.2	17.9	0.31	0.46	0.82	0.38	0.56
2. 1913–22	8.5	6.5	2.6	17.6	1.5	11.1	12.6	30.1	0.28	0.22	0.58	0.48	0.37
3. 1923–29	16.7	12.2	6.4	35.3	0.9	2.8	3.7	39.0	0.43	0.31	0.91	0.47	0.35
4. 1930–39	5.4	−0.3	−1.0	4.1	−0.4	−7.8	−8.2	−4.1	a	a	a	1.32	−0.07
5. 1940–45	3.5	−3.8	0	−0.3	8.1	7.2	15.3	14.9	0.23	−0.26	−0.02	a	a
6. 1946–49	8.1	12.1	6.5	26.7	3.2	9.3	12.5	39.3	0.21	0.31	0.68	0.30	0.45
7. 1946–55 b									0.21	0.27	0.63	0.34	0.43
				COMMERCE ESTIMATES									
8. 1946–49	5.5	12.1	2.8	20.4	−0.8	17.9	17.1	37.5	0.15	0.32	0.54	0.27	0.59
9. 1946–55	19.8	35.7	8.4	63.9	8.4	56.6	65.0	128.9	0.15	0.28	0.50	0.31	0.56
Longer periods													
10. 1901–22	14.1	14.7	3.4	32.2	1.7	14.1	15.8	48.0	0.29	0.31	0.67	0.44	0.46
11. 1923–39	22.1	11.9	5.4	39.4	0.5	−5.0	−4.5	34.9	0.63	0.34	1.13	0.56	0.30
12. 1940–55 c									0.22	0.22	0.57	0.39	0.38
13. 1901–29	30.8	26.9	9.8	67.5	2.6	16.9	19.5	87.0	0.35	0.31	0.78	0.46	0.40
14. 1930–55 c									0.27	0.22	0.62	0.43	0.36

Because of rounding, detail will not necessarily add to total.

a Not shown because denominator is negative.

b Extrapolated from line 6 by the percentage change from line 8 to line 9.

c Weighted averages of the ratios for the subperiods included (lines 5 and 7 or 4, 5, and 7), the weights being the absolutes in cols. 1 to 8 or those implicit in the extrapolated ratios, line 7.

SOURCE, BY LINE

1 to 6. Raymond W. Goldsmith, *Financial Intermediaries in the American Economy since 1900* (Princeton for NBER, 1958), Table 53, p. 222.

8 to 9. *Survey of Current Business*, April 1954, p. 15, and October 1956, p. 12.

1946–1955, their ratio was down to 0.34—lower than for any earlier period distinguished in Table 48. The averages for the longer periods, lines 10 to 12 and 13 to 14, confirm the impression of a decline in the share of net stock issues in total long-term external financing, although the decline is mild and not consistent over time.

One can thus conclude: (1) the share of equity funds in total external financing of corporations (column 9) shows a downward trend, although not consistently—since the peak was in the 1920's and not early in the century; (2) the share of long-term external financing in total external financing (column 11) tended to decline, although not consistently; (3) the share of equity funds in total long-term external financing also declined, in that in the post-World War II decade it was distinctly lower than in any earlier period in the century. We emphasize again that trends based on only two of the six periods, or on movements that are not consistent over time, cannot be assigned much weight. They are meant to give only a general impression of the long record, not to suggest continuity of a dominating and persistent movement.

Before we deal with some general aspects of these findings, it will be helpful to consider the estimates for some important subgroups of corporations. Table 49 relates to mining and manufacturing corporations and summarizes Dobrovolsky's estimates.

While the periods distinguished here differ somewhat from those in Table 48, the similarity in movement is striking. The ratio of equity funds to total external financing shown in Table 49 also rose, from 0.37 in the first two decades of the century to 0.97 in the 1920's and the 1930's (if we compare 1900–1914 with 1920–1929, the movement is from 0.50 to 0.72); but then it declined in the post-World War II years to 0.15, appreciably below the level of the 1920's and even below the level at the beginning of the century. When equity funds are related to long-term external financing (in this case a simple sum of net stock and net bond issues), the ratio moves from 0.55 in 1900–1914, to 0.74 in 1920–1929, but then drops to 0.37 in 1946–1953. Clearly, for this major group of business corporations the relative movement in equity funds is almost identical with that for all nonfinancial corporations. Nor is this an algebraic necessity, because the group accounts for only a fraction of total or long-term or external financing by nonfinancial corporations.

In dealing with the other group of corporations covered in this study, the regulated industries, we are handicapped by the fact that

TABLE 49

Structure of External Financing,
Mining and Manufacturing Corporations, 1900–1953
(amounts in millions of dollars, averages per year)

Periods	Net Stock Issues (1)	Net Bond Issues (2)	Total Long-Term External Financing (1) + (2) (3)	Total External Financing (4)	Ratio of:			
					(1) to (4) (5)	(2) to (4) (6)	(3) to (4) (7)	(1) to (3) (8)
1. 1900–14	172	142	314	342	0.50	0.42	0.92	0.55
2. 1914–19	410	78	488	1,435	0.29	0.05	0.34	0.84
3. 1920–29	641	228	870	888	0.72	0.26	0.98	0.74
4. 1929–37	259	−249	10	11	—	—	—	—
5. 1937–44	133	−26	107	1,126	0.12	−0.02	0.10	1.24
6. 1946–53	750	1,281	2,031	5,078	0.15	0.25	0.40	0.37
Longer periods								
7. 1900–19	235	125	360	630	0.37	0.20	0.57	0.65
8. 1920–37	461	4	465	475	0.97	0.01	0.98	0.99
9. 1937–53	442	628	1,070	3,102	0.14	0.20	0.34	0.41

Because of rounding, detail will not necessarily add to total.

Source: Based on Daniel Creamer, Sergei Dobrovolsky, and Israel Borenstein, *Capital in Manufacturing and Mining: Its Formation and Financing* (Princeton for NBER, 1960), Tables 51 and 44, pp. 162–163 and 142–143.

Cols. 1–3. The estimates are those prepared by Dobrovolsky.

Col. 4. Calculated by applying to col. 3 the ratio of long-term to total external financing for large manufacturing corporations. We used the ratio for 1900–1910 for line 1; that for 1915–1919 for line 2; that for 1923–1929 for line 3; that for 1929–1937 for line 4; that for 1937–1943 for line 5; and that for 1946–1953 for line 6.

Whenever the period involved several cycle averages (lines 1, 3, and 6), the latter were averaged with no allowance for differing durations.

The averages in lines 7, 8, and 9 are weighted by the duration of periods in lines 1 to 6.

none of Ulmer's estimates extends beyond 1950, and the periods he distinguishes for the several industries cannot be compared easily with those in Table 48. Nevertheless, some trends emerge, particularly when we look at the averages for the long periods (Table 50).

It should be noted that the long period in column 8 does not include the 1920's, i.e., the years during which the share of equity funds in total and long-term corporate external financing was high; in two cases, the 1920's are included in the later period (column 9). This division is favorable to showing a rise or at least constancy in the share of net stock issues or equity funds in total and in long-term external financing. But the result is quite the opposite in all four industries distinguished. Thus, for railroads, the ratio of net stocks to total external funds was 0.39 in the first of the longer periods (column 8) and only 0.16 in the second (column 9); their ratio to total net securities was 0.41 and 0.18, respectively. For electric light and power, the net

TABLE 50
STRUCTURE OF EXTERNAL FINANCING, FOUR MAJOR COMPONENTS OF THE REGULATED INDUSTRIES, 1880–1950
(amounts in billions of dollars)

Industrial Component and External Financing Item	Periods							Longer Periods	
	I (1)	II (2)	III (3)	IV (4)	V (5)	VI (6)	VII (7)	(8)	(9)
Steam Railroads									
1. Dates	1880– 1890	1893– 1907	1907– 1916	1914– 1920	1921– 1930	1931– 1940	1941– 1949	1880– 1916	1914– 1949
				VOLUMES					
2. Total uses [a]	3.36	5.52	6.44	5.04	8.51	1.77	7.71	15.32	23.03
3. Total external sources	3.28	5.13	4.35	3.00	2.11	−0.53	−1.18	12.76	3.40
4. Short-term external financing	0.23	0.67	−0.29	1.71	−1.39	−0.28	0.44	0.61	0.48
5. Net securities	3.06	4.47	4.64	1.29	3.50	−0.26	−1.62	12.17	2.91
6. Net stocks	1.35	1.90	1.71	−0.12	0.99	0.28	−0.62	4.96	0.53
7. Net bonds	1.71	2.57	2.93	1.41	2.51	−0.54	−0.99	7.21	2.39
				RATIOS					
8. Line 6 to line 3	0.41	0.37	0.39	—	0.47	—	—	0.39	0.16
9. Line 7 to line 3	0.52	0.50	0.67	0.47	1.19	—	—	0.57	0.70
10. Line 5 to line 3	0.93	0.87	1.07	0.43	1.66	—	—	0.95	0.86
11. Line 6 to line 5	0.44	0.43	0.37	—	0.29	—	—	0.41	0.18
Telephones									
12. Dates		1891– 1902	1903– 1912	1913– 1920	1921– 1930	1931– 1940	1941– 1950	1891– 1920	1921– 1950
				VOLUMES					
13. Total uses [a]		0.45	1.10	1.04	4.43	1.85	7.89	2.59	14.17
14. Total external sources		0.42	0.90	0.45	2.60	0.02	4.80	1.77	7.42
15. Short-term external financing		0.05	0.06	0.02	0.13	0.06	0.67	0.13	0.86
16. Net securities		0.37	0.84	0.43	2.47	−0.04	4.13	1.64	6.56
17. Net stocks		0.29	0.52	0.07	1.65	−0.13	0.65	0.88	2.17
18. Net bonds		0.08	0.32	0.37	0.82	0.09	3.48	0.77	4.39
				RATIOS					
19. Line 17 to line 14		0.69	0.58	0.16	0.63	—	0.14	0.50	0.29
20. Line 18 to line 14		0.19	0.36	0.82	0.32	—	0.72	0.44	0.59
21. Line 16 to line 14		0.88	0.93	0.96	0.95	—	0.86	0.93	0.88
22. Line 17 to line 16		0.78	0.62	0.16	0.67	—	0.16	0.54	0.33
Electric Light and Power									
23. Dates		1881– 1912		1913– 1922		1928– 1937	1938– 1950	1881– 1922	1928– 1950
				VOLUMES					
24. Total uses [a]		2.10		2.92		4.61	11.22	5.02	15.83
25. Total external sources		1.94		2.50		3.52	5.50	4.44	9.02
26. Short-term external financing		0.19		0.21		0.06	0.62	0.40	0.68
27. Net securities		1.75		2.29		3.46	4.88	4.04	8.34
28. Net stocks		0.98		0.98		1.68	2.05	1.96	3.73
29. Net bonds		0.77		1.31		1.78	2.83	2.08	4.61
				RATIOS					
30. Line 28 to line 25		0.51		0.39		0.48	0.37	0.44	0.41
31. Line 29 to line 25		0.40		0.52		0.51	0.51	0.47	0.51
32. Line 27 to line 25		0.90		0.92		0.98	0.89	0.91	0.92
33. Line 28 to line 27		0.56		0.43		0.49	0.42	0.49	0.45
Street and Electric Railways									
34. Dates		1890– 1902	1902– 1912	1913– 1922				1890– 1912	1902– 1922
				VOLUMES					
35. Total uses [a]		1.30	1.67	2.07				2.97	3.74
36. Total external sources		1.28	1.59	1.82				2.87	3.41
37. Short-term external financing		0.14	0.16	0.37				0.30	0.53
38. Net securities		1.15	1.44	1.44				2.59	2.88
39. Net stocks		0.65	0.65	−0.10				1.30	0.55
40. Net bonds		0.50	0.79	1.54				1.29	2.33
				RATIOS					
41. Line 39 to line 36		0.51	0.41	—				0.45	0.16
42. Line 40 to line 36		0.39	0.50	0.85				0.45	0.68
43. Line 38 to line 36		0.90	0.91	0.79				0.90	0.84
44. Line 39 to line 38		0.57	0.45	—				0.50	0.19

Because of rounding, detail will not necessarily add to total.

[a] Including investments in affiliated companies.

SOURCE: Melville J. Ulmer, *Capital in Transportation, Communications, and Public Utilities: Its Formation and Financing* (Princeton for NBER, 1960), pp. 150–153.

stock issues accounted for 0.44 of total external financing in the first of the longer periods and 0.41 in the second; their ratio to total net securities was 0.49 and 0.45, respectively—mild declines but declines nevertheless. For telephones, the ratio of equity funds to total external financing dropped from 0.50 in the first of the longer periods to 0.29 in the second; their ratio to total net securities was 0.54 and 0.33, respectively. Even for street and electric railways, for which we have no estimates beyond 1922, the division into longer periods shows a decline in the ratio of net stock issues to total external financing, from 0.45 to 0.16; and in their ratio to all net securities, from 0.50 to 0.19.

The estimates for these regulated industries thus confirm the impression of a long-term decline in the shares of equity funds in total external financing and in long-term external financing suggested for all corporations in Table 48. Indeed, here the declines are much more conspicuous, although when we deal with the shorter periods they are not any more consistent.

Assuming that we accept the findings of long-term declines in the shares of equity funds in total external financing and in all long-term external financing, we may ask what factors could have accounted for them. The question is all the more relevant since we might have expected the shares to rise in the long run, for one important reason. If only relatively sizable, mature corporations can successfully appeal to the public capital markets for funds in the form of equity securities, one could argue that the proportion of such large, mature corporations to all corporations—in assets, in output, in total financing—must have increased over time. This is the natural consequence of the growth of the economy, the growing economies of scale of the firm, the continuous addition to the number of corporate giants. Assuming that other conditions remained equal, and also that large corporations draw upon the market for funds in proportion to their size, and that they are greater potential users of equity funds than smaller units, we would expect an upward long-term trend in their shares of equity funds in external financing and in total net security issues. Consequently, explaining the downward trend is all the more challenging a task.

As with many other major problems raised in this volume, the explanation can hardly go beyond indicating the possible identity of the factors involved and the directions in which further study may be warranted. But even such hints should be explicit.

The first possibility to be noted is connected with the rise in relative importance of the large, mature corporations that would presumably have access to money markets through the flotation of equity

securities. It is true that these units have grown in relative importance among all corporations; but they are also the units which, because of their long past, may well have accumulated more fixed capital than others and therefore have less need for external financing, because they can draw more heavily upon capital consumption allowances and un-distributed profits. In other words, the effect of the increasing weight of these large corporations on the possibly increasing share of equity funds in total external financing may be offset, or more than offset, by their greater reliance on internal funds.

We have no data readily available for testing this argument. Such information, which could be derived from a study of corporate financing practices by size of corporation, with the longest possible perspective, would be valuable but is not feasible within the limitations of this study. An illustrative calculation of the effect of shifts among large and other corporations must suffice. (In the tabulation, all stocks,

		Time Period I (1)	*Time Period* II (2)
		(per cent)	
	Share in Total Uses by		
1.	Large corporations	40	60
2.	Other corporations	60	40
	Share of External Financing in Total Uses		
3.	Large corporations	60	25
4.	Other corporations	60	60
5.	All corporations	60	39
	Structure of External Financing		
	Large Corporations		
6.	Share of stocks in total	50	50
7.	Share of bonds (or long-term debt) in total	40	40
8.	Share of short-term debt in total	10	10
	Other Corporations		
9.	Share of stocks in total	0	0
10.	Share of bonds (or long-term debt) in total	50	50
11.	Share of short-term debt in total	50	50
	All Corporations		
12.	Share of stocks in total	20	19
13.	Share of bonds (or long-term debt) in total	46	46
14.	Share of short-term debt in total	34	35
15.	Share of line 12 in line 12 + line 13	30	29

bonds, and debt refer to net issues.) Let us assume that the share of total financing by large corporations in total financing by all corporations increased from 40 to 60 per cent, and that the share of internal in total financing by those corporations rose from 40 to 75 per cent, while the share for the others remained at 40. We assume further that only the large corporations issue stocks, and that the structure of other external financing for both the large and the other corporations remained constant over time. All these specific ratios are, of course, hypothetical, but the basic trends and differences shown can be corroborated by observable data.

The illustration shows that even though the share of large corporations in total corporate financing increases, and even though within the large and the other corporations the structure of external financing remains constant, the greater shift to internal funds by the large corporations can produce a decline in the share of equity funds in total external financing (line 12) and in total net security issues (line 15). There is at the same time a rise in the share of short-term debt financing in external financing (line 14). All these effects accord with the long-term movements in Table 48 for all nonfinancial corporations.

The illustrative calculation also indicates, however, that the quantitative effect of the factor suggested is quite minor, indeed negligible when related to the assumptions made in the illustration or compared with the movements observed in the estimates. Despite the rather extreme assumptions underlying the illustrative calculation, the share of stocks in total external financing or in long-term external financing dropped by only one percentage point, and the effect on the share of short-term debt financing in total external financing was equally minor. The reason, of course, is that the change is the net product of two conflicting trends: the rise in the proportion of large corporations tends to raise the share of net stock issues and to reduce the share of net short-term debt; but we also assume that within large corporations the share of external financing declines. Only unrealistic assumptions concerning the movement of the share of external sources in total financing by large corporations could produce the downward trend we wish to explain.

While the illustration is useful in indicating that the rise in the proportion of large corporations has a double effect—on the share of equity funds in total external financing and in long-term external financing—it suggests that the explanation of any significant down-

ward movement in the share of equity funds must be sought elsewhere. The explanation must deal with the possible reasons why in both large and other corporations the share of equity funds in total and long-term external financing declined. It should be noted that these trends have been observed within mining and manufacturing, so that the shifts in composition of the corporate body among the major economic sectors, while of possible influence, clearly cannot be dominant.

In considering the complexes of factors involved, one naturally tends to think of both the demand and the supply side. Were there factors that, other conditions being equal, made the corporations look less favorably upon stock issues than upon other sources of external financing as a means of obtaining funds? If this question is applied to corporations that, because of their size and maturity, have access to the markets for equity funds, and if "other conditions being equal" means that relative prices of funds remain the same—a designedly artificial assumption—we have to explore the reasons why, on the demand side, there would be a reduction in relative willingness to seek equity funds. There are several bases for analyzing the relative costs of equity and debt money under fixed conditions of interest rates, no taxation, and the like. But whatever approach we use, so long as we assume that the differential costs of equity and other money remain the same, only one argument can be suggested on the demand side to explain a decreasing willingness to obtain money by the issue of stock. It lies in the possibility that, as a corporation grows, the accumulation of past earnings and replacements adds to its equity and there is less danger and fear in assuming fixed debt obligations. If, then, the price differential between equity and debt money is assumed to remain the same, the lesser risk element involved in debt money would warrant greater reliance upon it. A similar effect might be produced by general upward movements in price levels. Under such conditions the prospective burden of fixed debt obligations would be progressively lighter, and other conditions being equal, a shift toward debt and away from equity is a rational response.

These arguments, which stress the evaluation, on the demand side, of the risks and costs of debt obligations compared with those of equity funds, have some relevance here. When prices were either stable, as during the 1920's, or declining, as during the 1930's, the proportion of equity funds was quite high, and that of debt money either relatively low or negative. Moreover, the rise in general price levels in recent decades was both proportionately greater and more generally

expected than was that during the first decade of the century—a difference in line with the fact that the share of equity financing was lower in the post-World War II period than during 1900–1914. Finally, the trend over the period as a whole toward a more sizable equity position among the larger corporations made the assumption of debt less of a risk.

Yet these factors on the demand side can hardly be expected to account fully for the movements that have occurred. Our statement of the improved equity position of the larger corporations is but a plausible assumption. The argument concerning the effects of changes in price levels neglects the possibility that interest rates would be adjusted to take account of the expected fall in the purchasing power of the dollar. While institutional difficulties lie in the way of such an adjustment, the force of the argument is nevertheless reduced. Finally, it must be remembered that the public utilities, which relied more heavily on bond issues than other major groups of corporations did, have receded in importance in the capital markets since the beginning of this century. That shift, all other conditions being equal, would make for a reduction in the share of bonds and a rise in the share of stocks. In short, we must search for other relevant factors.

One group of factors heretofore omitted by design is reflected in the differential movement of rates charged for the different types of external funds. The real price, properly weighted, of equity funds or of bond credit or of short-term loans cannot be measured easily, and the available records are inadequate—particularly for the long period we cover. Table 51 presents a few indexes averaged for the periods distinguished in Table 48. Stock yields are the ratios of dividend payments to the market value of stocks during the period. Bond yields are, similarly, ratios of interest payments to market value, taken here for prime corporate bonds (Aaa) and extrapolated back by the yields of twenty-year maturities. As the cost of short-term loans, we took the interest on prime commercial paper, although a far better measure would have been the average interest rate charged by commercial banks on loans and notes. The measures are only rough approximations to what is needed, and yet the differences in their movement are striking enough to enable us to assume similar significant differences in more accurate approximations to the prices of different types of external funds.

In general, if the price of long-term external financing (line 3) rises in relation to the price of short-term funds (line 4), we would expect

Structure of External Financing

TABLE 51

MOVEMENT OF BOND AND STOCK YIELDS AND SHORT-TERM INTEREST
RATE COMPARED WITH RATIO OF EQUITY FUNDS TO TOTAL NET SECURITY
ISSUES, NONFINANCIAL CORPORATIONS, 1901–1955

(averages per year)

	1901–1912 (1)	1913–1922 (2)	1923–1929 (3)	1930–1939 (4)	1940–1945 (5)	1946–1955 (6)
Percentages						
1. Stock yield rate	4.577	6.256	5.124	4.746	5.353	5.373
2. Bond yield rate	3.904	4.844	4.732	3.893	2.752	2.822
3. Combined long-term rate, (line 1 + line 2) ÷ 2	4.240	5.550	4.928	4.320	4.052	4.098
4. Prime commercial paper rate	5.512	5.462	4.603	1.555	0.653	1.699
Ratios						
5. Line 3 to line 4	0.77	1.02	1.07	2.78	6.21	2.41
6. Long-term external to all external financing	0.82	0.58	0.91	∞	−0.02	0.63
7. Line 1 to line 3	1.08	1.13	1.04	1.10	1.32	1.31
8. Net stock issues to total net security issues	0.38	0.48	0.47	1.32	∞	0.34

SOURCE, BY LINE

1.   *Economic Report of the President*, January 1957, Table E-40, p. 168 (common
    stock yields, Moody's), extrapolated back (1929–1936 overlap) by Series N-206,
    Historical Statistics of the United States, 1789–1945.
2.   *Economic Report of the President*, January 1957, Table E-40, p. 168: corporate
    bonds, Aaa (Moody's), extrapolated by Series N-199 (corporate bonds, 20-
    year maturity), *Historical Statistics* (1929–1936 overlap).
4.   Prime commercial paper, 4 to 6 months, from same sources as lines 1 and 2
    (Series N-186 in *Historical Statistics*).
6 and 8. From Table 48, columns 11 and 12.

the ratio of all long-term to all external financing to decline, provided
there were no offsetting movements on the demand side. Yet no such
correlation is found. The ratio of the price of long-term financing to
that of short-term credit (line 5) rises through the first five of the six
periods covered in Table 51, but the ratio of long-term to all external
financing (line 6) fluctuates. The only movement in accord with the
hypothesis is found in the last two subperiods. The share of long-term
external financing during 1940–1945 falls sharply from its level in
1930–1939 (or in any other preceding period), while the price of long-
term money relative to short-term is at a peak. Then, in the shift to the

post-World War II decade, the share of long-term in total external financing rises, while the relative price of long-term money falls. If we consider only the selected normal periods, we find some agreement with the hypothesis. In 1946–1955, when the ratio of the cost of long-term money to that of short-term was relatively high, the ratio of long-term external financing to total external sources was 0.63; in 1901–1912 and 1923–1929, when the former ratio was less than half that for 1946–1955, the latter ratio was 0.82 and 0.91, respectively. But the hypothesis is not supported by the movement from 1901–1912 through 1930–1939. Clearly, there are factors on the demand side that qualify the effects of differential changes in the price of financing. Reduction of the volume of activity and fear of declining prices will reduce short-term assets and short-term borrowing, no matter how cheap short-term money is relative to long-term. Conversely, war conditions accompanied by rising prices—during 1913–1922, for example—will make for an increase in short-term assets and a greater share of short-term borrowing, no matter how high the price of short-term credit relative to long-term money.

Of greater interest in the present analysis is the difference in movement between bond and stock yields. We would expect that, as the excess of stock yields over bond yields increases, corporations would rely less on stocks than on bonds, and vice versa. Comparison of the relevant estimates (lines 7 and 8) only partially confirms this expectation. During the first four periods, the average ratio of stock yields to the price of all long-term money did not vary appreciably—ranging from 1.04 to 1.13. The ratio of net stock to total net security issues showed wider variations and did not necessarily decline when stock yields rose relative to bond yields. The confirmation comes only at the very end: in the post-World War II decade, stock yields were greatly in excess of bond yields, and the ratio of net stock to total net security issues was at its lowest level.

The upshot of Table 51 is its bearing upon the post-World War II decade, when the decline in the share of long-term in total external financing and the decline in the share of equity funds in long-term external financing were particularly prominent. The table illustrates the well-known fact that interest rates on debt money in that period were far lower than those in the decades preceding the depression of the 1930's and, in the case of bond yields, lower than in the depression decade. Stock yields, on the other hand, were at about the same level as in the 1920's and distinctly higher than during 1901–1912. Insofar as

stock yields can be viewed as the price of equity funds, the price of such funds relative to borrowing rose, and the reduction in the share of equity funds in total external financing and in total long-term external financing was a rational economic response.

This argument is further strengthened by consideration of differential tax burdens. With increased corporate income tax rates in recent decades and the deductibility (as costs) of interest payments on debt, the net cost of debt money to a corporation—relative to equity funds—was even lower than that indicated by the yield rates. The relevance of this factor is clear and need not be expatiated upon.

The account above is far from a complete explanation. In particular, no reasons have been advanced for the substantially different movement of bond yields and interest rates compared with stock yields. The action of governments in pegging their bond interest rates in many years in the post-World War II decade is only one obvious factor. But there are more elusive and intriging problems. Why, if the interest rate on bonds—government and other—was low, was the flow of funds from the fixed debt market into equity securities insufficient to raise the price of the latter and drive the yields down to a more normal (i.e. prevailing in earlier periods) ratio to bond yields? Disregarding the experience during the World War II years, which were affected by political pressures and noneconomic motives for investing money, how, during the more normal postwar decade, was such a differential between stock and bond yields maintained? Only toward the end of that decade was there the beginning of a break-through of funds leading to a greater equalization of yield levels, and it is apparently proceeding today. But why was there that delay in the equilibrating flows?

This is a question I do not feel competent to answer. But it seems to me that, in trying to deal with it, consideration must be given to the channels of supply of funds and the possibility that institutional shifts in these channels of savings affected the relative flows into the markets for fixed debt and equity securities. If this was so, the answer to the question would be readily at hand. But to ascertain whether it was, we would have to analyze the flow of savings through the financial intermediaries in relation to the practices of those institutions in investing in the different forms of external financing. Such an analysis falls outside the boundaries of the present volume, but some contributory information will be found later in the chapter when we deal with the shares of financial intermediaries and the major groups within them.

Before we conclude the discussion of the share of equity funds, one more comment is relevant. Up to now, we have looked only at the share of equity funds in total external or long-term external financing of corporations. But business corporations alone issue stock and obtain equity funds on a systematic basis. Elsewhere in the economy, the nexus is usually family, friendship, or partnership, and no clear line between external and internal funds can be drawn. We can therefore view the issue of corporate stock as the only systematic way of obtaining equity funds as part of external financing, and hence measure the share of net stock issues in the external financing not only of corporations but also of the economy as a whole. Indeed, we can look at it as a share in the total financing of the economy, both internal and external.

The appropriate calculations appear in Table 52. The details being obvious, suffice it to say that just as we find a decline in the share of equity funds in external or total financing by corporations, so also we find a decline in the share of equity funds in external or total financing by all business, by the private sector, and by the economy as a whole. Indeed, the decline in the share of equity funds is proportionately greater when those funds are related to total financing by all business than when related to external financing by corporations alone (compare columns 4 and 5, lines 1 and 5). It is proportionately the same or greater when equity funds are related to external or total financing for the private sector as a whole than when related to external financing by corporations alone (compare columns 4 and 5, line 1 with lines 7 and 9). The decline is particularly marked when equity financing is related to total external financing by the economy (compare columns 4 and 5, lines 1 and 11). In this last case, the share of equity funds in 1930–1955 is about four-tenths its level in 1900–1929 (a drop from 0.17 to 0.07).

Long-Term and Short-Term Debt Financing

The distinction between short-term and long-term debt, customarily drawn at one-year maturity, is not consistently followed either in the estimates for corporations already shown in Tables 48–50 or in the tables that follow. It is often impossible to separate short-term notes from bonds or, for the longer period we cover, the long-term bank loans from others. Moreover, even in strictly short-term credit, a line of credit established in such a way that short maturities only mean fre-

TABLE 52

SUMMARY: RATIO OF NET STOCK ISSUES TO EXTERNAL AND TO TOTAL FINANCING,
LONG PERIODS ONLY, 1900–1956

Ratios	1900–1919 or 1901–1920 (1)	1920–1939 or 1921–1940 (2)	1940–1955 or 1941–1956 (3)	1900–1929 or 1901–1930 (4)	1930–1955 or 1931–1956 (5)
1. Net stock issues to external financing, corporations	0.29	0.63	0.22	0.35	0.27
All Business					
2. External financing by corporations to that by all business	0.70	0.90	0.88	0.78	0.89
3. Net stock issues to external financing, line 1 × line 2	0.20	0.57	0.19	0.27	0.24
4. External financing to total financing	0.41	0.28	0.31	0.41	0.28
5. Net stock issues to total financing, line 3 × line 4	0.082	0.160	0.059	0.111	0.067
All Private					
6. External financing by corporations to that by all private	0.59	0.51	0.60	0.58	0.58
7. Net stock issues to external financing, line 1 × line 6	0.17	0.32	0.13	0.20	0.16
8. External financing to total financing	0.41	0.37	0.38	0.44	0.36
9. Net stock issues to total financing, line 7 × line 8	0.070	0.118	0.049	0.088	0.058
Over-All					
10. External financing by corporations to over-all external financing	0.41	0.32	0.30	0.48	0.27
11. Net stock issues to external financing, line 1 × line 10	0.12	0.20	0.07	0.17	0.07
12. External financing to total financing	0.53	0.44	0.59	0.47	0.58
13. Net stock issues to total financing, line 11 × line 12	0.064	0.088	0.039	0.080	0.042

SOURCE: Based on Tables 46–48.

quent checks on the economic position of the borrower is different
from trade notes that have to be paid on time, lest not only the in-
terest burden but also the credit standing of the borrower be affected.
Nevertheless, the distinction as it is drawn in the data is real and im-
portant and points up the differences in sources of funds that can and

cannot be used safely for financing capital investment of widely differ-
ing economic durability and liquidity.

The movement in the shares of long-term and short-term external
financing for the most important business group, the nonfinancial
corporations, was shown in Tables 48–50 and discussed in connection
with those tables. But we summarize the findings here, where we con-
centrate on this aspect of the structure of external financing.

1. The ratio of short-term debt financing to total external financing
by corporations increased from the earlier periods to the post-World
War II decade. For 1901–1912, the ratio was 0.18; for 1923–1929, it
was 0.09; for 1946–1955, it was 0.37 (see Table 48, column 11).[4] For
longer periods, the ratio was 0.18 in 1901–1912, 0.12 in 1913–1939, and
0.43 in 1940–1955; or 0.22 for 1901–1929, and 0.38 for 1930–1955. The
movement in the ratio for mining and manufacturing corporations was
quite similar—from 0.43 in 1900–1919, to 0.02 in 1920–1937, to 0.66 in
1937–1953 (see Table 49, column 7). We can disregard the regulated
industries in these comparisons because short-term debt financing is a
negligible fraction of their total or external financing. The general
conclusion is, then, that so far as the ratio of long-term to total external
financing or its complement, the ratio of short-term to total external
financing, is concerned, the downward or upward trend is largely a
matter of comparing the post-World War II decade, or the 1940–1955
period, with the earlier periods. It is not a consistent trend, since the
peak or trough comes in the 1920's.

2. What about the shares of long-term and short-term debt financ-
ing in total debt financing? The ratio for all nonfinancial corporations
can be derived from Table 48 (columns 9 and 11). In 1901–1912, the
ratio of long-term debt financing to total debt financing was 0.51 out
of 0.69, or 0.73, leaving 0.27 for short-term debt financing; in 1923–
1929, a similar calculation yields 0.84 for long-term and 0.16 for short-
term debt financing; for 1946–1955, the ratios were 0.53 and 0.47, re-
spectively. For the two long periods, 1901–1929 and 1930–1955, the
ratio of long-term debt financing to total debt financing was 0.66 and
0.48, respectively, leaving the ratio of short-term at 0.34 and 0.52, re-
spectively. In short, the movement of the ratios of long-term and short-

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[4] Note should be taken of the increase in the proportion of bank loans (classified
here as short-term debt) in the form of term loans after World War II (see Raymond
W. Goldsmith, *Financial Intermediaries in the American Economy since 1900*, Prince-
ton for NBER, 1958, pp. 145, 147–148). But such an extension of the average ma-
turity is not sufficient to cancel the doubling of the share of short-term debt
financing in total external financing.

term debt financing to total debt financing is roughly similar to that of their ratios to total external financing. There is a rise in the ratio of short-term debt financing, if we compare the post-1940 period with the earlier periods, but the rise is not consistent and the low point is in the 1920's. Similar conclusions can be derived from Table 49, columns 5 and 6, for mining and manufacturing corporations.

Some of the factors that might account for the decline in the share of long-term debt financing and the rise in that of short-term, either in total external financing or in total borrowing, were suggested in the preceding section—both in the illustrative calculation of the effects of the growth of large corporations and in the discussion of differential costs of equity, long-term, and short-term money. There is, however, another relevant variable to be noted here. One could argue that, in general, if the relative share of additions to quick assets in total uses or in uses financed by external funds is rising, the share of short-term debt financing in external financing should also rise. There should be some relationship between shifts in composition of additions to assets, by maturity, and the shifts in composition of debt, by maturity.

To test this proposition, the estimates for nonfinancial corporations given in earlier tables are used in a somewhat different form in Table 53. The only new entries, in column 1, are changes in short-term assets, the sum of inventories and financial claims, regardless of their character and maturity (since from the standpoint of the holding corporation they can be assumed to be liquid). Although the ratio of these changes to total uses (column 3) rose in some periods, the increase from 1901–1912 to 1946–1955 was barely perceptible. However, for our purposes the more relevant ratio is to external financing. To be sure, this comparison is based upon the assumption that all gross retention is allocated to durable capital assets, as the first priority, with the result that a minimum of external financing is associated with additions to durable assets. Although artificial, this assumption is not entirely unrealistic, because the durable assets whose conversion into income is delayed longest, could, from the standpoint of the business unit, be financed most safely out of internal funds, whereas the quicker assets could carry the burden that periodic obligations—the assumption of debt, or even equity financing—impose. At any rate, the results would not be very different if we assigned only the capital depreciation part of gross retention to the durable assets, and divided net undistributed profits proportionately among the various uses of funds.

The ratio of changes in short-term assets to external financing (col-

TABLE 53

RATIO OF CHANGES IN SHORT-TERM ASSETS (INVENTORIES AND FINANCIAL
CLAIMS) TO TOTAL USES AND TO TOTAL EXTERNAL FINANCING COMPARED
WITH RATIO OF SHORT-TERM DEBT FINANCING TO TOTAL EXTERNAL
FINANCING, NONFINANCIAL CORPORATIONS, 1901–1955

(amounts in billions of dollars)

Periods	Changes in Short-Term Assets (1)	Total Uses of Funds (2)	Ratio of (1) to (2) (3)	Total External Financing (4)	Ratio of (1) to (4) (5)	Ratio of Short-Term Debt Financing to Total External Financing (6)
	GOLDSMITH ESTIMATES					
1. 1901–1912	11.4	40.0	0.28	17.9	0.64	0.18
2. 1913–1922	38.9	76.1	0.51	30.1	1.29	0.42
3. 1923–1929	32.7	86.1	0.38	39.0	0.84	0.09
4. 1930–1939	−42.2	28.3	—	−4.1	—	—
5. 1940–1945	50.5	75.4	0.67	14.9	3.39	1.02
6. 1946–1949	30.9	110.6	0.28	39.3	0.79	0.32
7. 1946–1955 ᵃ			0.29		0.73	0.37
	COMMERCE ESTIMATES					
8. 1946–1949	36.1	100.5	0.36	37.5	0.96	0.46
9. 1950–1955	78.3	208.8	0.38	91.3	0.86	0.52
10. 1946–1955	114.4	309.3	0.37	128.9	0.89	0.50
Longer Periods						
11. 1901–1912	11.4	40.0	0.28	17.9	0.64	0.18
12. 1913–1939	29.4	190.5	0.15	65.0	0.45	0.12
13. 1940–1955			0.36 ᵇ		1.00 ᶜ	0.43 ᶜ

ᵃ Extrapolated from line 6 by the movement from line 8 to line 10.
ᵇ 1940–1945 weighted 0.075 (see col. 2, line 5); 1946–1955, 0.340 (col. 2, line 5 extrapolated by lines 8 and 10).
ᶜ 1940–1955 weighted 0.015 (see col. 4, line 5); 1946–1955, 0.135 (col. 4, line 5 extrapolated by lines 8 and 10).

SOURCE, BY COLUMN

(1)	Lines 1 to 6, from Goldsmith *et al.*, *A Study of Saving*, Vol. III, Table W-31, p. 81.
	Lines 8 to 10, from *Survey of Current Business*, April 1954, p. 15; October 1956, p. 12; February 1957, p. 19.
(2) and (4)	From Table 39.
(6)	From Table 48.

umn 5) shows a definite upward trend: in 1946–1955 it was distinctly higher than in 1901–1912, and the impression is stronger if we compare 1940–1955 with the earlier segments. The movement of this ratio is quite similar to that of the ratio of short-term debt financing to total external financing (column 6). The correspondence clearly suggests that the long-term shift in the ratio of shorter-term or longer-term debt financing to all external financing of corporations is partly explained by the movement in the proportion of additions to short-term assets either to total uses or—more particularly—to total uses minus capital consumption allowances or minus gross retention.

The available data for agriculture allow us to distinguish mortgage loans, which can be classified as long-term debt, from debt to banks and federal agencies, and to others (merchants, other suppliers, and the like) (Table 54). "Debt to others" is probably exclusively or predominantly short-term, but some debt to banks and federal agencies may be long-term. However, for lack of data, we have assumed here that both are short-term.

By and large, the ratio of changes in long-term debt to total external financing declined (column 5). It was 0.51 in 1900–1914, very much larger in 1920–1929, but only 0.39 in 1945–1955. The movement was not consistent, but the long-term trend suggested was downward. This impression is confirmed by the averages for the three and two long subperiods (lines 9–11 and 12–13). Conversely, the trend in the ratio of changes in short-term debt to total external financing was upward. However, most of this rise was associated with debt to banks and governmental agencies. The ratio of changes in debt to others to total external financing (column 6) fluctuated from period to period, not displaying any distinctive long-term trend.

The rise in the share of debt to banks and government agencies in recent years is partly accounted for by CCC loans, which increased some $1.2 billion during 1945–1955. But even when we omit this item, the ratio of bank and agency borrowing to total external financing still rises—from 0.25 in 1900–1914 to about 0.30 in 1945–1955.

In Chapter 5 we found that in agriculture the ratio of total external financing to total uses declined. Thus the total studied in Table 54 accounts for a diminishing share of all additions to assets. Since the share of long-term debt financing in external financing declined, its share in total uses or sources declined even more. This can be seen by comparing columns 1 and 8. The ratio of mortgage loans to total sources or uses was 0.16 in 1900–1914; it rose sharply to 0.27 in 1915–

TABLE 54

STRUCTURE OF EXTERNAL FINANCING, AGRICULTURE, 1900–1955

(amounts in billions of dollars)

Periods	Changes in: Mortgage Loans (1)	Debt to Banks and Federal Agencies (2)	Debt to Others (3)	Total External Financing (1)+(2)+(3) (4)	Ratio of (1) to (4) (5)	Ratio of (3) to (4) (6)	Changes in Short-Term Assets (7)	Total Uses (8)	Ratio of (7) to (8) (9)	Ratio of (7) to (4) (10)	Ratio of [(2)+(3)] to (4) (11)
1. 1900–14	2.7	1.3	1.3	5.3	0.51	0.25	2.4	17.1	0.14	0.45	0.49
2. 1915–19	3.5 (5.3)	1.8	1.8	7.1	0.49	0.25	5.2	12.8	0.41	0.73	0.51
3. 1920–29	3.3 (5.3)	−0.9	−1.0	1.4 (3.4)	2.36 (1.56)	—	−3.2	11.8 (13.8)	—	—	−1.36 (−0.56)
4. 1930–39	−0.1 (2.9)	−1.0	−0.9	−2.0 (1.0)	—	—	1.1	13.1 (16.1)	0.08	—	—
5. 1940–44	−1.7	0.1	−0.4	−2.0	—	—	11.7	22.8	0.51	—	—
6. 1945–49	0.7 [a]	2.2 [b]	1.3	4.2 [ab]	0.17	0.31	4.2	22.9	0.18	1.00	0.83
7. 1950–55	3.4	1.8 [c]	1.1	6.3 [c]	0.54	0.17	4.6	32.2	0.14	0.73	0.46
8. 1945–55	4.1	4.0 [bc]	2.4	10.5 [bc]	0.39	0.23	8.8	55.1	0.16	0.84	0.61
Longer Periods											
9. 1900–14	2.7	1.3	1.3	5.3	0.51	0.25	2.4	17.1	0.14	0.45	0.49
10. 1915–39	6.7 (11.7)	−0.1	−0.1	6.5 (11.5)	1.03 (1.02)	—	3.1	37.7 (42.7)	0.08 (0.07)	0.48 (0.27)	−0.03 (−0.02)
11. 1940–55	2.4	4.1	2.0	8.5	0.28	0.24	20.5	77.9	0.26	2.41	0.72
12. 1900–29	9.5 (11.5)	2.2	2.1	13.8 (15.8)	0.69 (0.73)	0.15 (0.13)	4.4	41.7 (43.7)	0.11 (0.10)	0.32 (0.28)	0.31 (0.27)
13. 1930–55	2.3 (5.3)	3.1	1.1	6.5 (9.5)	0.35 (0.56)	0.17 (0.12)	21.6	91.0 (94.0)	0.24 (0.23)	3.32 (2.27)	0.65 (0.44)

Figures in parentheses allow for rough estimates of mortgage foreclosures.
[a] Line 8 minus line 7 and slightly different, therefore, from series in Table 35 (and Tables 45 and 46).
[b] Includes $1 billion of C.C.C. loans.
[c] Includes $0.2 billion of C.C.C. loans.

SOURCE, BY LINE

1–6: Alvin S. Tostlebe, *Capital in Agriculture: Its Formation and Financing since 1870* (Princeton for NBER, 1957), Table 36, p. 137.
7: *The Balance Sheet of Agriculture, 1956*, Table 1, p. 2.

1919, and was either 0.28 or 0.38 in 1920–1929. Thereafter it dropped sharply, as mortgage debt was reduced during the 1930's and the period of World War II. Even in 1950–1955, when the ratio had regained its 1915–1919 level, it was only 0.11 of total uses.

Did changes in short-term debt, which grew in proportion to total external financing, also grow in proportion to total uses or sources? A comparison of the sum of columns 2 and 3 with column 8 provides the answer. In 1900–1914, changes in short-term debt were 0.15 of total uses, and rose to 0.28 in 1915–1919. The ratio dropped sharply thereafter, because the volume of short-term debt was reduced during 1920–1944. In 1945–1949, the ratio rose to 0.15 of total uses; in 1950–1955, it was about 0.09. The share at the end was thus somewhat lower than in 1900–1914 and distinctly lower than in 1915–1919. One can conclude that the ratio of changes in short-term debt to total sources declined in the long run.

Here too, we may ask whether the movement in the shares of short-term and long-term debt financing in total external financing was associated with changes in the ratios of short-term and long-term assets either to total uses or—still better—to that part of total uses not supplied from internal sources. The relevant data are assembled in columns 7 to 10.

Even the ratio of changes in short-term assets to total uses (column 9) rose somewhat over time. It was 0.14 in 1900–1914 and 0.16 in 1945–1955. It was higher only in the two world war quinquennia, and when we average all the entries into longer periods, the upward trend is more conspicuous (see lines 9–11 and 12–13). More relevant for our purpose is the ratio of changes in short-term assets to external financing (column 10), which increased from 0.45 in 1900–1914 to 0.84 in 1945–1955, and, when averaged for the long periods, shows a fairly sustained rise. Comparison of columns 10 and 11 again shows the expected association of movement in the structure of net additions to assets (net of financing by internal funds) with that in the distribution of external financing between long- and short-term.

Goldsmith's estimates for nonfarm unincorporated business allow us to distinguish between changes in real estate debt, which we regard as long-term, and changes in bank debt, which we classify as short-term (Table 55). The main difficulty here, in addition to the general crudity and error to which the estimates are prone, is that we have no information on the years since 1949, with the result that the position in the crucial post-World War II years, is not clear. The ratio of long-

TABLE 55

STRUCTURE OF EXTERNAL FINANCING, NONFARM UNINCORPORATED BUSINESS, 1900–1955

(amounts in billions of dollars)

Periods	Changes in:		Total External Financing (1) + (2) (3)	Ratio of (1) to (3) (4)	Changes in Short-Term Assets (5)	Total Uses (6)	Ratio of:		
	Real Estate Debt (1)	Debt to Banks (2)					(5) to (6) (7)	(5) to (3) (8)	(2) to (3) (9)
1. 1900–1914	0.76	1.51	2.27	0.33	1.75	7.50	0.23	0.77	0.67
2. 1915–1919	0.50	2.58	3.07	0.16	4.41	8.08	0.55	1.44	0.84
3. 1920–1929	3.83	−0.30	3.53	1.08	1.77	16.12	0.11	0.50	−0.08
4. 1930–1939	−0.33	−2.98	−3.31	—	−5.02	1.91	—	—	—
5. 1940–1944	−0.38	0.64	0.26	−1.46	16.04	20.67	0.78	61.69	2.46
6. 1945–1949	1.81	3.41	5.22	0.35	4.88	17.96	0.27	0.93	0.65
7. 1945–1955	6.64	9.97	16.61	0.4					
7a. 1945–1955 [a]	8.30	8.31	16.61	0.5					
Longer Periods									
8. 1900–1914	0.76	1.51	2.27	0.33					
9. 1915–1939	4.00	−0.70	3.29	1.22					
10. 1940–1955	6.26	10.61	16.87	0.37					
10a. 1940–1955 [a]	7.92	8.95	16.87	0.47					
11. 1900–1929	5.09	3.79	8.87	0.57					
12. 1930–1955	5.93	7.63	13.56	0.44					
12a. 1930–1955 [a]	7.59	5.97	13.56	0.56					

[a] Alternate estimates.

SOURCE, BY LINE

1–6. From Goldsmith, *A Study of Saving in the United States*, Vol. I (Princeton University Press, 1955), Table U-11, p. 869.
7. Cols. 1 and 2: calculated from cols. 3 and 4.
Col. 3: as estimated in Tables 45 and 46.
Col. 4: assumed roughly equal to line 6.
7a. Col. 4: assumed slightly higher than line 6. For other columns, see notes to line 7.

term to total external financing for 1945–1949 was about the same as for 1900–1914. (In agriculture the corresponding ratio for 1945–1949 was much lower than that for 1900–1914.) If we assume that the ratio for 1950–1955 was about the same as that for 1945–1949, the impression conveyed by Table 55 when we compare 1900–1914 with 1945–1955 is that there was no significant long-term trend in the distribution of external financing between long-term and short-term. However, when we compare the averages for the two long periods (lines 11–12), some semblance of a decline in the share of changes in long-term debt emerges; but it is robbed of significance when three long periods are distinguished (lines 8–10) and the average for 1900–1914 is compared with that for 1940–1955.

The only conclusion that can be derived from Table 55 is that, if

there were any long-term trends in the distribution of external financing by nonfarm unincorporated business between long- and short-term, they cannot be discerned. The variations in the shares are too large, and the differences between presumably comparable periods too small, to support any claim of a long-term trend.

We have discussed so far the distribution between short-term and long-term debt in the structure of external financing of corporations, agriculture, and nonfarm unincorporated business. This distinction has little relevance to the financing of nonfarm residential and related construction, which, as defined here, includes the purchase or construction of new units and major alterations of old ones. The financing in this sector, largely by households, is so dominantly long-term that the data do not even refer to any short-term funds. There is perhaps more reason for the distinction in the case of governments, because they can and do borrow on notes and other instruments of relatively short maturity. The question is whether the distinction has much significance for governments as users of funds. To be sure, as a matter of technical procedure and from the standpoint of the suppliers, the distinction is important for governments also. At some conjunctures in the money and credit markets, or in the timing discrepancy between expenditures and receipts, it is expedient for governments to borrow on short-term notes to be liquidated promptly or to be funded later. Some sources of funds available for such short-term placement are not available for long-term financing of government issues. But we can also argue that the distinction between short- and long-term government debt has little to do with maturity of assets to be acquired, or with the need for periodic testing of the government's liquidity and solvency.

In any case, Goldsmith's data do not permit a clear distinction between short- and long-term government financing (the pure "borrowing" item is extremely small proportionately to "securities"), and for our purposes it is not straining too much to classify all government financing as long-term. This somewhat arbitrary classification of government financing permits us to derive countrywide totals of external financing (Table 56).

Three totals are used as bases in Table 56. The first is debt financing; the second is total external financing, i.e. debt financing and equity funds; and the most comprehensive is total financing, i.e. total sources or uses.

1. The ratio of changes in long-term debt to total debt financing declined for corporations and agriculture, and the long-term movement

TABLE 56

SUMMARY: RATIOS OF VARIOUS TYPES OF FINANCING TO DEBT FINANCING,
EXTERNAL FINANCING, AND TOTAL FINANCING, BY CATEGORY OF USER OF FUNDS, 1900–1955
(amounts in billions of dollars, averages per year)

Category of User	Periods				Longer Periods	
	1901–1912 or 1900–1914 (1)	1913–1939 or 1915–1939 (2)	1940–1955 (3)	1946–1955 or 1945–1955 (4)	1900–1929 or 1901–1929 or 1901–1930 (5)	1930–1955 (6)
A. RATIOS OF LONG-TERM DEBT FINANCING TO TOTAL DEBT FINANCING						
Debt Financing						
Corporations						
1. Total	1.02	1.27	7.13	10.27	1.94	4.02
2. Long-term	0.75	0.98	3.21	5.52	1.27	1.93
3. Ratio, line 2 to line 1	0.74	0.77	0.45	0.54	0.65	0.48
Agriculture						
4. Total	0.35	0.46	0.53	0.95	0.53	0.37
5. Long-term	0.18	0.47	0.15	0.37	0.38	0.20
6. Ratio, line 5 to line 4	0.51	1.02	0.28	0.39	0.72	0.54
Nonfarm Unincorporated Business						
7. Total	0.15	0.13	1.05	1.51	0.30	0.52
8. Long-term	0.05	0.16	0.39	0.60	0.17	0.23
9. Ratio, line 8 to line 7	0.33	1.23	0.37	0.40	0.57	0.44
Total Business						
10. Total, lines 1, 4, and 7	1.52	1.86	8.71	12.73	2.77	4.91
11. Long-term, lines 2, 5, and 8	0.98	1.61	3.75	6.49	1.82	2.36
12. Ratio, line 11 to line 10	0.64	0.87	0.43	0.51	0.66	0.48
Households [a]						
13. Total	0.54 (1900–1919)	1.86 (1920–1939)	5.50	7.70	1.32	3.64
Total Private						
14. Total, lines 10 and 13	2.06	3.72	14.21	20.43	4.09	8.55
15. Long-term, lines 11 and 13	1.52	3.47	9.25	14.19	3.14	6.00
16. Ratio, line 15 to line 14	0.74	0.93	0.65	0.69	0.77	0.70

[a] Nonfarm residential construction.

(continued)

TABLE 56 (continued)

Category of User	Periods				Longer Periods	
	1901–1912 or 1900–1914 (1)	1913–1939 or 1915–1939 (2)	1940–1955 (3)	1946–1955 or 1945–1955 (4)	1900–1929 or 1901–1929 or 1901–1930 (5)	1930–1955 (6)

A. RATIOS OF LONG-TERM DEBT FINANCING TO TOTAL DEBT FINANCING (concluded)

Debt Financing

Governments

17. Total	0.27	2.93	17.41	6.37	1.13	12.37

Countrywide

18. Total, lines 14 and 17	2.33	6.65	31.62	26.80	5.22	20.92
19. Long-term, lines 15 and 17	1.79	6.40	26.66	20.56	4.27	18.37
20. Ratio, line 19 to line 18	0.77	0.96	0.84	0.77	0.82	0.88

B. RATIOS OF LONG-TERM EXTERNAL FINANCING TO TOTAL EXTERNAL FINANCING

External Financing

Corporations

21. Total	1.49	2.41	9.18	13.19	3.00	5.49
22. Long-term	1.22	2.11	5.26	8.44	2.33	3.39
23. Ratio, line 22 to line 21	0.82	0.88	0.57	0.64	0.78	0.62

Total Business

24. Total, lines 21, 4, and 7	1.99	3.00	10.76	15.65	3.83	6.38
25. Long-term, lines 22, 5, and 8	1.45	2.74	5.80	9.41	2.88	3.82
26. Ratio, line 25 to line 24	0.73	0.91	0.54	0.60	0.75	0.60

Total Private

27. Total, lines 24 and 13	2.53	4.86	16.26	23.35	5.15	10.02
28. Long-term, lines 25 and 13	1.99	4.60	11.30	17.11	4.20	7.46
29. Ratio, line 28 to line 27	0.79	0.95	0.69	0.73	0.82	0.74

Countrywide

30. Total, lines 27 and 17	2.80	7.79	33.67	29.72	6.28	22.39
31. Long-term, lines 28 and 17	2.26	7.53	28.71	23.48	5.33	19.83
32. Ratio, line 31 to line 30	0.81	0.97	0.85	0.79	0.85	0.89

(continued)

TABLE 56 (concluded)

Category of User	Periods				Longer Periods	
	1901–1912 or 1900–1914 (1)	1913–1939 or 1915–1939 (2)	1940–1955 (3)	1946–1955 or 1945–1955 (4)	1900–1929 or 1901–1929 or 1901–1930 (5)	1930–1955 (6)

C. RATIOS OF LONG-TERM EXTERNAL FINANCING AND
SHORT-TERM DEBT FINANCING TO TOTAL FINANCING (TOTAL USES)

Various Types of Financing

Corporations

33. Total	3.33	7.06	26.51	34.88	6.97	17.40
34. Long-term external	1.22	2.11	5.26	8.44	2.33	3.39
35. Short-term debt	0.27	0.30	3.92	4.75	0.67	2.10
36. Ratio, line 34 to line 33	0.37	0.30	0.20	0.24	0.33	0.19
37. Ratio, line 35 to line 33	0.08	0.04	0.15	0.14	0.10	0.12

Total Business

38. Total	4.97	9.81	35.45	43.93	9.48	23.59
39. Long-term external	1.45	2.74	5.80	9.41	2.88	3.82
40. Short-term debt	0.54	0.26	4.96	6.24	0.94	2.56
41. Ratio, line 39 to line 38	0.29	0.28	0.16	0.21	0.30	0.16
42. Ratio, line 40 to line 38	0.11	0.03	0.14	0.14	0.10	0.11

Total Private

43. Total	6.25	12.79	42.97	54.48	11.85	28.67
44. Long-term external	1.99	4.60	11.30	17.11	4.20	7.46
45. Short-term debt	0.54	0.26	4.96	6.24	0.94	2.56
46. Ratio, line 44 to line 43	0.32	0.36	0.26	0.31	0.35	0.26
47. Ratio, line 45 to line 43	0.09	0.02	0.12	0.11	0.08	0.09

Countrywide

48. Total	6.90	16.08	56.61	68.41	13.48	38.83
49. Long-term external	2.26	7.53	28.71	23.48	5.33	19.83
50. Short-term debt	0.54	0.26	4.96	6.24	0.94	2.56
51. Ratio, line 49 to line 48	0.33	0.47	0.51	0.34	0.40	0.51
52. Ratio, line 50 to line 48	0.08	0.02	0.09	0.09	0.07	0.07

1 and 2. Calculated from the series given in or underlying Table 48.
4 and 5. Calculated from the series given in or underlying Table 54.
7 and 8. Calculated from the series given in or underlying Table 55.
    13. Table 47.
    17. Table 47 or the series underlying that table.
21 and 22. Calculated from the series given in or underlying Table 48.
    33. Calculated from the series given in or underlying Table 53.
34 and 35. Calculated from the series given in or underlying Table 48.
    38. Line 33 plus agriculture, calculated from Table 54, plus nonfarm unincor-
        porated business, from Table 46 or calculated from Table 55.
    39. Line 25.
    40. Line 24 minus line 39.
    43. Line 38 plus nonfarm residential construction (for dates indicated in line
        13), calculated from Table 45.
    44. Line 28.
    45. Line 27 minus line 44.
    48. Line 43 plus governments, calculated from the series given in or underlying
        Table 46, lines 10 and 14.

for nonfarm unincorporated business is indeterminate. Since corpora-
tions dominate the business sector total, we find for the latter a clear
downward trend in the ratio of changes in long-term debt to total
debt financing. And even the addition of nonfarm residential and
related construction to form the total private sector leaves a downward
trend in the ratio.

However, when we add the government sector to secure the country-
wide totals, the picture changes (line 20). While the countrywide share
of changes in long-term debt in total debt financing shows no consistent
trend, there is a suggestion of stability or a rise rather than a decline.

2. The ratio of long-term external financing to total external financ-
ing shows a distinct decline for the business and the private sectors.
This means that the share of short-term borrowing in total external
financing has risen. But the inclusion of governments again changes
the picture (line 32). For the three short periods, the share of long-
term in total external financing moved from 0.81 in 1901–1912 to
0.85 in 1940–1955, or to 0.79 in the post-World War II decade. For
the two long periods, however, the ratio rose from 0.85 to 0.89. Since
we assume that government financing is all long-term, the level of
and trend in the ratio of long-term external financing may be over-
stated, and a more accurate estimate might show a decline in the
countrywide share of long-term external financing and a rise in the
countrywide share of short-term borrowing in external financing.
But the trend could not be marked or, in view of the lack of consistency
over time, very significant.

3. The ratio of long-term external financing to total financing (total sources or uses) declined for corporations, the business sector, and the private sector. The trend in the countrywide ratio was upward (line 51). Comparison of the pre-World War I period with 1940–1955 shows a marked rise in the ratio—from 0.33 to 0.51; but its comparison with the more normal period, 1946–1955, shows a change only from 0.33 to 0.34. However, in the two long periods (columns 5 and 6) there was a distinct rise in the ratio of long-term external financing to total financing for the country as a whole.

The movement of the ratio of short-term borrowing to total sources or uses was upward. It rose for corporations, for the total business group, for the total private sector and, on the basis of the change from the pre-World War I period to 1940–1955 or 1946–1955, even for the country as a whole (line 52).

It should be remembered that practically all long-term movements and trends relating to the distribution between short- and long-term financing are subject to several major qualifications. First, none is consistent over time, there being a rise in the ratio of long-term until the 1920's and a decline thereafter (or a decline in the ratio of short-term until the 1920's and a rise thereafter). Second, the ratios are subject to marked fluctuations during wars, depressions, and even relatively normal periods. Third, in establishing the long-term trends we are forced to rely upon the ratios for the post-World War II years, and we are too close to those years to judge firmly.

Shares of Financial Intermediaries

In our consideration of the shares of financial intermediaries in external and total financing of the economy, three questions guide the presentation of data and the discussion. First, have there been any significant long-term movements in those shares? Second, if such movements are found, are there similar movements in the shares in total and external financing of the distinguishable capital user or borrower groups? Third, have there been significant shifts in the relative importance of the various types of financial intermediaries? These questions are answered here in summary fashion, because the detailed analysis is presented in Goldsmith's monograph.

Table 57 provides information relating to the first two questions. Changes in assets of financial intermediaries are compared first with

external financing and then with total financing of the various sectors and of the economy as a whole. It should be noted that additions to the assets of a credit institution are not necessarily connected with current external or total financing of a group of capital users and fund borrowers. For example, financial intermediaries can buy or take over existing residential real estate mortgages from individuals, and they can buy notes from the nonfinancial firms that were the original holders. It is for this reason that, during some periods, the ratio of additions to assets of financial intermediaries associated with a given group of borrowers to external financing (or, theoretically, even total financing) can exceed 1.0; although a ratio of more than 1.0 can also be obtained if some components of external financing are negative (i.e., if a debt is reduced) and others are positive and are secured from or through a financial intermediary. More important is the possibility that, to the extent that financial institutions add to their assets by purchases of existing claims rather than by financing new borrowing, the ratios in Table 57 exaggerate the contribution of financial inter-mediaries to the external and total financing of the various sectors. But the bias introduced by this possibility can hardly be significant for long periods, and we can safely interpret major changes in the ratios as significant indications of changes in the share of intermediaries in the financing of capital formation or of total uses.

With this comment in mind, we can try to answer the first question— as to long-term trends in shares of financial intermediaries in external and total financing for the economy as a whole. The shares of financial intermediaries in financing did rise over the last half-century (lines 30 and 42). Goldsmith's data do not extend beyond 1949, but there is little ground for assuming that their shares in 1950–1955 were much lower than in 1946–1949—if lower at all. On this assumption, their share in the post-World War II years in external financing would be about two-thirds, compared with less than one-half during the decades preceding the 1930's, and their share in the two longer periods in columns 8 and 9 of line 30 confirms the rise. Their share in total financing rose from about two-tenths in the pre-1930 decades to three-tenths in the post-World War II years, and was much higher dur-ing the 1930's and during World War II (line 42).

In answer to the second question, it appears that the upward trend in the share of financial intermediaries in both external and total financing is not observed in all the sectors distinguished in Table 57. In agriculture, the share of financial intermediaries in external financ-

TABLE 57

SHARE OF FINANCIAL INTERMEDIARIES IN EXTERNAL AND IN TOTAL FINANCING, 1900–1955

(amounts in millions of dollars)

	Periods							Longer Periods	
	1901–1912 (1)	1913–1922 (2)	1923–1929 (3)	1930–1939 (4)	1940–1945 (5)	1946–1949 (6)	1950–1952 (7)	1901–1929 (8)	1930–1949 (9)
A. SHARE OF FINANCIAL INTERMEDIARIES IN EXTERNAL FINANCING									
Agriculture									
1. External financing	5.4	10.6	−0.6	−4.2	−2.5	3.9		15.4	−2.8
Financial intermediaries									
2. Share	0.43	0.46	−0.15	0.42	0.74	0.48		0.47	0.64
3. Amount, line 1 × line 2	2.3	4.9	0.1	−1.8	−1.9	1.9		7.3	−1.8
Nonfarm Unincorporated Business									
4. External financing	1.9	3.4	3.4	−3.3	0.8	4.7		8.7	2.2
Financial intermediaries									
5. Share	1.67	0.99	0.29	−0.49	1.28	1.36		0.86	4.16
6. Amount, line 4 × line 5	3.2	3.3	1.0	1.6	1.0	6.4		7.5	9.0
Nonfinancial Corporations									
7. External financing	17.9	30.1	39.0	−4.1	14.9	39.3	61 (est.)	87.0	50.1
Financial intermediaries									
8. Share	0.36	0.30	0.40	0.88	0.16	0.53	0.48	0.36	0.39
9. Amount, line 7 × line 8	6.5	9.0	15.7	−3.6	2.4	20.8	29.2	31.2	19.6
Total Business									
10. External financing, lines 1, 4, and 7	25.2	44.1	41.8	−11.6	13.2	47.9		111.1	49.5
Financial intermediaries									
11. Amount, lines 3, 6, and 9	12.0	17.2	16.8	−3.8	1.5	29.1		46.0	26.8
12. Share, line 11 ÷ line 10	0.48	0.39	0.40	0.33	0.11	0.61		0.41	0.54
Households [a]									
13. External financing [b]	2.2	5.9	15.9	−1.9	1.0	18.3		24.0	17.4

Financial intermediaries									
14. Share, in long-term	0.81	0.59	0.53	1.00	0.73	0.90		0.57	0.88
15. Amount, line 13 × line 14	1.7	3.5	8.4	−1.9	0.8	16.4		13.6	15.3
Total Private									
16. External financing, lines 10 and 13	27.4	50.0	57.7	−13.5	14.2	66.2		135.1	66.9
Financial intermediaries									
17. Amount, lines 11 and 15	13.7	20.7	25.2	−5.7	2.3	45.5		59.6	42.1
18. Share, line 17 ÷ line 16	0.50	0.41	0.44	0.42	0.16	0.69		0.44	0.63
State and Local Governments									
19. External financing	2.4	6.0	6.5	2.9	−3.6	6.0	8.2	14.9	5.3
Financial intermediaries									
20. Share	0.43	0.43	0.51	1.59	0.28	0.74	0.89	0.46	1.51
21. Amount, line 19 × line 20	1.0	2.6	3.3	4.6	−1.0	4.4	7.3	6.9	8.0
Total Private plus State and Local Governments									
22. External financing, lines 16 and 19	29.8	56.0	64.2	−10.6	10.6	72.2		150.0	72.2
Financial intermediaries									
23. Amount, lines 17 and 21	14.7	23.3	28.5	−1.1	1.3	49.9		66.5	50.1
24. Share, line 23 ÷ line 22	0.49	0.42	0.44	0.10	0.12	0.69		0.44	0.69
Federal Government									
25. External financing	0.8	24.7	−6.0	44.9	240.6	−19.6		19.5	265.9
Financial intermediaries									
26. Share	0.16	0.32	0.035	0.69	0.64	0.73		0.41	0.64
27. Amount, line 25 × line 26	0.1	8.0	−0.2	31.0	154.0	−14.3		7.9	170.7
Countrywide									
28. External financing, lines 22 and 25	30.6	80.7	58.2	34.3	251.2	52.6		169.5	338.1
Financial intermediaries									
29. Amount, lines 23 and 27	14.8	31.3	28.3	29.9	155.3	35.6		74.4	220.8
30. Share, line 29 ÷ line 28	0.48	0.39	0.49	0.87	0.62	0.68		0.44	0.65

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(continued)

TABLE 57 (concluded)

B. SHARE OF FINANCIAL INTERMEDIARIES IN TOTAL FINANCING (TOTAL USES)

	Periods						Longer Periods	
	1900–1909 or 1901–1910 (1)	1910–1919 or 1911–1920 (2)	1920–1929 or 1921–1930 (3)	1930–1939 or 1931–1940 (4)	1940–1944 or 1941–1945 (5)	1945–1955 or 1946–1955 (6)	1900–1929 or 1901–1930 (7)	1930–1955 or 1931–1955 (8)
Total Business								
31. Share, financial intermediaries in external financing, line 12	0.48	0.39	0.40	0.33	0.11	0.61 [c]	0.41	0.54
32. Share, external in total financing, Table 46	0.41	0.41	0.41	–0.16	0.10	0.36	0.41	0.28
33. Share, financial intermediaries in total financing, line 31 × line 32	0.20	0.16	0.16	–0.05	0.01	0.22	0.17	0.15
Total Private								
34. Share, financial intermediaries in external financing, line 18	0.50	0.41	0.44	0.42	0.16	0.69 [c]	0.44	0.63
35. Share, external in total financing, Table 46	0.39	0.42	0.47	0.04	0.14	0.43	0.44	0.36
36. Share, financial intermediaries in total financing, line 34 × line 35	0.20	0.17	0.21	0.02	0.02	0.30	0.19	0.23
Total Private plus State and Local Governments								
37. Share, financial intermediaries in external financing, line 24	0.49	0.42	0.44	0.10	0.12	0.69 [c]	0.44	0.69
38. Share, external in total financing, Table 46	0.40	0.43	0.47	0.07	0.10	0.41	0.44	0.33
39. Share, financial intermediaries in total financing, line 37 × line 38	0.20	0.18	0.21	0.01	0.01	0.28	0.19	0.23
Countrywide								
40. Share, financial intermediaries in external financing, line 30	0.48	0.39	0.49	0.87	0.62	0.68 [c]	0.44	0.65
41. Share, external in total financing, Table 46	0.40	0.59	0.42	0.48	1.22	0.44	0.47	0.58
42. Share, financial intermediaries in total financing, line 40 × line 41	0.19	0.23	0.21	0.42	0.76	0.30	0.21	0.38

[a] Nonfarm residential construction.
[b] Mortgages only.
[c] Average for 1946–1949, that for 1946–1955 not being available.

ing in the post-World War II years was higher than in 1901–1922, but the difference is very slight (line 2). Nor was there an upward trend in the share of financial intermediaries in the external financing by nonfarm unincorporated business (line 5). But for the most important group, corporations, there was a distinct rise in the share (line 8), and this carries over to the total for the business sector as a whole (line 12). But for the latter, the share rose only in the post-World War II years. Since for the business sector, external financing was a smaller fraction of total financing in recent decades than in the earlier, the share of financial intermediaries in total financing for the business sector in the post-World War II years (line 33) was only two points higher than in the first decade of the century. It is, therefore, safest to conclude that if there was any significant trend in the share of financial intermediaries in total financing of business, and perhaps even in their share in external financing, the trend is only barely perceptible.[5]

The share of financial intermediaries in external financing connected with nonfarm residential construction fluctuated widely, and for the discrete periods, no clear upward trend is found; the longer periods, however, do show an appreciable rise (line 14). More important, since the share of external financing in total financing for this sector has risen markedly over time, it follows that the share of financial intermediaries in total financing associated with nonfarm residential construction also rose over the period. It is for this reason that the share of financial intermediaries in total financing for the private sector (line 36) shows a distinct rise—although again largely because of the high level in the post-World War II years.

It is for the state, local, and federal governments that the share of financial intermediaries in external financing shows an unmistakable upward trend (lines 20 and 26). For the former, the share rose from about one-half in the pre-1930's to almost three-quarters in the post-World War II years, and the rise in the share for the federal government was even greater. It is, therefore, government financing that produces the distinct upward trend in the shares of financial intermediaries in countrywide external financing and total financing (lines 30 and 42). This effect of the government sector is particularly marked beginning with the 1930's, when the share of financial intermediaries in

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[5] The shares in the post-World War II years are affected by the treatment of corporate tax accruals as external funds. Their exclusion would raise the share of financial intermediaries in the external financing of corporations, giving it a more marked upward trend.

financing the government sector reached a much higher level than the share of intermediaries in financing the private sector. This higher level of the shares of intermediaries in financing the government sector, together with the increase in the weight of governments in external and total financing for the economy would have raised the shares of financial intermediaries in the countrywide totals, even if their shares within the private and government sectors taken separately had remained constant following that date.

Data bearing upon the third question, concerning shifts among various types of intermediaries, are assembled in Table 58. They are based on Goldsmith's estimates, discussed in detail in his monograph. Only two changes were made: substitution of a National Bureau estimate for government lending institutions; and omission of sales finance and personal finance companies, because these companies finance consumer durable goods and other consumer purchases not classified by us under capital formation.

The trends in the structure of financial intermediaries, weighted by value of assets, are quite clear. First, the shares of commercial banks, savings banks, and personal trust departments declined significantly (lines 19, 20, and 33). It is the decline in the first two that reduced the share of the banking sector from over six-tenths in the first two decades of the century to less than four-tenths in the post-World War II years. Second, the shares of the various groups of insurance and retirement funds increased—particularly, life insurance, private pension funds, and the government retirement and social security funds (lines 23–27). The insurance sector as a whole rose from almost one-sixth of the total before the 1930's to almost four-tenths in the post-World War II years. Third, the fluctuations in the shares of the various groups of miscellaneous financial intermediaries are quite marked, and it is not easy to establish significant trends (lines 28–32). The shares of land banks and of the combined group of investment companies, stock brokers, investment holding trusts, and factors appear to decline; that of government lending institutions appears to rise. But only the last of these trends is significant. Finally, there is the rise in the share of all government institutions. The Federal Reserve Banks, while legally not part of the government structure, can be viewed as an arm of the government. Their share (line 18), combined with those of government funds (line 25) and government lending institutions (line 30), rose from 7 per cent in 1901–1922 to 21 per cent in 1913–1939,

and to 27 per cent in 1930–1955. Even in 1946–1955, when the share dropped because of the net liquidation of assets by government lending institutions, it was still 22 per cent, or about three times that in 1901–1922.

The causes of these shifts among the various groups of financial intermediaries and their effects are clear enough in some cases, but quite obscure in others. Thus the rise in the share of government institutions among financial intermediaries is naturally part and parcel of the rise in the share of governments in many aspects of economic activity. In the present context, the connection with the increasing share of governments in the total and external financing of the economy is particularly to be noted. If governments are drawing heavily upon the money and credit markets in the community, part of the demand is for uses for which it is more expedient to channel the funds through the governments' own intermediaries. And the effects of the governments' practice of placing funds in debt obligations rather than in equity issues would, obviously, be pronounced.

The causes and effects of shifts among financial intermediaries in the private sector are, however, more complex. Was the growth of large corporations and their financial power a factor in reducing the share of commercial banking, limited as it was primarily to short-term business credit? What were the roles of the decreasing inequality in the distribution of income and of the steadily growing income per capita, both of which make for increased contributions to the pool of individual savings by the lower- and middle-income groups? Were the savings of these groups, directed toward security and retirement, more likely to flow to such growing sectors of financial intermediaries as life insurance companies, pension and retirement funds, and savings banks and associations? What was the impact of increasing progressivity in personal income taxes on the shift of upper-income-class savings from a type of income that might flow through financial intermediaries to capital gains, a growing type of direct equity participation? These and many other questions that could be raised suggest that the changing structure of financial intermediaries—even in the private sector alone—reflects a vast variety of changes in income levels and income distribution, which in turn lead to changes in patterns of demand for different types of savings by various groups of individuals and households as well as changes in the economic structure and patterns of behavior of the business units proper.

TABLE 58

DISTRIBUTION OF CHANGES IN ASSETS, BY GROUPS OF FINANCIAL INTERMEDIARIES, 1901–1955

(amounts in billions of dollars)

	Periods						Longer Periods			
Financial Intermediaries	1901–1912 (1)	1913–1922 (2)	1923–1929 (3)	1930–1939 (4)	1940–1945 (5)	1946–1955 (6)	1901–1922 (7)	1913–1939 (8)	1930–1955 (9)	1901–1929 (10)
A. VALUES										
1. Federal Reserve Banks	0	5.3	0.2	13.5	26.1	7.2	5.3	19.0	46.8	5.5
2. Commercial banks	11.8	25.7	18.7	0.1	94.0	50.4	37.5	44.5	144.5	56.2
3. Mutual savings banks a	1.6	2.7	3.4	3.3	7.0	15.6	4.3	9.4	25.9	7.7
4. Savings and loan associations	0.5	1.8	4.6	-2.0	3.2	29.1	2.3	4.4	30.3	6.9
5. Total banking, lines 1 to 4	13.9	35.5	26.9	14.9	130.3	102.3	49.4	77.3	247.5	76.3
6. Private life insurance companies b	2.9	4.6	9.1	12.1	16.1	46.7	7.5	25.8	74.9	16.6
7. Private noninsured pension funds	0	0.1	0.4	0.5	1.9	12.0	0.1	1.0	14.4	0.5
8. Government funds c	0	0.2	1.3	4.8	19.3	31.8	0.2	6.3	55.9	1.5
9. Fire, marine, casualty, etc., insurance	0.5	1.3	2.4	0.1	2.9	14.0	1.8	3.8	17.0	4.2
10. Total insurance, lines 6 to 9	3.3	6.2	13.2	17.6	40.2	104.4	9.5	37.0	162.2	22.7
11. Mortgage companies	0.2	0.2	0.2	-0.4	-0.2	1.6	0.4	0.0	1.0	0.6
12. Land banks	0	1.0	0.9	0.5	-1.2	0.4	1.0	2.4	-0.3	1.9
13. Government lending institutions	0	0.2	0.0	7.1	-1.2	20.8	0.2	7.3	26.7	0.2
14. Investment companies, etc. d	0.4	3.1	13.4	-12.2	2.9	14.3	3.5	4.3	5.0	16.9
15. Total, lines 11 to 14	0.6	4.5	14.5	-5.0	0.3	37.1	5.1	14.0	32.4	19.6
16. Personal trust departments	4.0	11.0	12.0	5.0	10.0	29.9	15.0	28.0	44.9	27.0
17. Total included, lines 5, 10, 15, and 16	21.8	57.2	66.6	32.5	180.8	273.7	79.0	156.3	487.0	145.6

B. PERCENTAGE SHARES

18. Federal Reserve Banks	0	9.3	0.3	41.5	14.4	2.6	6.7	12.2	9.6	3.8
19. Commercial banks	54.1	44.9	28.1	0.3	52.0	18.4	47.5	28.5	29.7	38.6
20. Mutual savings banks [a]	7.3	4.7	5.1	10.2	3.9	5.7	5.4	6.0	5.3	5.3
21. Savings and loan associations	2.3	3.1	6.9	−6.2	1.8	10.6	2.9	2.8	6.2	4.7
22. Total banking, lines 18 to 21	63.8	62.1	40.4	45.8	72.1	37.4	62.5	49.5	50.8	52.4
23. Private life insurance companies [b]	13.3	8.0	13.7	37.2	8.9	17.1	9.5	16.5	15.4	11.4
24. Private noninsured pension funds	0	0.2	0.6	1.5	1.1	4.4	0.1	0.6	3.0	0.3
25. Government funds [c]	0	0.3	2.0	14.8	10.7	11.6	0.3	4.0	11.5	1.0
26. Fire, marine, casualty, etc., insurance	2.3	2.3	3.6	0.3	1.6	5.1	2.3	2.4	3.5	2.9
27. Total insurance, lines 23 to 26	15.1	10.8	19.8	54.2	22.2	38.1	12.0	23.7	33.3	15.6
28. Mortgage companies	0.9	0.3	0.3	−1.2	−0.1	0.6	0.5	0.0	0.2	0.4
29. Land banks	0	1.7	1.4	1.5	−0.7	0.1	1.3	1.5	−0.1	1.3
30. Government lending institutions	0	0.3	0.0	21.8	−0.7	7.6	0.3	4.7	5.5	0.1
31. Investment companies, etc. [d]	1.8	5.4	20.1	−37.5	1.6	5.2	4.4	2.8	1.0	11.6
32. Total, lines 28 to 31	2.8	7.9	21.8	−15.4	0.2	13.6	6.5	9.0	6.7	13.5
33. Personal trust departments	18.3	19.2	18.0	15.4	5.5	10.9	19.0	17.9	9.2	18.5
34. Total included, lines 22, 27, 32, and 33	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Because of rounding, detail will not necessarily add to total.

[a] Including Postal Savings System and credit unions.

[b] Including fraternal organizations and life insurance departments of savings banks.

[c] Pension, retirement, and social security.

[d] Including investment holding companies, brokers and dealers, and factors.

Source: Goldsmith, *Financial Intermediaries*, Table 10, p. 73, extended through 1955 and revised for government lending institutions by NBER.

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To establish the effects of changes in the structure of financial inter-
mediaries on the availability of funds to different sectors among the
potential capital users in the economy is not easy. Some financial in-
stitutions may, because of restrictions imposed upon them by the
kind of savings entrusted to them and because of legal regulations,
direct their funds into fixed debt obligations; and there might be
some lag in their adjustment, or in the adjustment of the corpus of
statutes and administrative rules, to the need to channel an increas-
ing proportion of their funds into equity uses. This is particularly
true of the insurance intermediaries, whose shares in external and
total financing of the economy have increased markedly. Perhaps there
is some association, also, between trends in the distribution of long-
term external financing between equity and debt funds in recent
decades, the related differentials in stock and bond yields, and the
rapid growth in recent years of the shares of financial intermediaries
in the insurance category (to which we may also add governments).

It would be an oversimplification to rely on such an association,
however, for two important reasons. First, because within each group
of intermediaries changes in investment policy may provide adequate
flexibility, it may be incorrect to classify a given group of financial
intermediaries by any one kind of investment policy for a long period.
Second, the assignment of an independent effect to financial inter-
mediaries is based on the assumption that the practices of such institu-
tions introduce a constraint into the flow of funds that would not
otherwise exist—for example, the larger rise in assets of certain types
of financial institutions than of other types means a greater flow into
corresponding instruments of financing and, hence, even into certain
types of capital formation. But it is quite possible that, even if in-
dividuals had continued to channel their savings directly rather than
increasingly through financial intermediaries, they might have shifted
toward the types of investment made by the intermediaries. It is also
possible that, if an increasingly large proportion of new savings is
placed by individuals with certain types of financial intermediaries,
the rise in value of corresponding assets (such as bonds) might induce
some individuals who already hold those assets to shift to others (such
as equities). The adjustment can be made not only by the allocation
of new savings to various uses, but also by the redistribution of existing
claims. Thus, because financial intermediaries may be merely respond-
ing to the wishes of primary savers, and because of elasticity in the re-

sponse of markets for both new and existing financial assets, no hard and fast statements can be made concerning the specific effects of the differential growth of financial intermediaries on the channeling of funds into various instrumentalities or various types of capital investment.