APPENDIX D

ESTIMATES OF SECTOR DIFFERENTIALS IN THE GROWTH OF CAPITAL PER WORKER

Two attempts were made to estimate sector differentials in the growth of capital per worker (Tables D-1 and D-2). One is based on Internal Revenue Service data from the *Statistics of Income*. This utilizes book value of net depreciable assets, plus inventories—all in current dollars. Estimates were made for the Industry sector and the Service subsector. For 1929 no balance sheet data were available for the noncorporate portions of each sector; estimates were based on the relation between

TABLE D-1

Sector Differential Trend in Capital Per Worker Estimated From Book Values in Current Dollars, 1929–60

	1929	1960	Average Annual Rate of Change 1929 to 1960 (per cent)
Capital ($ billions)			
Industry	110.0	306.8	3.3
Service subsector	26.8	87.6	3.8
Employment (millions)			
Industry	17.9	25.5	1.1
Service subsector	12.3	20.0	1.6
Capital per worker (dollars)			
Industry	6,140	12,030	2.2
Service subsector	2,180	4,380	2.2

TABLE D-2

Sector Differential Trend in Capital Per Worker Estimated From Net Cumulative Investment in 1954 Dollars, 1947–60

	1947	1960	Average Annual Rate of Change 1947 to 1960 (per cent)
Capital ($ billions)			
Industry [a]	189.9	284.2	3.1
Service subsector [b]	90.4	117.0	2.0
Employment (millions)			
Industry [a]	22.6	24.6	0.7
Service subsector [b]	16.6	19.8	1.3
Capital per worker (dollars)			
Industry [a]	8,400	11,550	2.4
Service subsector [b]	5,450	5,910	0.6

[a] Industry excludes mining, radio broadcasting and television, and local utilities and public services n.e.c.
[b] Service subsector excludes medical and health services.

corporate and noncorporate capital in 1960, and corporate and noncorporate income in 1960 and 1929.

Numerous other adjustments were required because of the absence of detailed information, e.g., an estimate was made for capital in real estate to be subtracted from finance, insurance, and real estate. It should be noted that the data are based on historical cost less book depreciation, and are unadjusted for price changes. Given the rough nature of these estimates, only an impressionistic report of the results is warranted.

The Internal Revenue Service data suggests that the *level* of capital per worker was and is considerably higher in Industry than in the Service subsector, but that the rate of change was fairly similar between 1929 and 1960.

The alternative estimate is based on Bert Hickman's estimates of the net value in constant (1954) dollars of the stock of plant and equipment in various industries in 1947 and 1960.[1] These estimates were derived by cumulating annual estimates of net investment. The industries

[1] Bert G. Hickman, *Investment Demand in U.S. Economic Growth,* Washington, D.C., 1965, pp. 230–231.

covered by Hickman do not correspond exactly to the sector definitions used in this book, and no figures are presented for the pre-World War II period. These data can be used, however, to obtain some rough notions about possible differential trends in capital per worker.

The capital figures shown in Table D-2 are based on Hickman's estimates plus adjustments for inventories. Inventories in manufacturing were added to the Industry capital, and inventories in wholesale and retail trade were added to the Service capital. Also, construction was transferred to Industry from the sector labeled by Hickman, "commercial and other" (which corresponds roughly to the Service subsector), by assuming that the level of net depreciable assets per worker in construction in 1947 and 1960 was equal to the average level in "commercial and other" in those years.

Changes in employment (persons engaged) for corresponding industries were also calculated, and a differential trend in capital per worker was estimated. This differential was 1.8 per cent per annum between 1947 and 1960. This implies a differential of .8 per cent per annum for the period since 1929, if we assume that there was no differential trend in capital per worker between 1929 and 1947. This result is almost equal to the differential trend obtained if we assume that output per unit of capital grew at the same rate in both sectors.