Returns for Domestic Nonfinancial Business

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THE PROFITABILITY of domestic nonfinancial corporations continued to rise in 2012 from interim lows in 2009, according to statistics from the Bureau of Economic Analysis (BEA). A similar but broader measure of profitability for nonfinancial industries—which includes proprietors' income—rose for a second straight year in 2011, the most recent year for which these statistics are available.

Once a year, BEA reports on sector 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. Various Tobin's Q ratios, which compare the financial-market value of assets with the replacement-cost value of produced assets are also presented.

These broad measures of profitability, which are based on returns on assets, may be useful to economists and policymakers. Researchers may also find this data useful for analyzing recent business cycle trends in market valuations and Q ratios. Industry sector performance is now available through 2011, and corporate business performance is available through 2012.

The returns in this article are calculated as the ratio of the net operating surplus to the net stock of produced assets.[1] For nonfinancial corporations, the net operating surplus is the return accruing to capital after labor costs, taxes on production, and intermediate inputs are deducted from receipts. The net operating surplus is also defined as the sum of corporate profits, net interest, and business current transfer payments (table 1).[2]

The statistics presented for nonfinancial corporations are based on estimates from BEA's national income and product accounts (NIPAs) and fixed assets accounts. The statistics presented for industry groups are calculated using data from BEA's annual industry accounts, the NIPAs, and the fixed assets accounts. To calculate the Q ratios, additional data on financial market values are drawn from the Federal Reserve Board's flow-of-funds accounts.

1. Produced assets consist of the net stock of capital and inventories valued at current cost.

2. 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, 2001–2012

[Billions of dollars]

	Nonfinancial corporations	Nonfinancial industries					
		Total	Mining, utilities, and construction	Manufacturing	Wholesale and retail trade	Other industries [1]	Addendum: ICT-producing industries [2]
Net operating surplus (before tax)							
2001	626.7	1,310.4	204.5	248.7	215.2	642.1	–45.3
2002	647.1	1,395.6	181.6	272.3	221.8	719.9	33.2
2003	699.2	1,492.3	215.9	269.5	237.8	769.1	55.5
2004	877.5	1,756.4	257.0	373.7	248.6	877.1	98.9
2005	1,025.1	1,900.9	279.1	432.9	260.9	928.0	118.3
2006	1,163.7	2,017.5	303.7	482.7	273.5	957.7	115.9
2007	1,137.4	2,109.5	293.7	507.4	285.9	1,022.5	112.2
2008	1,070.8	2,040.3	278.4	422.7	255.2	1,084.1	114.6
2009	964.2	1,906.2	204.2	414.5	274.9	1,012.5	117.9
2010	1,226.9	2,171.3	245.1	497.9	306.0	1,122.2	146.8
2011	1,353.2	2,339.8	256.3	549.2	319.4	1,215.0	125.0
2012	1,430.6	....	....	....	....	....	....
Produced assets, average of yearend values							
2001	8,648.3	10,574.7	1,859.1	2,253.4	1,760.8	4,701.5	448.0
2002	8,952.1	10,973.8	1,989.1	2,275.2	1,802.9	4,906.7	455.9
2003	9,238.2	11,360.3	2,096.4	2,290.4	1,877.3	5,096.3	453.6
2004	9,746.6	12,019.3	2,267.4	2,350.2	2,007.0	5,394.8	464.1
2005	10,550.8	13,030.7	2,565.9	2,474.8	2,179.7	5,810.3	486.0
2006	11,405.9	14,101.2	2,884.9	2,610.7	2,339.4	6,266.3	510.3
2007	12,155.1	15,048.0	3,161.3	2,762.1	2,477.4	6,647.2	534.1
2008	12,838.6	15,900.0	3,447.9	2,899.1	2,577.9	6,975.2	559.6
2009	12,906.1	16,040.6	3,515.8	2,902.5	2,539.7	7,082.5	566.4
2010	12,893.2	16,026.7	3,532.8	2,877.1	2,510.7	7,106.1	564.9
2011	13,439.5	16,700.7	3,776.3	2,959.1	2,621.7	7,343.6	581.8
2012	13,336.6	....	....	....	....	....	....

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 (ICT)-producing industries 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 2012 will be available from the December 2013 update of the annual industry accounts.

Corporate returns

In 2012, corporate rates of return on both a before-tax and an after-tax basis rose for the third consecutive year. The before-tax rate of return was 10.7 percent in 2012, a 0.6 percentage point increase from 2011 and a gain of 3.2 percentage points from the recession low of 7.5 percent in 2009. This is the strongest 3-year gain since 1964 (chart 1 and table 2). The 2012 returns matched the earlier interim highs reached in 1997.

Since 1970, corporate rates of return have ranged from 6.5 percent in 1982 to 10.7 percent in 2012. In the 1960s, average rates of return were higher, peaking at 14.0 percent in 1965.

Other measures of profits—such as BEA's measure of corporate profits from current production—have shown a rising share of GDP since 1970. The measures presented in this article exclude the volatile financial sector. They compare returns of nonfinancial corporations with their assets rather than with gross domestic product (GDP). Business assets have grown at roughly the same rate as profits since 1970, though they have slowed since 2008 (table 1).

Industry returns

Rates of return can also be calculated for industry sectors using data from the annual industry accounts, which provide annually updated data on 65 industries that together account for total economic activity. Similar to the method used to calculate the rates for nonfinancial corporations, the rates of return for industry

Table 2. Rates of Return and Shares of Net Value Added for Domestic Nonfinancial Corporations and Nonfinancial Industries, 2001–2012

[Percent]

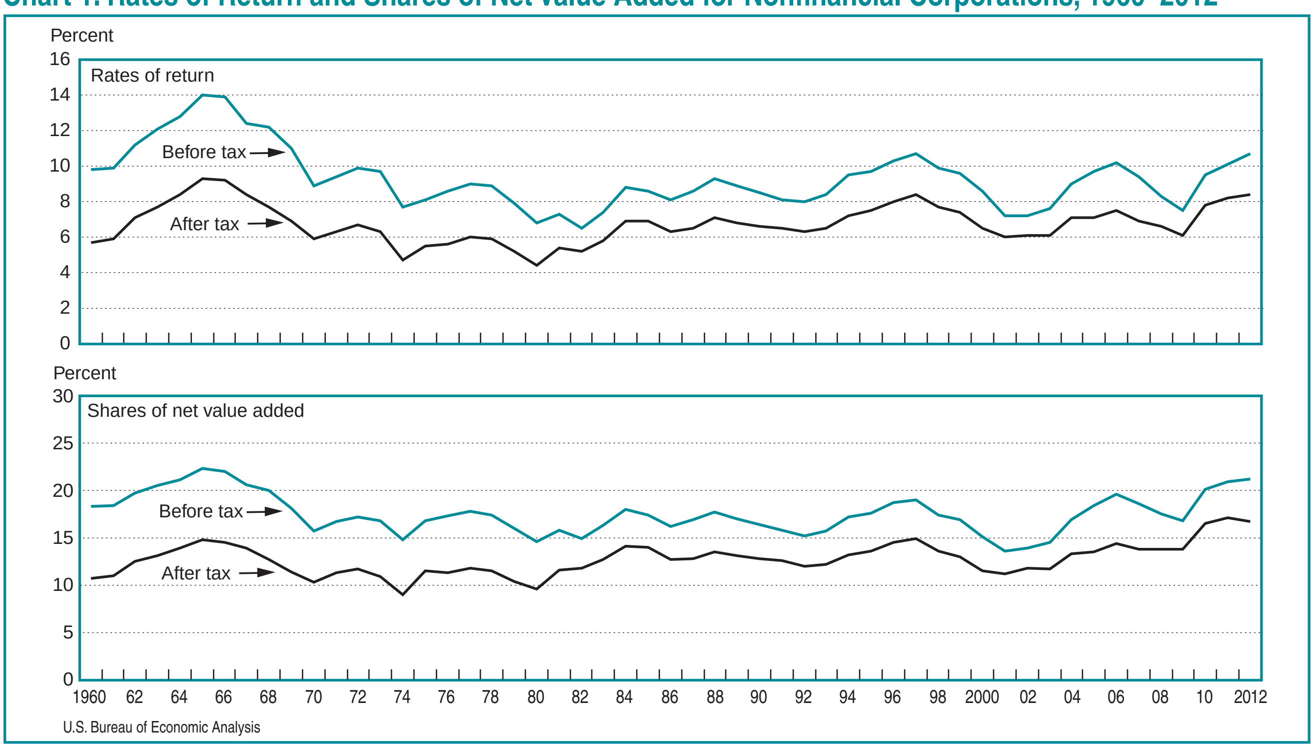
	Nonfinancial corporations		Nonfinancial industries (before tax)					
	After tax	Before tax	Total	Mining, utilities, and construction	Manu-facturing	Wholesale and retail trade	Other industries [1]	Addendum: ICT-producing industries [2]
Rates of return								
2001	6.0	7.2	12.4	11.0	11.0	12.2	13.7	–10.1
2002	6.1	7.2	12.7	9.1	12.0	12.3	14.7	7.3
2003	6.1	7.6	13.1	10.3	11.8	12.7	15.1	12.2
2004	7.1	9.0	14.6	11.3	15.9	12.4	16.3	21.3
2005	7.1	9.7	14.6	10.9	17.5	12.0	16.0	24.3
2006	7.5	10.2	14.3	10.5	18.5	11.7	15.3	22.7
2007	6.9	9.4	14.0	9.3	18.4	11.5	15.4	21.0
2008	6.6	8.3	12.8	8.1	14.6	9.9	15.5	20.5
2009	6.1	7.5	11.9	5.8	14.3	10.8	14.3	20.8
2010	7.8	9.5	13.5	6.9	17.3	12.2	15.8	26.0
2011	8.2	10.1	14.0	6.8	18.6	12.2	16.5	21.5
2012	8.4	10.7	....	....	....	....	....	....
Shares of net value added								
2001	11.2	13.6	20.0	30.5	21.3	17.4	18.4	–14.0
2002	11.8	13.9	20.7	27.6	23.1	17.6	19.8	9.1
2003	11.7	14.5	21.1	30.3	22.5	18.1	20.1	14.5
2004	13.3	16.9	23.1	32.8	28.6	18.0	21.3	22.6
2005	13.5	18.4	23.5	32.7	31.2	17.9	21.2	24.8
2006	14.4	19.6	23.7	32.5	34.1	17.8	20.7	23.3
2007	13.8	18.6	23.6	30.8	34.9	18.0	20.7	21.8
2008	13.8	17.5	22.6	28.9	30.7	16.4	21.2	21.9
2009	13.8	16.8	22.2	25.3	32.2	18.4	20.3	23.0
2010	16.5	20.1	24.1	29.3	36.1	19.6	21.5	26.4
2011	17.1	20.9	24.6	29.2	37.3	19.5	22.0	22.1
2012	16.7	21.2	....	....	....	....	....	....

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 (ICT)-producing industries 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 2012 will be available from the December 2013 update of the annual industry accounts.

Chart 1. Rates of Return and Shares of Net Value Added for Nonfinancial Corporations, 1960–2012



sectors are calculated as net operating surplus divided by the net stock of produced assets.

Like the net operating surplus of nonfinancial corporations, the net operating surplus of nonfinancial industries includes corporate profits, business transfer payments, and net interest payments. However, it also includes proprietors' income, which reflects the income of sole proprietorships and partnerships.[3] For this article the real estate sector, which includes owner-occupied housing, is excluded from the nonfinancial industry data to allow for a better comparison with the nonfinancial corporate returns data, which do not include home ownership.

Most of the difference between the total industry rates of return and the corporate rates of return can be attributed to the inclusion of the net operating surplus and the produced assets of proprietors in the industry estimates. However, several 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 and a share of the NIPA statistical discrepancy. Despite the differences between the total industry rates and the pretax corporate rates, the annual patterns of change of each are similar (chart 2).

The rates of return to nonfinancial industries increased 0.5 percentage point to 14.0 percent in 2011, the second consecutive year of growth after 4 consecutive years of decline. Similarly, nonfinancial industries' share of net value added increased 0.5 percentage point to 24.6 percent in 2011 from 24.1 percent in 2010.

3. Proprietors' income reflects both the return accruing to capital and the return to proprietors' and partners' labor, but these returns are not identified in the data.

Specific industry groups

Along with the total returns for nonfinancial industries, returns were calculated for the following four nonfinancial industry groups: mining, utilities, and construction; manufacturing; wholesale and retail trade; and "other" nonfinancial industries (chart 3).[4]

In 2011, the rates of return for these four industry groups were mixed. The manufacturing industry group had the largest increase, rising 1.3 percentage points to 18.6 percent in 2011 from 17.3 percent in 2010. The rate of return for the mining, utilities, and construction industry group decreased 0.1 percentage point, falling to 6.8 percent in 2011 from 6.9 percent in 2010.

Similarly, the four industry groups' shares of net value added were also mixed. The manufacturing industry group had the largest increase, growing 1.2 percentage points to 37.3 percent in 2011 from 36.1 percent in 2010. The shares of net value added for the mining, utilities, and construction industry group

4. The "other" nonfinancial industry group consists of agriculture, forestry, fishing, and hunting; transportation and warehousing; information; rental and leasing services and lessors of intangible assets; professional and business services; administrative and waste management services; educational services, health care, and social assistance; arts, entertainment, recreation, accommodation, and food services; and other services, except government.

Chart 2. Rates of Return for Domestic Nonfinancial Industries and Corporations, 2001–2012

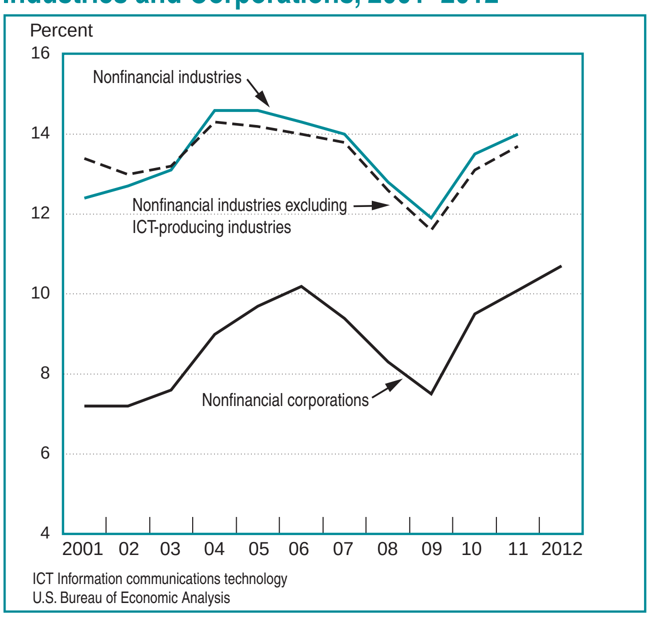
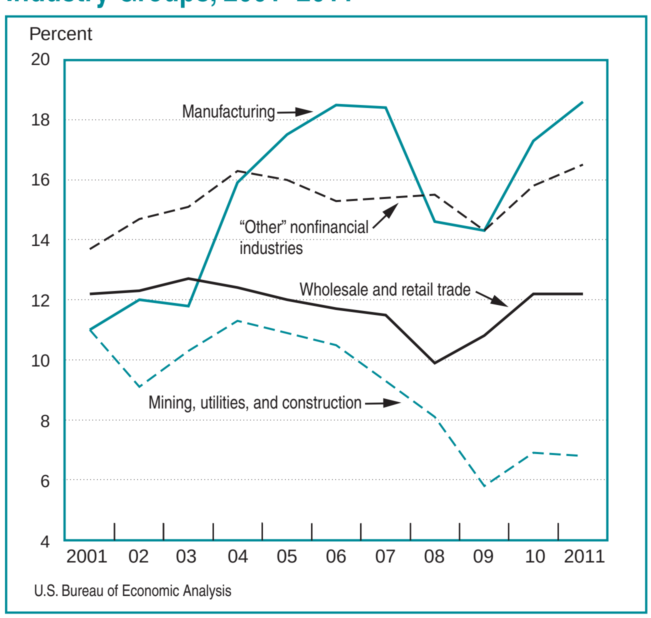


Chart 3. Rates of Return for Domestic Nonfinancial Industry Groups, 2001–2011



decreased 0.1 percentage point, falling to 29.2 percent in 2011 from 29.3 percent in 2010.

Rates of return were also calculated for the information-communication-technology (ICT)-producing industries.[5] Since 2004, these industries have achieved rates of return of more than 20 percent each year, peaking at 26.0 percent in 2010 before falling 4.5 percentage points to 21.5 percent in 2011. The decrease in 2011 reflects a decline in the net operating surplus coupled with an increase in produced assets. Similarly, the ICT share of net value added decreased 4.3 percentage points to 22.1 percent in 2011 from 26.4 percent in 2010.

Users may find these consistent series of nonfinancial industry rates of return and capital stock helpful for comparative studies. For example, from 2007 to 2011, the mining, construction, and utilities industry group consistently had the lowest rates of return that reflected the highest average percentage growth in produced assets, which grew at an annual rate of 4.5 percent. Conversely, returns to the manufacturing industry group regularly exceeded the national average, reflecting slow growth (an average of just 1.7 percent) in produced assets.

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 their replacement cost; as a Q ratio rises above 1, companies may be more inclined to make direct investments in plant and equipment. A value of Q below 1 indicates that the financial markets value corporate assets below the replacement cost; as Q falls below 1, companies may be more inclined to buy other companies for their capacity rather than make direct investments.

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. Including 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.[6]

All three Q ratios reached record highs in 1999 since BEA began reporting this series (table 3 and chart 4). By 2008, all three Q ratios reached record lows for the decade, and Q1 and Q3 fell below 1, partly reflecting

5. This industry group 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.

6. 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. 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 at www.federalreserve.gov.

Table 3. Q-type Ratios, 1960–2012

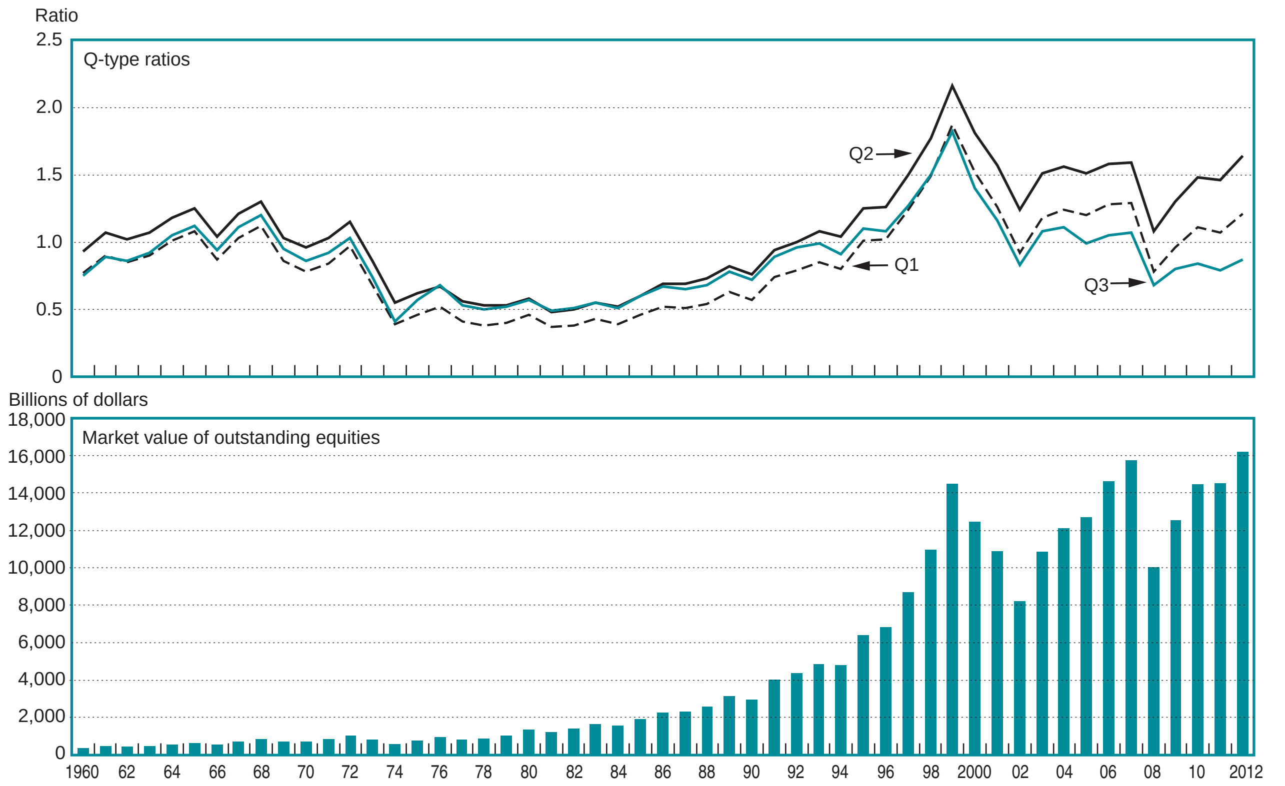
	Q1[1]	Q2[2]	Q3[3]		Q1[1]	Q2[2]	Q3[3]
1960	0.77	0.93	0.75	1986	0.52	0.69	0.67
1961	0.90	1.07	0.89	1987	0.51	0.69	0.65
1962	0.85	1.02	0.86	1988	0.54	0.73	0.68
1963	0.90	1.07	0.92	1989	0.63	0.82	0.78
1964	1.01	1.18	1.05	1990	0.57	0.76	0.72
1965	1.08	1.25	1.12	1991	0.74	0.94	0.89
1966	0.87	1.04	0.94	1992	0.79	1.00	0.96
1967	1.03	1.21	1.11	1993	0.85	1.08	0.99
1968	1.12	1.30	1.20	1994	0.80	1.04	0.91
1969	0.86	1.03	0.95	1995	1.01	1.25	1.10
1970	0.78	0.96	0.86	1996	1.02	1.26	1.08
1971	0.84	1.03	0.92	1997	1.24	1.50	1.27
1972	0.97	1.15	1.03	1998	1.49	1.77	1.50
1973	0.68	0.86	0.74	1999	1.87	2.16	1.82
1974	0.39	0.55	0.41	2000	1.52	1.81	1.40
1975	0.46	0.62	0.57	2001	1.26	1.57	1.16
1976	0.52	0.67	0.68	2002	0.92	1.24	0.83
1977	0.41	0.56	0.53	2003	1.18	1.51	1.08
1978	0.38	0.53	0.50	2004	1.24	1.56	1.11
1979	0.40	0.53	0.52	2005	1.20	1.51	0.99
1980	0.46	0.58	0.57	2006	1.28	1.58	1.05
1981	0.37	0.48	0.49	2007	1.29	1.59	1.07
1982	0.38	0.50	0.51	2008	0.78	1.08	0.68
1983	0.43	0.55	0.55	2009	0.96	1.30	0.80
1984	0.39	0.52	0.51	2010	1.11	1.48	0.84
1985	0.46	0.60	0.60	2011	1.07	1.46	0.79
				2012	1.21	1.64	0.87

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.

the recession-related stock market declines. The stock market recovery began in April 2009. Financial asset values for all three measures rose in 2009 and 2010, fell in 2011, and rose in 2012.

All three Q ratios have recovered from the lows in 2008; however, this recovery reflects only modest gains for the Q1 ratio and the Q3 ratio (which remained below 1). At the same time, the growth in the nonfinancial corporate capital stock from 2008 to 2012 was only 3.9 percent, the lowest 4-year growth since 1960. The slow growth partly reflected slight declines in 2010 and in 2012, the only two declines since 1960.

Chart 4. Q-Type Ratios and Market Capitalization of Domestic Nonfinancial Corporations, 1960–2012



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