Sixth Lecture

Profit and Capital Accumulation

Business organization
- Proprietorship
- Partnership
- Corporation
- Why do corporations dominate capitalism?
- Economies of scale, risk, power

Financial statements
- Balance sheet assets: "tangible," "intangible"
- Balance sheet liabilities: debt, equity
- Does the balance sheet balance?
- Creditors and owners
- Income statement: revenue, costs, profit
- Depreciation and amortization – art or con-art?
- Interest, taxes and net profit
- Retained earnings and dividends

The rate of profit and capital accumulation
- Measures of capital: historical cost, replacement cost, market value
- Rate of profit or *rates* of profit?
- How does capital accumulate: backward or forward looking?
- Market value versus fixed assets

Determinants of the profit rate
- Efficiency and intensity of labour
- Prices vs. "quantities"
- Capacity utilization
- The profit rate and conflict

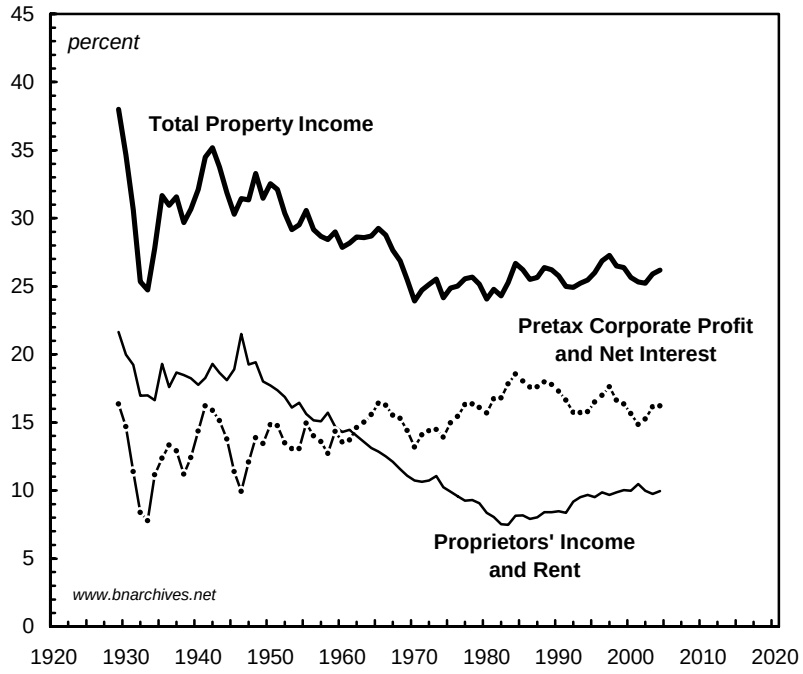

FIGURE 1 Property Income in the United States (Share of National Income)

SOURCE: U.S. Bureau of Economic Analysis through Global Insight. (Series codes YN for national income; YPPROPADJ for proprietors' income; YPRENTADJ for rent; ZBECON for pretax corporate profit; INTNETAMISC for net interest.)

General Electric GE

10-Yr Income | 10-Yr Cash Flows | **10-Yr Balance Sheet** | 5-Yr Restated | Quarterly Results

Balance Sheet — As originally reported

Assets $Mil

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	latest Qtr
Cash and Equiv	2,823.0	4,191.0	5,861.0	4,317.0	8,554.0	8,195.0	9,082.0	8,910.0	12,664.0	15,328.0	12,894.0
Short-Term Investments	41,067.0	59,889.0	70,621.0	78,717.0	81,758.0	91,339.0	101,017.0	116,862.0	120,724.0	135,536.0	133,952.0
Accts Rec	8,735.0	8,704.0	8,924.0	8,224.0	8,531.0	9,502.0	9,590.0	10,681.0	10,732.0	14,233.0	326,318.0
Inventory	4,395.0	4,473.0	5,895.0	6,049.0	7,007.0	7,812.0	8,565.0	9,247.0	8,752.0	9,778.0	10,501.0
Other Current Assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Current Assets	57,020.0	77,257.0	91,301.0	97,307.0	105,850.0	116,848.0	128,254.0	145,700.0	152,872.0	174,875.0	483,665.0
Net PP&E	25,679.0	28,795.0	32,316.0	35,730.0	41,022.0	40,015.0	42,140.0	47,204.0	53,382.0	63,334.0	64,774.0
Intangibles	13,342.0	16,007.0	19,121.0	23,635.0	26,010.0	27,441.0	31,649.0	46,180.0	55,025.0	83,240.0	85,477.0
Other Long-Term Assets	131,994.0	150,343.0	161,274.0	199,263.0	232,318.0	252,702.0	292,980.0	336,160.0	386,204.0	428,881.0	106,446.0
Total Assets	228,035.0	272,402.0	304,012.0	355,935.0	405,200.0	437,006.0	495,023.0	575,244.0	647,483.0	750,330.0	740,362.0

Liabilities and Stockholders' Equity $Mil

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	latest Qtr
Accts Payable	9,061.0	10,205.0	10,407.0	12,502.0	13,676.0	14,853.0	18,158.0	18,874.0	19,824.0	24,729.0	22,754.0
Short-Term Debt	64,463.0	80,200.0	98,075.0	115,378.0	130,346.0	119,180.0	153,076.0	138,775.0	134,917.0	157,746.0	145,870.0
Taxes Payable	---	---	---	---	---	---	---	---	---	---	---
Accrued Liabilities	5,898.0	7,086.0	8,891.0	9,788.0	11,229.0	12,219.0	14,132.0	15,577.0	15,343.0	17,539.0	---
Other Short-Term Liabilities	2,579.0	3,016.0	3,295.0	3,911.0	5,965.0	9,860.0	13,538.0	8,601.0	6,446.0	6,266.0	24,060.0
Total Current Liabilities	82,001.0	100,507.0	120,668.0	141,579.0	161,216.0	156,112.0	198,904.0	181,827.0	176,530.0	206,280.0	192,684.0
Long-Term Debt	51,027.0	49,246.0	46,603.0	59,663.0	71,427.0	82,132.0	79,806.0	140,632.0	170,004.0	213,161.0	219,609.0
Other Long-Term Liabilities	65,398.0	91,524.0	102,303.0	115,813.0	130,000.0	148,270.0	161,489.0	189,079.0	221,769.0	220,605.0	215,685.0
Total Liabilities	198,426.0	241,277.0	269,574.0	317,055.0	362,643.0	386,514.0	440,199.0	511,538.0	568,303.0	640,046.0	627,978.0
Total Equity	29,609.0	31,125.0	34,438.0	38,880.0	42,557.0	50,492.0	54,824.0	63,706.0	79,180.0	110,284.0	112,384.0
Total Liabilities & Equity	228,035.0	272,402.0	304,012.0	355,935.0	405,200.0	437,006.0	495,023.0	575,244.0	647,483.0	750,330.0	740,362.0

SOURCE: *Morning Star*
http://quicktake.morningstar.com/Stock/balance10.asp?Country=USA&Symbol=GE&stocktab=finance

General Electric GE

Income Statement — As originally reported

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	TTM
Revenue	**70,028.0**	**79,179.0**	**90,840.0**	**100,469.0**	**111,630.0**	**129,853.0**	**125,913.0**	**131,698.0**	**134,187.0**	**152,363.0**	**163,260.0**
COGS	30,970.0	32,871.0	40,088.0	42,280.0	45,958.0	51,823.0	49,097.0	52,856.0	51,206.0	61,759.0	66,154.0
Gross Profit	**39,058.0**	**46,308.0**	**50,752.0**	**58,189.0**	**65,672.0**	**78,030.0**	**76,816.0**	**78,842.0**	**82,981.0**	**90,604.0**	**97,106.0**

Operating Expenses $Mil

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	TTM
SG&A	---	---	---	---	---	---	---	---	---	---	---
R&D	---	---	---	---	---	---	---	---	---	---	---
Other	22,035.0	27,598.0	31,189.0	34,959.0	40,082.0	47,864.0	46,053.0	49,735.0	52,645.0	58,591.0	60,981.0
Operating Income	**17,023.0**	**18,710.0**	**19,563.0**	**23,230.0**	**25,590.0**	**30,166.0**	**30,763.0**	**29,107.0**	**30,336.0**	**32,013.0**	**36,125.0**

Other Income and Expense $Mil

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	TTM
Net Int Inc & Other	(7,286.0)	(7,904.0)	(8,384.0)	(9,753.0)	(10,013.0)	(11,720.0)	(11,062.0)	(10,216.0)	(10,432.0)	(11,907.0)	(14,021.0)
Earnings Before Taxes	**9,737.0**	**10,806.0**	**11,179.0**	**13,477.0**	**15,577.0**	**18,446.0**	**19,701.0**	**18,891.0**	**19,904.0**	**20,106.0**	**22,104.0**
Income Taxes	3,164.0	3,526.0	2,976.0	4,181.0	4,860.0	5,711.0	5,573.0	3,758.0	4,315.0	3,513.0	4,063.0
Earnings After Taxes	**6,573.0**	**7,280.0**	**8,203.0**	**9,296.0**	**10,717.0**	**12,735.0**	**14,128.0**	**15,133.0**	**15,589.0**	**16,593.0**	**18,041.0**
Acctg Changes	---	---	---	---	---	---	(444.0)	(1,015.0)	(587.0)	---	---
Disc Operations	---	---	---	---	---	---	---	---	---	---	---
Ext Items	---	---	---	---	---	---	---	---	---	---	---
Net Income	**6,573.0**	**7,280.0**	**8,203.0**	**9,296.0**	**10,717.0**	**12,735.0**	**13,684.0**	**14,118.0**	**15,002.0**	**16,593.0**	**18,041.0**
Diluted EPS, Cont Ops$	0.65	0.73	0.82	0.93	1.07	1.27	1.41	1.51	1.55	1.59	1.71
Diluted EPS$	0.65	0.73	0.82	0.93	1.07	1.27	1.37	1.41	1.49	1.59	1.71
Shares	10077	9908	9811	9803	9855	9909	9934	9964	10035	10339	10579

SOURCE: *Morning Star*
http://quicktake.morningstar.com/Stock/income10.asp?Country=USA&Symbol=GE&stocktab=finance

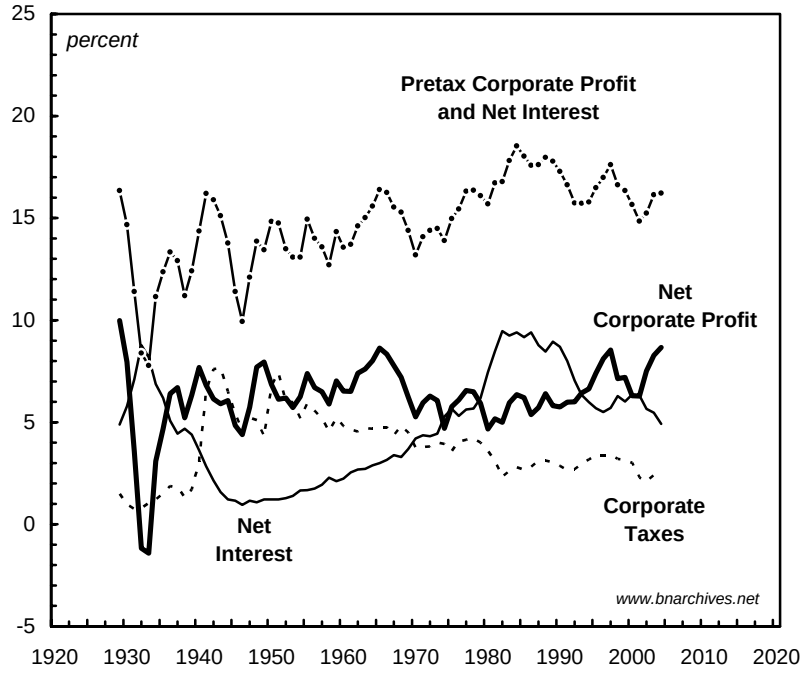

FIGURE 2 U.S.-Based Corporations: Profit, Taxes and Net Interest (Share of National Income)

SOURCE: U.S. Bureau of Economic Analysis through Global Insight. (Series codes YN for national income; ZAECON for corporate profit after tax; TXCORP for corporate taxes; INTNETAMISC for net interest.)

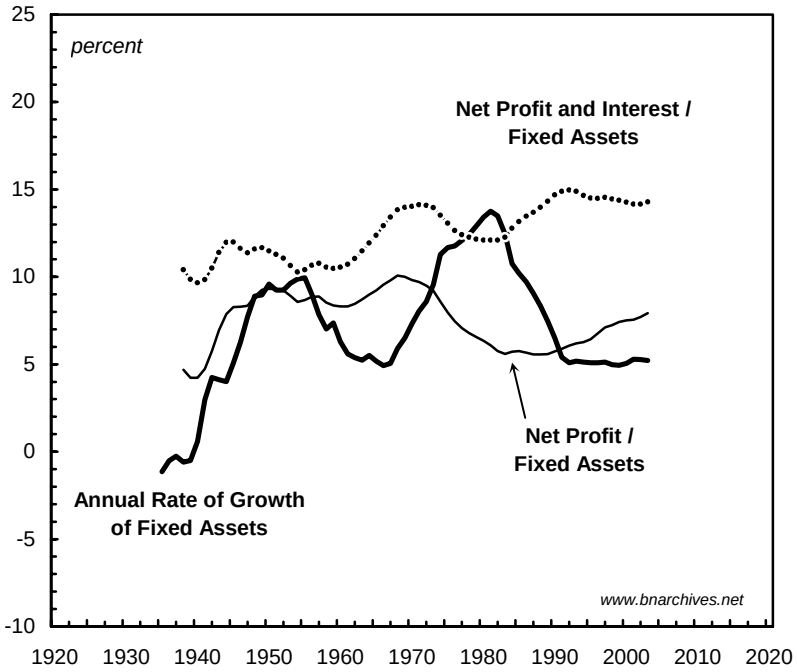

FIGURE 3 U.S.-Based Corporations: Rates of Return and the Growth of Fixed Assets

NOTE: Series are smoothed as 10-year moving averages.

SOURCE: U.S. Bureau of Economic Analysis through Global Insight. (Series codes: FAPNREZVR for the current value of corporate fixed assets; ZAECON for net corporate profit; INTNETAMISC for net interest.)

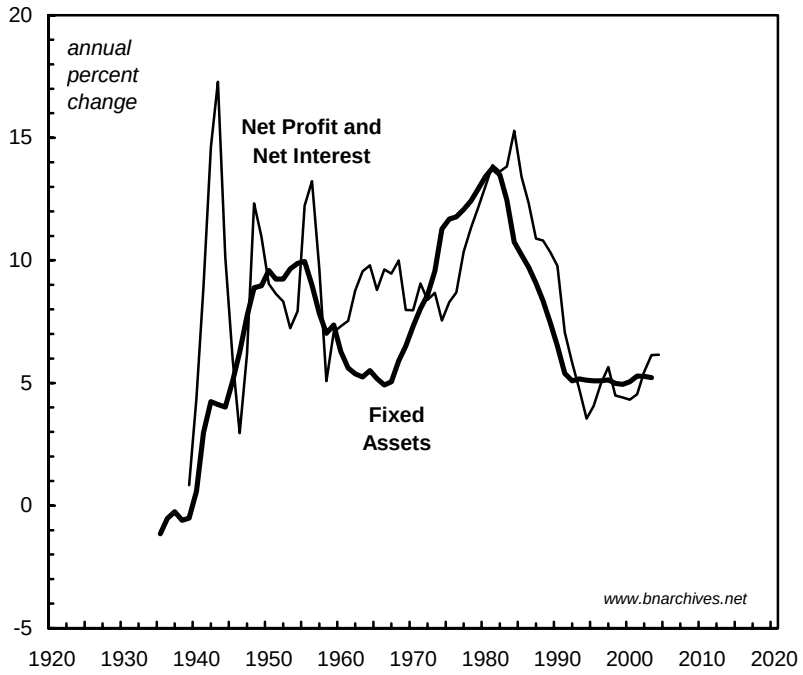

FIGURE 4 Growth of U.S. Corporate Income and Fixed Assets

NOTE: Series are smoothed as 10-year moving averages.

SOURCE: U.S. Bureau of Economic Analysis through Global Insight. (Series codes: FAPNREZVR for the current value of corporate fixed assets; ZAECON for net corporate profit; INTNETAMISC for net interest.)

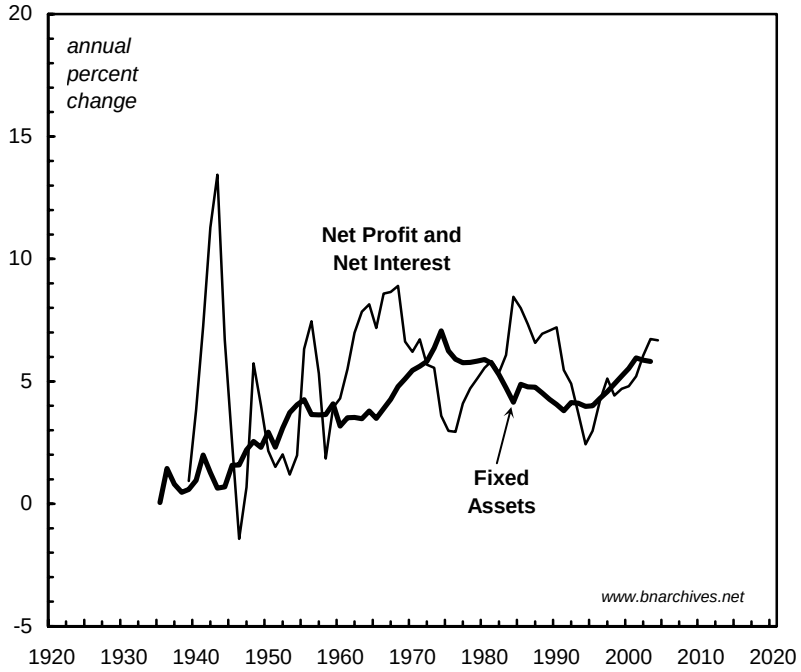

FIGURE 5 Growth of U.S. Corporate Income and Fixed Assets (expressed in 2000 dollars)

NOTE: Series are smoothed as 10-year moving averages. Nominal dollar data are deflated by the GDP deflator of fixed nonresidential private domestic investment.

SOURCE: U.S. Bureau of Economic Analysis through Global Insight. (Series codes: FAPNREZVR for the current value of corporate fixed assets; ZAECON for net corporate profit; INTNETAMISC for net interest; PDIIFNRE for the GDP deflator for fixed nonresidential domestic investment.)

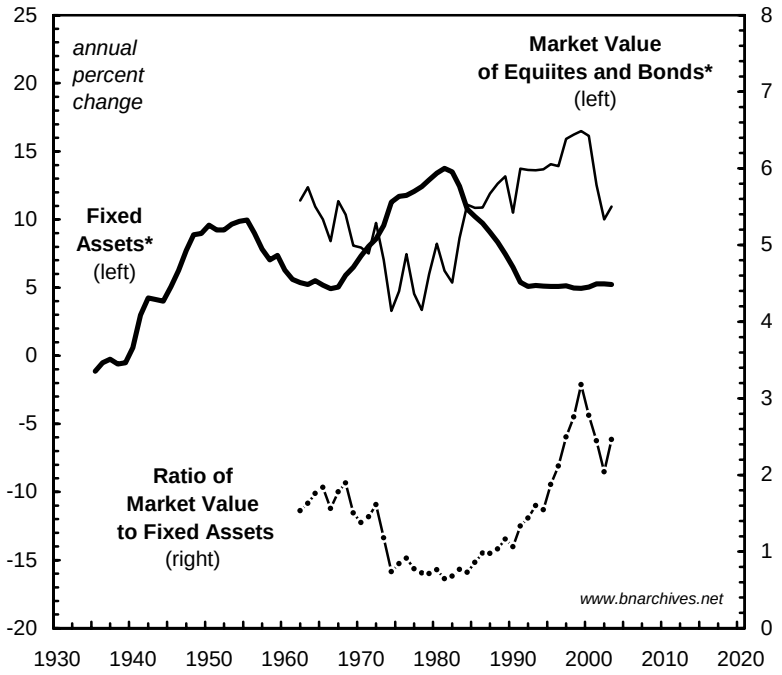

FIGURE 6 U.S.-Based Corporations: Market Value versus Fixed Assets

* Series are smoothed as 10-year moving averages.

SOURCE: U.S. Bureau of Economic Analysis and U.S. Federal Reserve Flow of Funds through Global Insight. (Series codes: FAPNREZVR for the current value of corporate fixed assets; FL893064105 for market value of corporate equities; FL893163005 for the market value of corporate and foreign bonds.)

BOX 1

$$r = \frac{R}{K}$$

$$0.1 = \frac{100}{1{,}000}$$

r = rate of profit (decimal fraction)
R = total profit ($/year)
K = invested capital ($)

BOX 2

Substitute ($Y - W$) for R:

$$r = \frac{Y - W}{K}$$

r = rate of profit (decimal fraction)
Y = net output ($/year)
W = total wages and salaries ($/year)
K = invested capital ($)

BOX 3

Substitute ($S - M$) for Y:

$$r = \frac{S - M - W}{K}$$

r = rate of profit (decimal fraction)
S = total sales, assuming all production is sold ($/year)
M = cost of material and depreciated capital ($/year)
W = total wages and salaries ($/year)
K = invested capital ($)

BOX 4

Divide numerator and denominator by N:

$$r = \frac{\frac{S}{N} - \frac{M}{N} - \frac{W}{N}}{\frac{K}{N}} = \frac{\frac{S}{N} - \frac{M}{N} - w}{\frac{K}{N}}$$

r = rate of profit (decimal fraction)
S = total sales ($/year)
M = cost of material and depreciated capital ($/year)
W = total wages and salaries ($/year)
K = invested capital ($)
N = number of hours of labour per year
w = wage rate (refers to both wages and salaries, $/hour)

BOX 5

Decompose sales per hour of labour S/N:

$$\frac{S}{N} = P_Z z$$

S = total sales ($/year)
N = number of hours of labour per year
P_Z = price of the product ($)
Z = number of units sold per hour of labour

Decompose the number of units sold per hour of labour z:

$$z = ef$$

Z = number of units sold per hour of labour
f = efficiency of labour when workers work at maximum "intensity" (units/hour)
e = the "intensity" of labour ($0 < e < 1$)

Substitute ef for z:

$$\frac{S}{N} = P_Z z = P_Z ef$$

Substitute $P_z ef$ for S/N:

$$r = \frac{\frac{S}{N} - \frac{M}{N} - w}{\frac{K}{N}} = \frac{(P_Z ef) - \frac{M}{N} - w}{\frac{K}{N}}$$

BOX 6

Decompose cost of materials and depreciation per hour of labour M/N:

$$\frac{M}{N} = P_m m$$

M = total cost of materials and depreciation (\$/year)
N = number of hours of labour per year
P_m = price of "unit" of materials and depreciation (\$)
m = number of "units" of materials and depreciation used per hour of labour

Substitute $P_m m$ for M/N:

$$r = \frac{(P_Z ef) - \frac{M}{N} - w}{\frac{K}{N}} = \frac{(P_Z ef) - (P_m m) - w}{\frac{K}{N}}$$

BOX 7

Decompose the $ value of capital goods per hour of labour K/N:

$$\frac{K}{N} = k = \frac{P_C(CG)}{N} = P_C \frac{CG}{N}$$

K = invested capital ($)
N = number of hours of labour per year
k = value of invested capital per hour of labour ($/hour)
P_C = price of capital goods ($)
CG = "quantity" of capital goods ($)

Decompose the "quantity" of capital goods per hour of labour CG/N:

$$\frac{CG}{N} = \frac{CG}{CG\ in\ use} \times \frac{CG\ in\ use}{N} = \frac{1}{u} g$$

g = quantity of capital goods per hour of labour ($)
u = capacity utilization (fraction the capital goods actually in use, $0<u<1$)

Substitute back into the value of capital goods per hour of labour K/N:

$$\frac{K}{N} = k = \frac{P_C(CG)}{N} = P_C \frac{CG}{N} = P_C \frac{1}{u} g$$

Substitute back into the rate of profit r:

$$r = \frac{(P_Z ef) - (P_m m) - w}{\frac{K}{N}} = \frac{(P_Z ef) - (P_m m) - w}{P_C \frac{1}{u} g}$$