Returns for Domestic Nonfinancial Business

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ONCE A YEAR, the Bureau of Economic Analysis (BEA) presents aggregate rates of return for domestic nonfinancial corporations, nonfinancial industries, and a few major industry groups—mining, construction, and utilities; manufacturing; wholesale and retail trade; and "other" nonfinancial industries. In addition, various Q ratios, which generally indicate the financial market value of assets relative to their replacement costs, are also presented in this article.

The broad measures of profitability discussed in this article may be useful to economists and policymakers. These returns show which industries are gaining or losing in returns and the relative volatility of returns, allowing for better comparisons.

The returns in this article are calculated as the ratio of the net operating surplus to the net stock of produced assets. For nonfinancial corporations, the net operating surplus is the return accruing to capital after labor costs and intermediate inputs are deducted from receipts. The net operating surplus can be measured as the sum of corporate profits, net interest, and business current transfer payments (table 1).[1] Produced assets refer to the net stock of capital plus inventories valued at current cost.

These statistics are based on preliminary estimates from the national income and product accounts (NIPAs) and the fixed assets accounts. The industry returns estimates are calculated using data from the annual industry accounts, the NIPAs, and the fixed assets accounts. To calculate the Q ratios, additional data were drawn from the Federal Reserve Board's flow-of-funds accounts.

1. Corporate profits and net interest are based on tabulations of "company" data rather than "establishment" data. As a result, net operating surplus of nonfinancial corporations includes the income earned by the corporation's financial services-producing establishments, and it excludes income earned by the nonfinancial establishments of financial corporations.

Table 1. Net Operating Surplus and Produced Assets of Domestic Nonfinancial Corporations and Nonfinancial Industries, 1997–2008

[Billions of dollars]

	Nonfinancial corporations	Nonfinancial industries					
		Total	Mining, construction, utilities	Manufacturing	Wholesale and retail trade	"Other" industries[1]	ICT–producing industries[2]
Net operating surplus							
1997	736.3	1,278.1	164.0	320.1	202.9	591.1	71.3
1998	717.4	1,257.5	151.7	331.3	188.1	586.4	65.8
1999	742.7	1,288.5	166.7	322.4	192.4	607.0	55.4
2000	716.5	1,243.7	194.5	300.2	174.2	574.9	19.2
2001	611.8	1,243.9	208.5	251.1	192.5	591.8	–3.2
2002	650.8	1,301.6	197.5	261.5	210.4	632.3	22.5
2003	709.2	1,435.7	240.4	255.1	225.3	714.9	33.8
2004	879.9	1,646.6	291.9	306.0	240.9	807.8	47.3
2005	1,013.5	1,784.7	341.4	342.2	250.2	850.9	54.7
2006	1,180.3	1,938.2	388.4	390.4	280.3	879.2	46.4
2007	1,115.5	1,987.6	328.8	404.8	279.5	974.5	45.6
2008	1,031.0	....	....	....	....	....	....
Produced assets, average of yearend values							
1997	7,056.0	8,580.9	1,584.2	1,951.6	1,422.5	3,622.8	323.7
1998	7,419.0	9,011.4	1,649.8	2,030.7	1,500.7	3,830.3	349.3
1999	7,809.2	9,483.3	1,694.8	2,112.6	1,595.2	4,080.8	378.5
2000	8,295.2	10,074.4	1,776.0	2,195.8	1,702.5	4,400.3	417.5
2001	8,705.2	10,587.0	1,897.3	2,236.9	1,762.6	4,690.2	448.8
2002	8,950.8	10,919.2	1,985.8	2,247.2	1,801.0	4,885.2	451.8
2003	9,185.0	11,252.7	2,057.6	2,255.9	1,867.4	5,071.8	445.3
2004	9,682.7	11,896.2	2,231.8	2,314.1	1,985.6	5,364.1	452.2
2005	10,457.7	12,891.3	2,537.2	2,437.6	2,141.7	5,768.7	468.6
2006	11,256.7	13,930.6	2,854.3	2,566.5	2,300.6	6,203.8	489.4
2007	11,898.4	14,805.0	3,078.6	2,684.6	2,453.8	6,588.1	512.0
2008	12,717.1	....	....	....	....	....	....

1. Consists of agriculture, forestry, fishing and hunting; transportation and warehousing; information; rental and leasing services and lessors of intangible assets; professional, scientific, and technical services; administrative and waste management services; educational services; health care and social assistance; arts, entertainment, and recreation; accommodation and food services; and other services, except government.

2. Information-communication-technology producing-industries (ICT) consists of computer and electronic products; publishing industries (includes software); information and data processing services; and computer systems design and related services. Computer and electronic products are included in manufacturing; the other ICT-producing industries are included in "other" industries.

NOTE. Industrywide net operating surplus for 2008 will be available from the spring 2010 update of the annual industry accounts.

Corporate returns

In 2008, the rates of return for nonfinancial corporations both before and after taxes decreased. Before taxes, the rate of return fell for the second straight year to 8.1 percent in 2008 from 9.4 percent in 2007 (chart 1 and table 2). The rate of return peaked in 2006 at 10.5 percent and bottomed at 6.6 percent in 1982.

While other measures of profits—such as the BEA measure of corporate profits from current production—have shown a rising trend over the last 30 years, the measures presented in this article exclude the volatile financial sector and compare returns against assets rather than GDP or corporate value added. They show a more stable range; since 1969, pretax annual returns have remained in a range between 7 percent and 11 percent.

After subtracting corporate profits taxes, the rate of return decreased to 6.0 percent in 2008 from 6.8 percent in 2007.

Industry returns

Returns can also be calculated using data from the BEA annual industry accounts, which provide annually updated data on 65 industries. Like rates of return for nonfinancial corporations, rates of return for nonfinancial industries are also calculated as the ratio of net operating surplus to produced assets.

For industry data, the net operating surplus also includes corporate profits, net interest, and business current transfer payments. However, it also includes proprietors' income, which reflects the income of sole proprietorships and partnerships. For this article, real estate, which includes owner-occupied housing, is excluded from the nonfinancial industry data—the net operating surplus and produced assets—to allow for a better comparison with the nonfinancial corporate returns data, which do not reflect home ownership.

The pretax rate of return for nonfinancial industries declined to 13.4 percent in 2007 from 13.9 percent in

Chart 1. Rates of Return and Shares of Net Value Added for Nonfinancial Corporations, 1960–2008

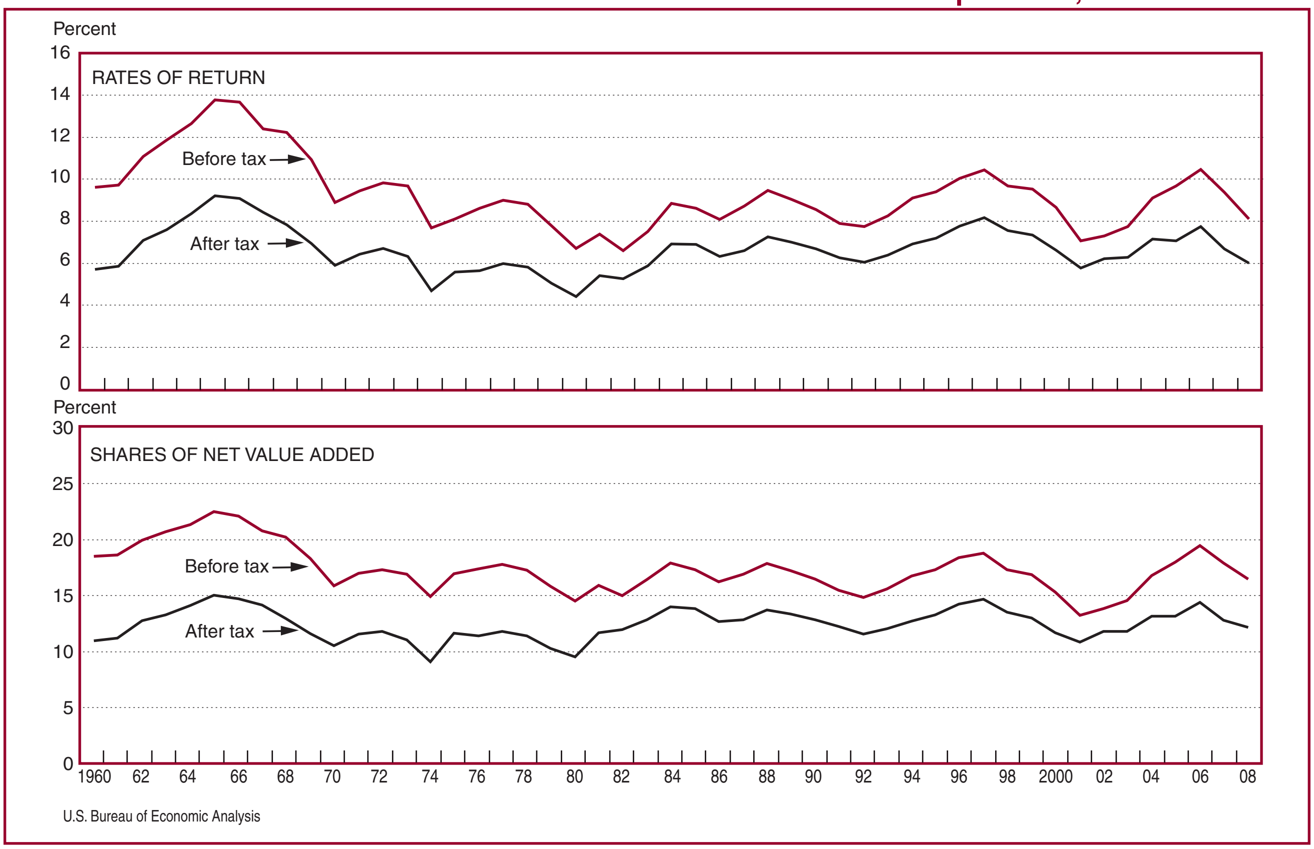


Table 2. Rates of Return and Shares of Net Value Added for Domestic Nonfinancial Corporations and Nonfinancial Industries, 1997–2008

[Percent]

	Nonfinancial corporations	Nonfinancial industries					
		Total	Mining, construction, utilities	Manufacturing	Wholesale and retail trade	"Other" industries[1]	ICT–producing industries[2]
Rates of return							
1997	10.4	14.9	10.4	16.4	14.3	16.3	22.0
1998	9.7	14.0	9.2	16.3	12.5	15.3	18.8
1999	9.5	13.6	9.8	15.3	12.1	14.9	14.6
2000	8.6	12.3	11.0	13.7	10.2	13.1	4.6
2001	7.0	11.7	11.0	11.2	10.9	12.6	–0.7
2002	7.3	11.9	9.9	11.6	11.7	12.9	5.0
2003	7.7	12.8	11.7	11.3	12.1	14.1	7.6
2004	9.1	13.8	13.1	13.2	12.1	15.1	10.5
2005	9.7	13.8	13.5	14.0	11.7	14.8	11.7
2006	10.5	13.9	13.6	15.2	12.2	14.2	9.5
2007	9.4	13.4	10.7	15.1	11.4	14.8	8.9
2008	8.1	....	....	....	....	....	....
Shares of net value added							
1997	18.7	20.2	32.1	28.1	19.7	16.2	22.7
1998	17.2	22.0	28.8	27.8	17.5	20.1	18.9
1999	16.8	21.3	29.2	26.5	16.9	19.4	14.5
2000	15.2	19.5	30.6	23.8	14.8	17.4	4.6
2001	13.2	19.3	31.2	21.5	15.8	17.4	–0.9
2002	13.8	19.7	29.4	22.2	16.8	18.0	6.2
2003	14.5	20.7	32.9	21.4	17.3	19.3	9.2
2004	16.7	22.2	35.9	24.3	17.6	20.3	12.3
2005	17.9	22.6	37.7	26.3	17.3	20.0	13.2
2006	19.4	22.9	38.8	27.4	18.1	19.6	10.6
2007	17.8	22.7	33.8	28.6	18.2	20.2	10.1
2008	16.4	....	....	....	....	....	....

1. Consists of agriculture, forestry, fishing and hunting; transportation and warehousing; information; rental and leasing services and lessors of intangible assets; professional, scientific, and technical services; administrative and waste management services; educational services; health care and social assistance; arts, entertainment, and recreation; accommodation and food services; and other services, except government.
2. Information-communication-technology-producing industries (ICT) consists of computer and electronic products; publishing industries (includes software); information and data processing services; and computer systems design and related services. Computer and electronic products are included in manufacturing; the other ICT-producing industries are included in "other" industries.

NOTE. Industrywide rates of return for 2008 will be available from the spring 2010 update of the annual industry accounts.

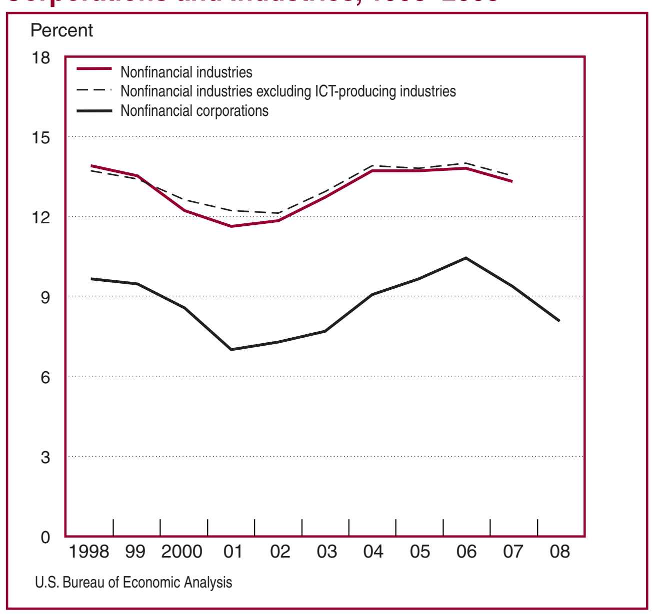
2006. The annual industry accounts do not provide after-tax data. The industry rate of return for 2008 will be available with the next annual industry accounts update, scheduled to be released in the spring of 2010.

The inclusion of proprietors' income in industry net operating surplus accounts for most of the difference between the industry rate of return and the corporate rate of return.

However, several definitional and statistical differences between the annual industry accounts and the NIPAs also affect the estimates. Notably, the annual industry accounts include adjustments that (1) exclude the financial services-producing establishments of primarily nonfinancial corporations and (2) include the nonfinancial services-producing establishments of primarily financial corporations as well as a share of the NIPA statistical discrepancy.

Despite the differences between the industry rate and the pretax corporate rate, the annual pattern of change of each is similar (chart 2).

Chart 2. Rates of Return for Domestic Nonfinancial Corporations and Industries, 1998–2008



Specific industry groups

Returns were also updated for four broad nonfinancial industry groups: Mining, construction, and utilities; manufacturing; wholesale and retail trade; and "other" nonfinancial industries (chart 3).

In 2007, the sharpest decline was in the mining, construction, and utilities group; the rate of return fell 2.9 percentage points in 2007 to 10.7 percent from 13.6 percent after increasing over the preceding 4 years. Nonetheless, this was the only industry group with a 2007 return that exceeded its 1997 return. Returns for the wholesale and retail trade group declined 0.8 percentage point in 2007 to 11.4 percent but remained in a range between 11 percent and 12 percent since 2001. Manufacturing industries were essentially unchanged, remaining in a relatively high range between 14 percent and 15 percent over the last 3 years. The "other" nonfinancial industry group rose 0.6 percentage point to 14. 8 percent but remained in an elevated range between 14 percent and 15 percent over the last 5 years.

Returns were also calculated for the information-communication-technology (ICT)-producing industries subset.[2] In 2007, the return to ICT-producing industries decreased to 8.9 percent from 9.5 percent in 2006.

Users may find these consistent series of sector returns and capital stock helpful for comparative studies. For example, ICT-producing industries had returns above the national average in 1997–99. They also achieved the largest percentage growth in their investment stock, with produced assets up 16.9 percent over the same period. But by 2001, industry returns fell to –0.7 percent. ICT industries' returns recovered to 11.7 percent in 2005, still below the national average of 13.8 percent. Meanwhile, ICT industries' asset growth slowed to only 13.2 percent over 2002–2007—the smallest percentage increase of the reported sectors.

Q ratios

"Tobin's Q," or simply "Q," is the ratio of financial-market valuation of corporate assets to the current-cost value of the assets. A Q ratio above 1 indicates that financial markets value corporate assets above the replacement costs. A value of Q below 1 indicates that the financial markets value corporate assets below the replacement costs.

Three Q-type ratios for domestic nonfinancial corporations are defined as follows:

- Q1 is calculated as the market value of outstanding equity divided by the net stock of produced assets.
- Q2 adds the book value of outstanding corporate bonds to the numerator used in Q1.[3] The inclusion of bonds makes Q2 a more complete measure of invested capital, but including them at historical cost is clearly inconsistent with the underlying rationale for Q, which is to provide a comparison of market valuation with replacement cost.
- Q3 adds an estimate of the market value of outstanding corporate bonds and net liquid assets to the numerator used in Q1. It also subtracts land from the numerator (because land is not included in the denominator).[4]

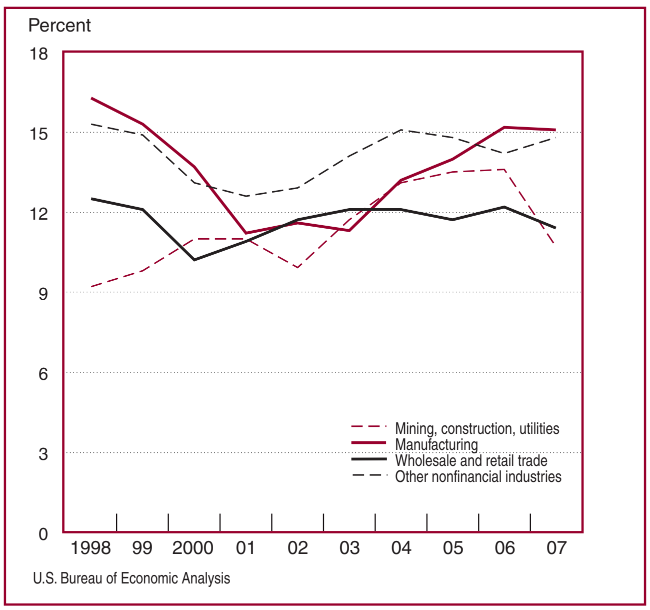
All three ratios reached record levels in 1999, dropped sharply in 2000, and continued decreasing until 2002 (chart 4 and table 3). In 2004, all three ratios rose. In 2008, they fell sharply. Q3 fell to 0.40—the lowest it has been since 1985. Q1 fell to 0.75—the lowest since 1991.

2. The subset of ICT-producing industries consists of computer and electronic products; publishing industries (includes software); information and data processing services; and computer design and related services. Computer and electronic products are included in the manufacturing group; the other ICT-producing industries are included in the other nonfinancial industries group.

3. "Outstanding bonds" is a gross estimate; it is not net of financial assets and debt held by nonfinancial corporations.

4. The market value of bonds outstanding is approximated by a procedure developed by James Tobin and Dan Sommers. In brief, the process begins with published book values of bonds outstanding and the assumption that a bond matures in 10 years and carries a coupon rate equal to the Baa rate that prevailed in the year the bond was issued. The value of land is estimated as the difference between the value of real estate and the value of structures and of equipment and software. Net liquid assets are estimated as financial assets less liabilities other than municipal securities, corporate bonds, and mortgages. The data are from the Board of Governors of the Federal Reserve System, *Flow of Funds Accounts of the United States,* statistical release Z.1 and "Selected Interest Rates," statistical release H.15 (Washington, DC: Board of Governors). The data are available on the Federal Reserve's Web site at www.federalreserve.gov/releases/Z1 and www.federalreserve.gov/releases/h15.

Chart 3. Rates of Return for Domestic Nonfinancial Industry Groups, 1998–2007



Q ratios alone cannot fully explain investment behavior. The record Q ratios of the late 1990s were associated with strong capital investment trends. In other periods, the relationship appears weaker.

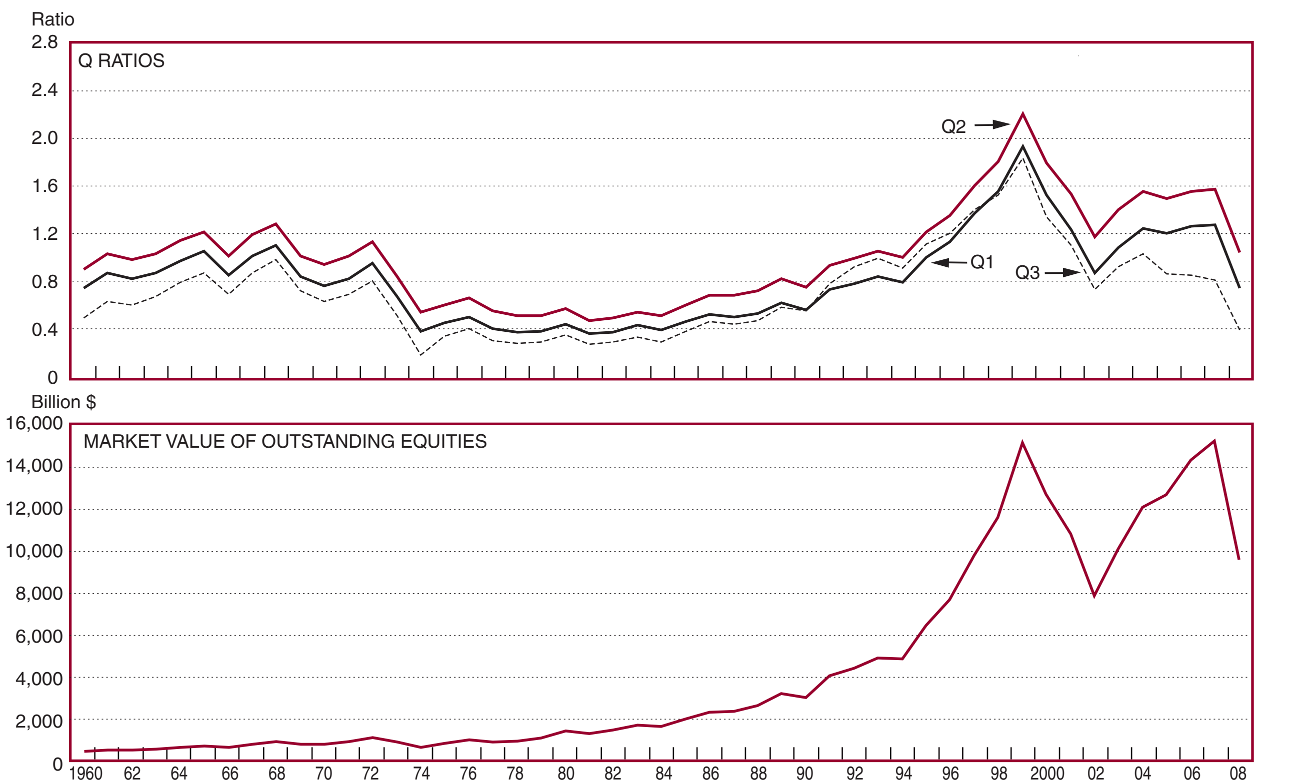
It may be that investment is stronger when Q ratios are rising and weaker when they are falling. For example, nonresidential fixed investment fell 4.2 percent in 2001 and 9.2 percent in 2002. While the Q ratios had fallen sharply, they remained historically high in these 2 years.

Table 3. Q ratios, 1960–2008

	Q1 ratio[1]	Q2 ratio[2]	Q3 ratio[3]		Q1 ratio[1]	Q2 ratio[2]	Q3 ratio[3]
1960	0.75	0.91	0.50	1985	0.47	0.61	0.39
1961	0.88	1.04	0.64	1986	0.53	0.69	0.47
1962	0.83	0.99	0.61	1987	0.51	0.69	0.45
1963	0.88	1.04	0.68	1988	0.54	0.73	0.48
1964	0.98	1.15	0.80	1989	0.63	0.83	0.59
1965	1.06	1.22	0.88	1990	0.57	0.76	0.56
1966	0.86	1.02	0.70	1991	0.74	0.94	0.79
1967	1.02	1.20	0.88	1992	0.79	1.00	0.93
1968	1.11	1.29	0.99	1993	0.85	1.06	1.00
1969	0.85	1.02	0.73	1994	0.80	1.01	0.92
1970	0.77	0.95	0.64	1995	1.01	1.22	1.12
1971	0.83	1.02	0.70	1996	1.14	1.36	1.21
1972	0.96	1.14	0.81	1997	1.38	1.61	1.41
1973	0.68	0.85	0.52	1998	1.56	1.81	1.53
1974	0.39	0.55	0.19	1999	1.94	2.21	1.84
1975	0.46	0.61	0.35	2000	1.53	1.80	1.35
1976	0.51	0.67	0.41	2001	1.24	1.54	1.11
1977	0.41	0.56	0.31	2002	0.88	1.18	0.74
1978	0.38	0.52	0.29	2003	1.09	1.41	0.93
1979	0.39	0.52	0.30	2004	1.25	1.56	1.04
1980	0.45	0.58	0.36	2005	1.21	1.50	0.87
1981	0.37	0.48	0.28	2006	1.27	1.56	0.86
1982	0.38	0.50	0.30	2007	1.28	1.58	0.82
1983	0.44	0.55	0.34	2008	0.75	1.05	0.40
1984	0.40	0.52	0.30				

1. Q1 is the market value of outstanding equity divided by the net stock of produced assets valued at current cost.
2. Q2 is the market value of outstanding equity plus book value of outstanding corporate bonds divided by the net stock of produced assets valued at current cost.
3. Q3 is the market value of outstanding equity plus book value of outstanding corporate bonds plus net liquid assets divided by the net stock of produced assets valued at current cost.

Chart 4. Q Ratios and Market Capitalization of Domestic Nonfinancial Corporations, 1960–2008



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