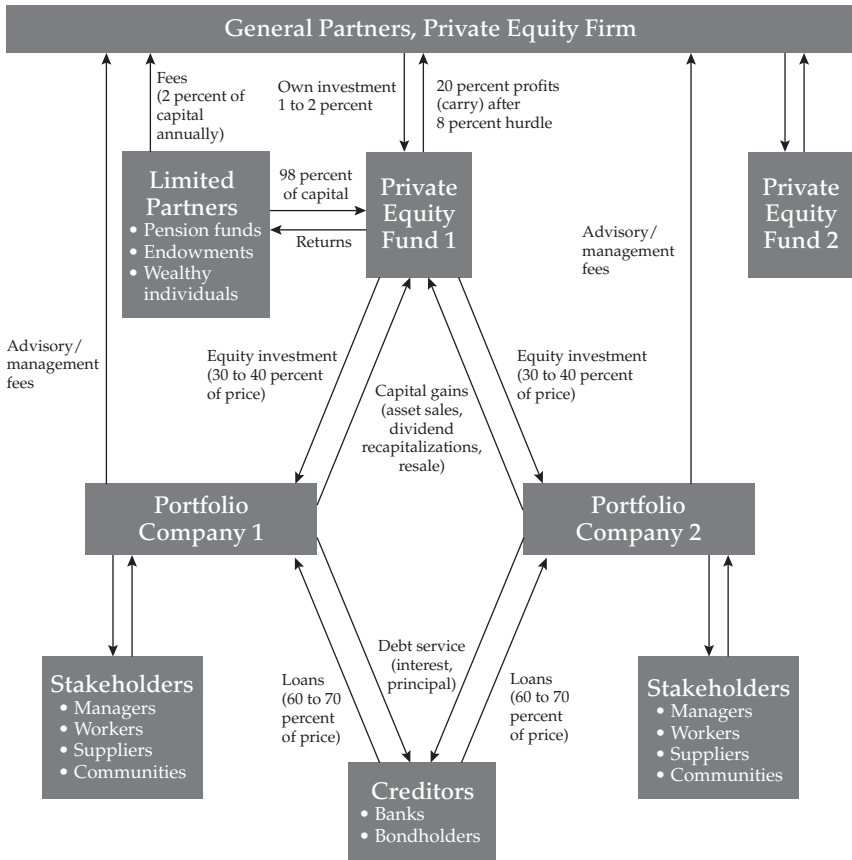


Figure 1.1 The Structure of Private Equity: Firms, Funds, and Portfolio Companies



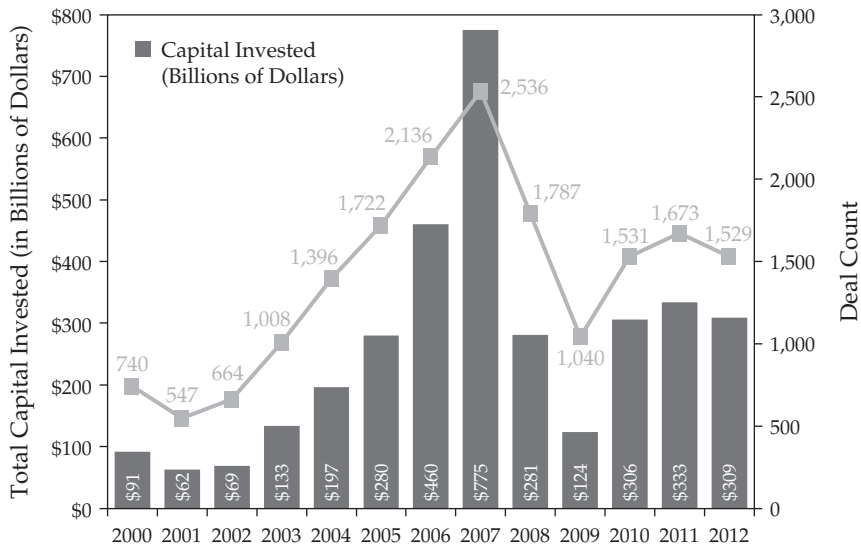
Source: Adapted from Watt 2008.

Table 1.1 Differences Between Private Equity–Owned and Public Corporations

| Dimension | Private Equity | Public Corporations |
|----------------------------|---------------------------------------|---------------------------------------|
| Risk-taking | High | Low |
| “Moral hazard” | High | Lower |
| Capital structure | 70 percent debt, 30 percent equity | 30 percent debt, 70 percent equity |
| Use of junk bonds | Considerable | Low |
| Asset sales for profits | Higher | Lower |
| Dividend recapitalizations | Frequent | Rare |
| Fees | Key part of earnings | No advisory fees |
| Taxes | Capital gains rate | Corporate rate |
| Legal oversight | Low | High |
| Transparency | Low | Higher |
| Accountability | Low | Higher |

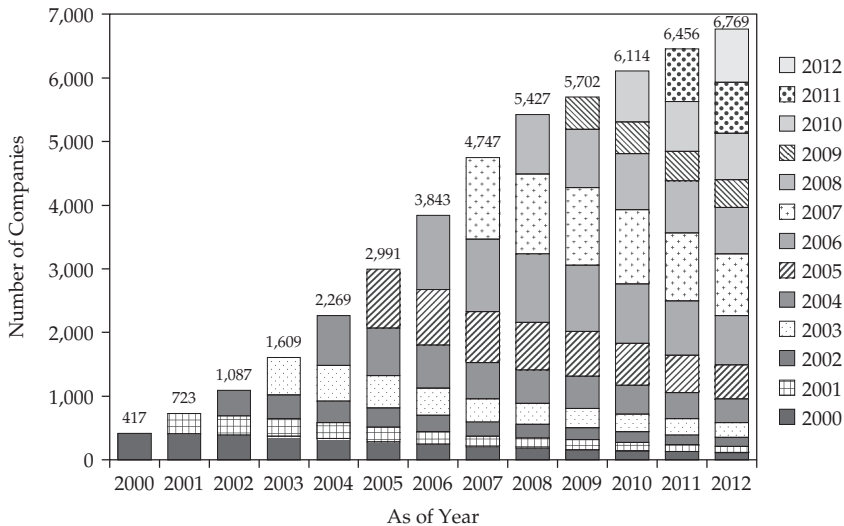
Source: Authors' compilation.

Figure 2.1 Total Capital Invested in Leveraged Buyouts and Deal Count, by Year, 2000 to 2012



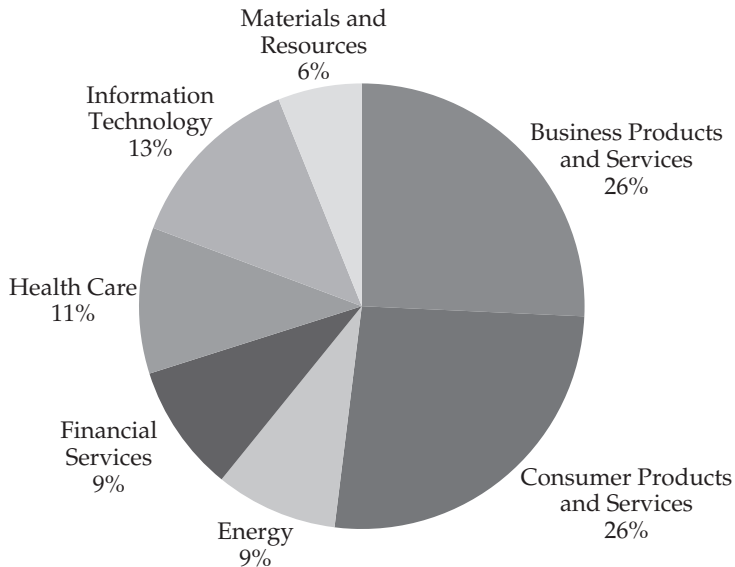
Source: PitchBook.

Figure 2.2 Cumulative Inventory of Private Equity Investments by Year, 2000 to 2012



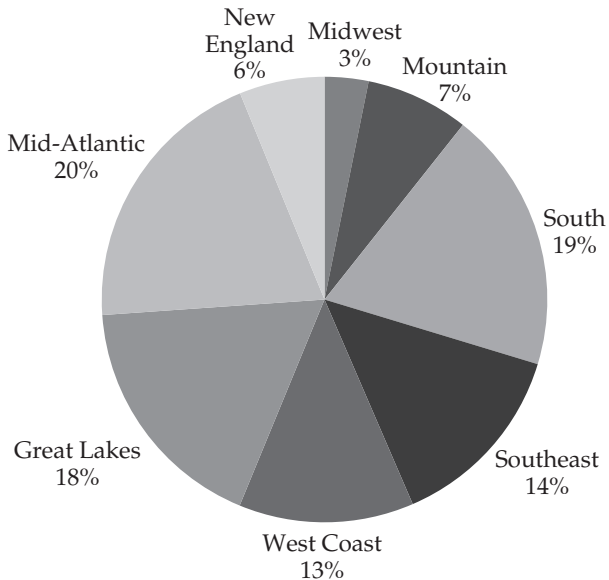
Source: PitchBook.

Figure 2.3 Total Capital Invested, by Sector, 2000 to 2012



Source: PitchBook.

Figure 2.4 Total Capital Invested, by Region, 2000 to 2012



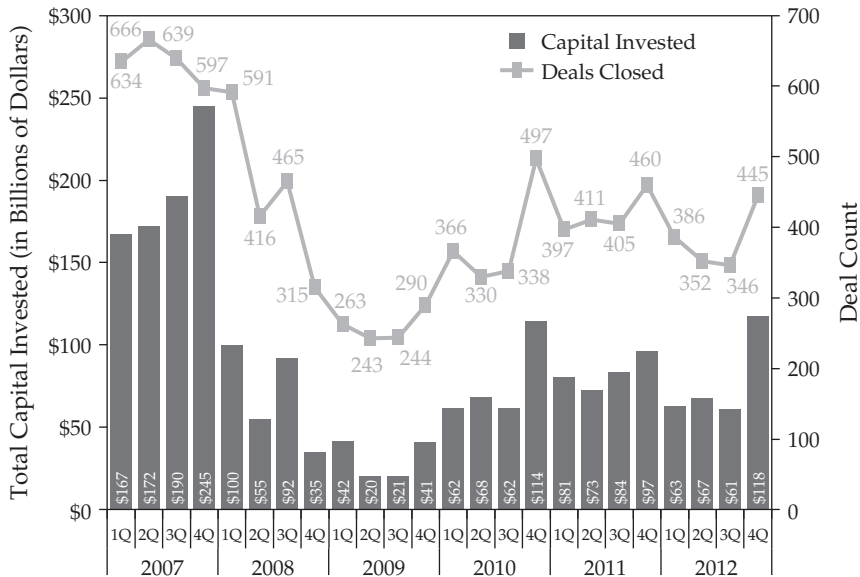
Source: PitchBook.

Table 2.1 Top Ten Largest Buyouts in History, as of 2012

| Company | Deal Value (Billions of U.S. Dollars) | PE Investors | Date | Industry |
|------------------------------------|--|--|------|------------------------|
| TXU (Energy Futures Holding) | \$43.80 | KKR, Goldman Sachs Capital Partners, TPG | 2007 | Utilities/ energy |
| Equity Office Properties Trust | 38.90 | Blackstone Real Estate Partners LP | 2007 | Real estate |
| HCA, Inc. | 32.70 | Bain Capital, Inc., KKR, Merrill Lynch Global Private Equity | 2007 | Health care |
| RJR Nabisco, Inc. | 31.10 | KKR | 1988 | Food/tobacco |
| Alltel Corporation | 27.87 | TPG, Goldman Sachs Capital Partners LP | 2007 | Telecom |
| First Data Corporation | 27.73 | KKR | 2007 | Finance/ technology |
| Harrah's Entertainment, Inc. | 27.40 | Apollo Management LP, TPG | 2008 | Entertainment |
| Hilton Hotels, Inc. | 25.80 | Blackstone Group LP | 2007 | Lodging |
| Clear Channel Communications, Inc. | 24.86 | Bain Capital, Inc., Thomas H. Lee Partners | 2008 | Media |
| Kinder Morgan, Inc. | 21.56 | Goldman Sachs Capital Partners LP, AIG Global Asset Management, Riverstone Holdings, and Carlyle Group, Inc. | 2007 | Energy |

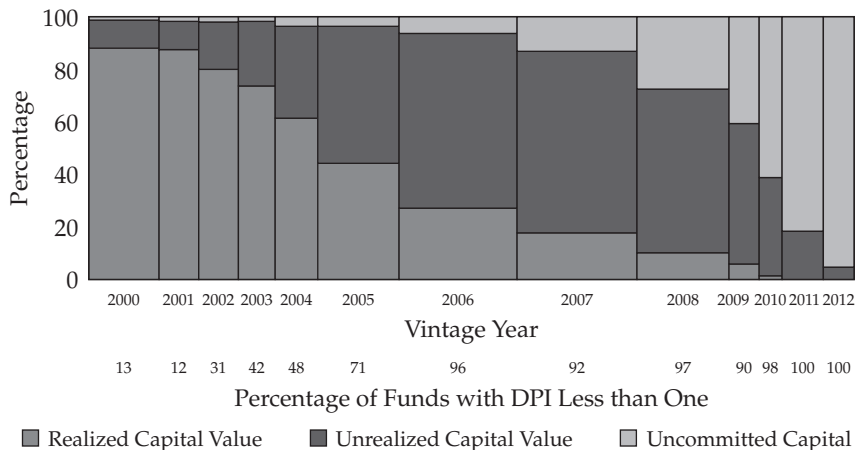
Source: Pensions&Investments, "Largest Leveraged Buyouts," January 16, 2013. Available at: <http://www.pionline.com/gallery/20130116/SLIDESHOW2/116009999/1> (accessed February 13, 2014).

Figure 4.1 Total Capital Invested in Leveraged Buyouts and Deal Count, Quarterly, 2007 Q1 to 2012 Q4



Source: PitchBook.

Figure 4.2 Relative Mix of Realized, Unrealized, and Uncommitted Capital, 2000 to 2012



Source: Preqin, reprinted from Bain & Company, Inc., *Global Private Equity Report 2013*.

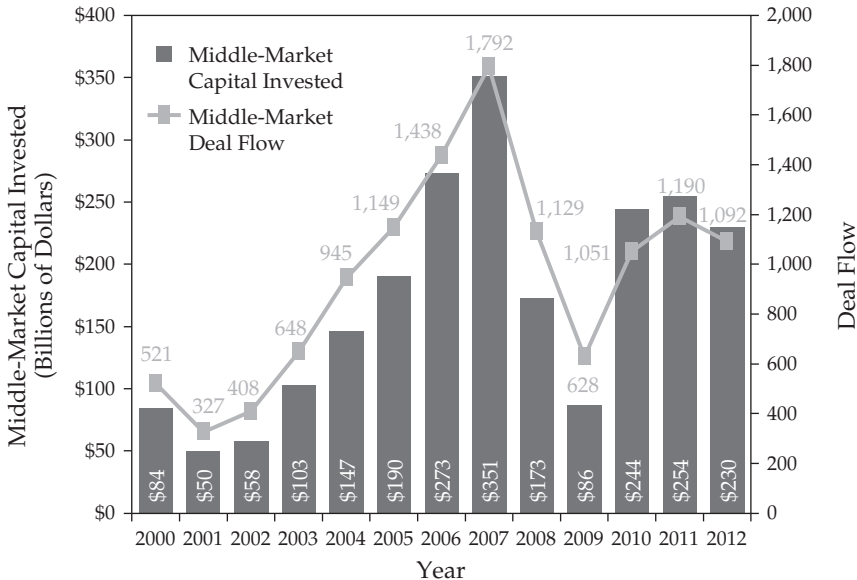
Note: DPI is the ratio of distributed to paid-in capital.

Table 4.1 U.S. Private Equity Firms with Assets Under Management Valued at More Than \$20 Billion, 2013

| Investor Name | Active Investments | Investments in the Last Five Years | Assets Under Management (Millions of Dollars) |
|---------------------------------|--------------------|------------------------------------|---|
| Blackstone Group (BX) | 172 | 202 | \$248,000 |
| Carlyle Group (CG) | 255 | 220 | 180,400 |
| Apollo Global Management (APO) | 66 | 82 | 113,100 |
| Kohlberg Kravis Roberts (KKR) | 120 | 173 | 90,200 |
| Goldman Sachs Capital Partners | 119 | 122 | 76,217 |
| Oaktree Capital Management | 80 | 100 | 74,900 |
| Bain Capital | 69 | 110 | 70,000 |
| GTCR Golder Rauner | 39 | 75 | 69,732 |
| CVC Capital Partners | 41 | 51 | 68,034 |
| TPG Capital | 100 | 129 | 60,551 |
| Apax Partners | 62 | 96 | 46,619 |
| Warburg Pincus | 144 | 116 | 39,370 |
| Resource Capital Funds | 17 | 12 | 34,000 |
| Lone Star Funds | 15 | 17 | 30,830 |
| Kelso & Co. | 24 | 35 | 27,000 |
| Providence Equity Partners | 54 | 66 | 27,000 |
| Silver Lake Partners | 29 | 61 | 25,962 |
| Riverstone Holdings | 67 | 66 | 23,445 |
| Cerberus Capital Management | 57 | 42 | 23,000 |
| Lexington Partners | 5 | 9 | 22,500 |
| New MainStream Capital | 1 | 2 | 22,000 |
| First Reserve | 51 | 41 | 20,897 |
| Hellman & Friedman | 26 | 54 | 20,800 |
| Black Canyon Capital | 6 | 8 | 20,000 |
| Centerbridge Partners | 23 | 40 | 20,000 |
| Welsh, Carson, Anderson & Stowe | 55 | 47 | 20,000 |

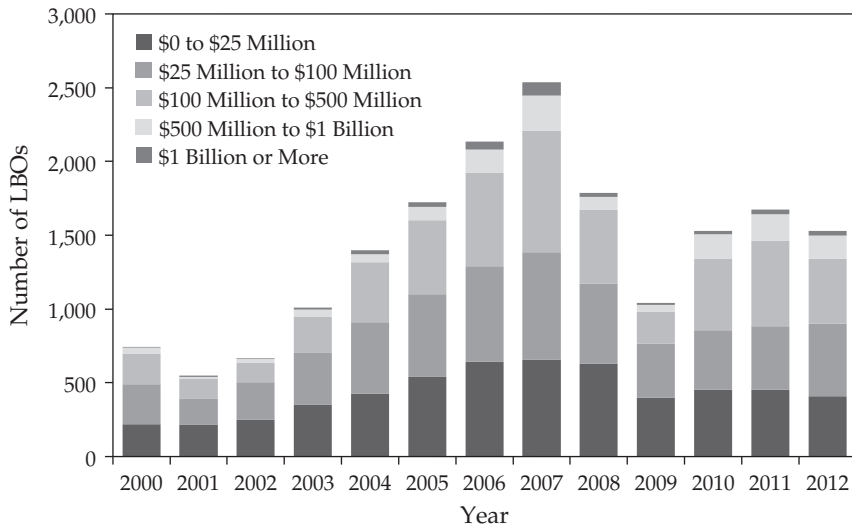
Source: PitchBook.

Figure 5.1 Middle-Market Leveraged Buyout Deal Flow, by Year, 2000 to 2012

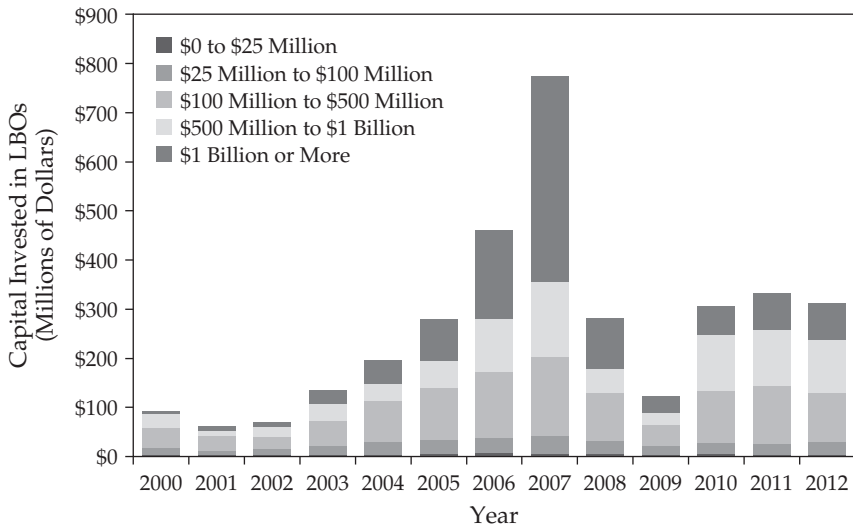


Source: PitchBook.

Figure 5.2 Leveraged Buyouts by Market Segment, 2000 to 2012

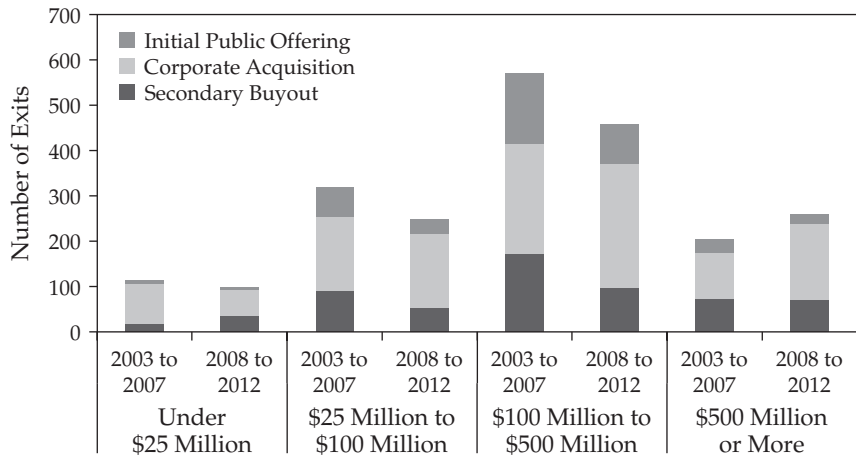


Source: PitchBook.

Figure 5.3**Capital Invested in Leveraged Buyouts by Market Segment, 2000 to 2012**

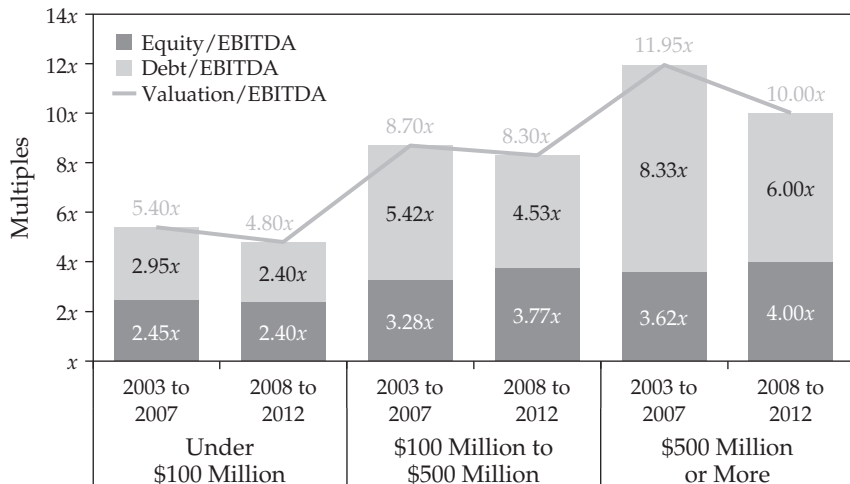
Source: PitchBook.

Figure 5.4 Exits by Market Segment, Pre- and Post-Crisis, 2003 to 2012



Source: PitchBook.

Figure 5.5 Debt and Equity Multiples by Market Segment, Pre- and Post-Crisis



Source: PitchBook.

Table 5.1 Total Number and Value of U.S. Leveraged Buyouts, by Market Segment, 2000 to 2012

| Market Segment | Total Number of LBOs | Percentage Deal Count | Total Capital Invested | Average Percentage Capital Invested |
|--------------------------------|----------------------|-----------------------|------------------------|-------------------------------------|
| \$0 to \$25 million | 5,639 | 32% | \$56.67 | 2% |
| \$25 million to \$100 million | 5,701 | 32 | 287.70 | 11 |
| \$100 million to \$500 million | 5,307 | 28 | 1,105.72 | 36 |
| \$500 million to \$1 billion | 1,309 | 6 | 852.59 | 25 |
| \$1 billion or more | 352 | 2 | 1,122.75 | 25 |
| Total | 18,308 | 100 | 3,425.42 | 100 |

Source: PitchBook.

Table 6.1 Hypothetical Net Cash Flow Data from Funds X, Y1, Y2, and Z

| Year | Fund X | Fund Y1 | Fund Y2 | Fund Z | Fund XYZ |
|---|--------|---------|---------|--------|----------|
| 0 | -100 | -100 | -100 | -100 | -400 |
| 1 | 150 | 0 | 0 | 0 | 150 |
| 2 | 0 | 0 | 0 | 0 | 0 |
| 3 | 50 | 0 | 0 | 0 | 50 |
| 4 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 100 | 100 | 50 | 250 |
| 6 | 0 | 0 | 0 | 0 | 0 |
| 7 | 0 | 0 | 0 | 0 | 0 |
| 8 | 0 | 100 | 100 | 0 | 200 |
| 9 | 0 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 0 | 0 |
| 11 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0 | 0 | 0 | 10 | 10 |
| Internal rate of return | 68% | 11% | 11% | -8% | 12% |
| Multiple (distribution to paid-in capital) | 2.00 | 2.00 | 2.00 | 0.60 | 1.28 |

Source: Phalippou 2008, 18.

Table 7A.1 Case Summaries of Private Equity Labor Relations Strategies and Outcomes

| PE-Owned Company | PE Owners | Unions | Company Economic Condition | Equity Invested | Deal Value | Deal Year | Labor Relations | PE Outcomes, Returns | Company and Labor Outcomes |
|---|-------------------|------------|----------------------------|-----------------|------------|-----------|-----------------|---|--|
| Spirit AeroSystems (Aerospace) | Onex Partners | IAM, SPEEA | Strong | \$464 | \$1,500 | 2005 | Constructive | 2007, 2001 IPOs yield \$2.5 billion in returns; Onex still majority owner | 2005–2012: Unions accept cuts in jobs wages and retiree benefits; company IPO in 2006 yields large bonuses for workers; strong company performance; job growth; stable union relations |
| Five US Steel Legacy Companies (20 percent of industry) | Wilbur Ross & Co. | USWA | Bankrupt | \$321 | \$1,285 | 2001–2003 | Constructive | Sold to Mittal Steel for \$4.5 billion | Union drives work reorganization and accepts wage and job cuts with contract protections; large cuts in managerial workforce; productivity gains immense; major cuts in retiree pensions of \$4.5 billion, equal to private equity returns |

(Appendix continues on p. 236.)

Table 7A.1 *Continued*

| PE-Owned Company | PE Owners | Unions | Company Economic Condition | Equity Invested | Deal Value | Deal Year | Labor Relations | PE Outcomes, Returns | Company and Labor Outcomes |
|----------------------------------|--|-----------|----------------------------|-----------------|-------------|-----------|-----------------------|---|---|
| Dana Corporation (Auto supply) | Centerbridge | UAW, USWA | Bankrupt | \$500 | Undisclosed | 2008 | Constructive | 2008; Company emerges from bankruptcy and remains profitable thereafter | Union contract stipulates limits on debt liabilities to \$1.5 billion, which saves company during recession; union agrees to reduced wages and benefits; retirees covered by new health and retirement fund |
| Delphi Corporation (Auto supply) | John Paulson & Co., Silver Point Capital | UAW | Bankrupt | Undisclosed | Undisclosed | 2009 | Strongly anti-union | 2011 IPO yields profit of 3,000 percent | 25 of 29 plants shut down; 25,000 union jobs offshored; taxpayers pay \$12.9 billion in subsidies |
| Hawker Beechcraft (Aerospace) | Goldman Sachs Capital, Onex Partners | IAM | Strong | Undisclosed | \$3,300 | 2007 | Union marginalization | 2012: Goldman Sachs writes down the company's value by 85 percent | 3,500 workers (36 percent of total) lose jobs; union negotiates wage and benefit concessions; 2012 bankruptcy, with \$2.6 billion debt; PBGC takes over pension plans |

| | | | | | | | | | |
|--|---|-----------|----------|-------------|-------------|------|----------------------------|--|---|
| Archway & Mother's Cookies (Food processing) | Catterton Partners | ICBWU | Bankrupt | Undisclosed | Undisclosed | 2005 | Strongly anti-union | Management engages in fraud; company acquired by strategic investor Lance, Inc. for \$30 million | Substantial cost-cutting; product quality declines; 2008 bankruptcy; plants shutdown, 400 workers lose jobs; workers file lawsuit for violation of WARN Act; new owner re-opens as non-union plant with 60 workers. |
| Stella D'oro (Food processing) | Brynwood Partners | ICBWU | Moderate | Undisclosed | \$17.5 | 2006 | Strongly anti-union | Company acquired by strategic investor Lance, Inc. for \$17.5 million | Brynwood found guilty of unfair labor practices in contract negotiations, shuts down plant in 2009; 134 workers lose jobs |
| Ormet Aluminum | Matlin Patterson | USWA | Bankrupt | Undisclosed | \$30.0 | 2004 | Anti-union to constructive | 2005 out of bankruptcy; 2013 back in bankruptcy; sold to Wayzata for \$130 million | 19-month union campaign leads to 2006 labor contract with decent wages and benefits for 1,500 workers; PGBC assumes \$260 million in unfunded pension liabilities |
| US Foods (Food distribution) | Clayton, Dubilier, Rice; KKR; National City Equity Partners | Teamsters | Strong | Undisclosed | \$7,100 | 2007 | Anti-union to constructive | 2013: High debt of \$4.6 billion viewed as high risk profile by S&P | Work intensification, job loss in union sites; expansion in non-union facilities |

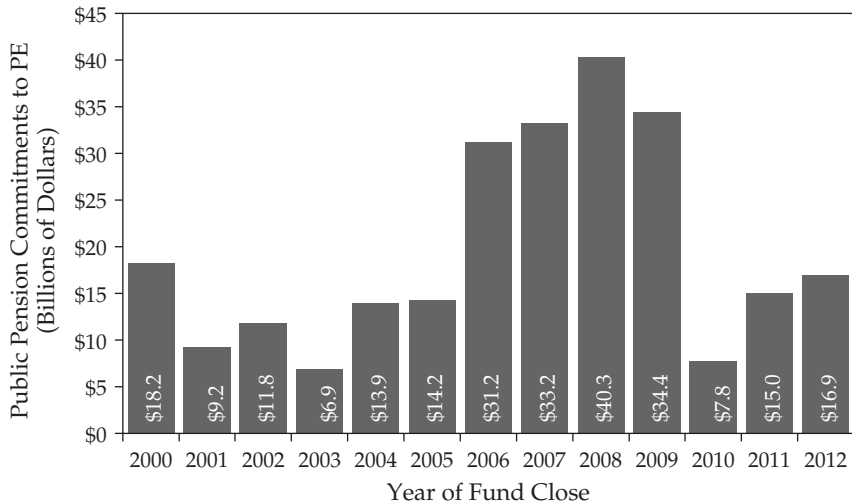
(Appendix continues on p. 238.)

Table 7A.1 *Continued*

| PE-Owned Company | PE Owners | Unions | Company Economic Condition | Equity Invested | Deal Value | Deal Year | Labor Relations | PE Outcomes, Returns | Company and Labor Outcomes |
|---|---------------------------------|-----------|----------------------------|-----------------|------------|-----------|-----------------|---|---|
| Energy Futures Holding (Utilities) | TPG, Carlyle | IBEW | Strong | \$8,300 | \$48,100 | 2007 | Constructive | 2007–2012: Profit losses; no returns for investors; Carlyle writes off investment; PE gets \$171 million in annual fees | 2007–2012: 25% job growth; Positive labor relations; but \$44 billion in debt 2013 leads analysts to predict bankruptcy |
| Hospital Corporation of America (Health care providers) | Bain, KKR, Merrill Lynch, Frist | SEIU, NNU | Strong | \$4,500 | \$21,000 | 2006 | Constructive | 2010–2011: PE recoups two times its investment—\$9 billion through dividend recaps and IPO | 2012: Employment relatively stable but ongoing union complaints of understaffing; PE negotiates neutrality agreements that bring in over 20,000 new union members; debt remains at \$26 billion over assets of \$14 billion |

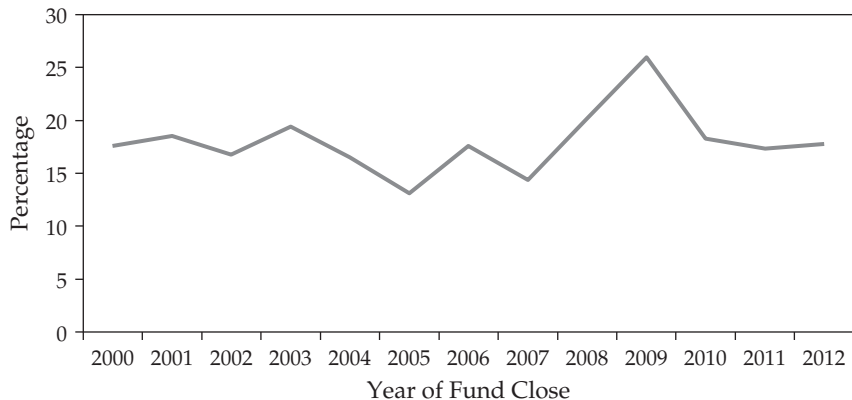
Figure 8.1

U.S. Public Pension Commitments to Private Equity, 2000 to 2012



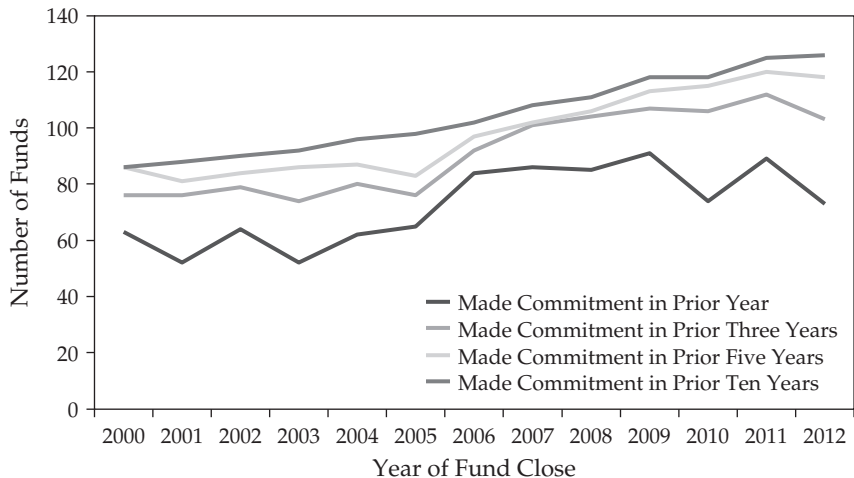
Source: PitchBook.

Figure 8.2 Public Pension Funds as a Percentage of Private Equity Fund-Raising, 2000 to 2012



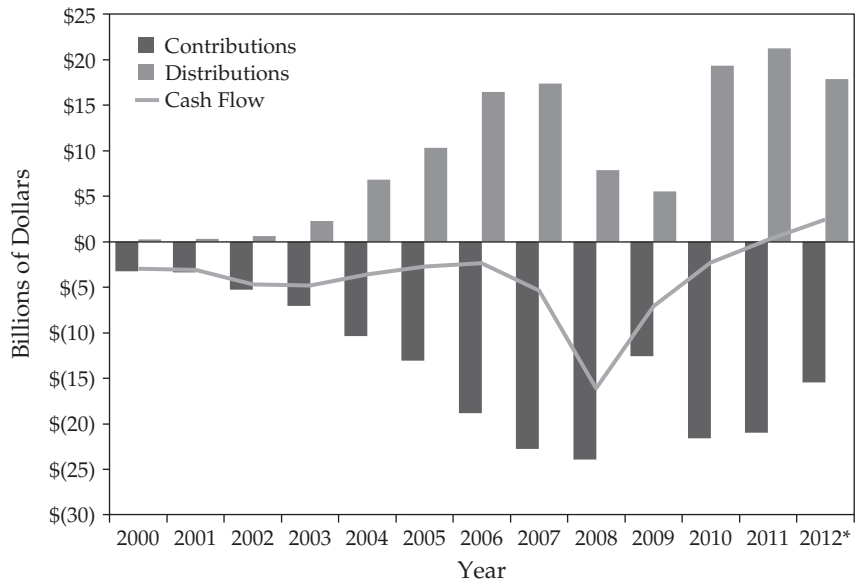
Source: PitchBook.

Figure 8.3 Public Pension Funds with Commitments to Private Equity, 2000 to 2012



Source: PitchBook.

Figure 8.4 Contributions from and Distributions to Limited Partners, 2000 to 2012



Source: PitchBook.

Note: 2012 figures as of September 30, 2012.

Table 8.1 Public Pension Funds with the Largest Commitments to Private Equity, 2013

| Limited Partner | Private Equity Allocation (Millions of Dollars) | Private Equity (Percentage) | Assets Under Management (Millions of Dollars) |
|--|--|--------------------------------|--|
| California Public Employees' Retirement System (CalPERS) | \$42,000 | 16% | \$269,100 |
| California State Teachers' Retirement System (CalSTRS) | 21,759 | 13 | 170,000 |
| Washington State Investment Board | 16,170 | 18 | 91,360 |
| New York State Common Retirement Fund | 14,926 | 9 | 160,400 |
| Oregon Investment Council | 14,900 | 18 | 81,000 |
| Oregon Public Employees' Retirement System | 13,550 | 21 | 63,240 |
| Teacher Retirement System of Texas | 13,145 | 10 | 134,454 |
| Ontario Municipal Employees' Retirement System | 10,257 | 12 | 84,769 |
| Pennsylvania Public School Employees' Retirement System | 8,040 | 22 | 50,500 |
| New York State Teachers' Retirement System | 7,400 | 8 | 95,100 |
| Florida State Board of Administration | 6,500 | 5 | 169,200 |
| Florida Retirement System | 6,476 | 5 | 168,100 |
| New York City Employees' Retirement System | 5,925 | 6 | 46,389 |
| Massachusetts Pension Reserves Investment Trust | 5,917 | 12 | 54,400 |
| Ohio Public Employees' Retirement System | 5,271 | 6 | 82,600 |
| Virginia Retirement System | 5,000 | 9 | 58,300 |
| Teachers' Retirement System of the State of Illinois | 4,600 | 12 | 40,200 |
| State Teachers' Retirement System of Ohio | 4,386 | 7 | 68,000 |
| New York City Retirement Systems | 4,157 | 4 | 139,200 |

(Table continues on p. 246.)

Table 8.1 *Continued*

| Limited Partner | Private Equity Allocation (Millions of Dollars) | Private Equity (Percentage) | Assets Under Management (Millions of Dollars) |
|--|--|-----------------------------------|--|
| Los Angeles County Employees' Retirement Association | 3,831 | 9 | 42,000 |
| Indiana Public Retirement System | 3,400 | 12 | 28,300 |
| North Carolina Retirement Systems | 2,960 | 4 | 81,100 |
| Iowa Public Employees' Retirement System | 2,871 | 11 | 25,100 |
| Maryland State Retirement Pension System | 2,500 | 6 | 40,620 |
| State of Connecticut Retirement and Trust Funds | 2,265 | 9 | 26,600 |
| Teachers' Retirement System of the City of New York | 2,100 | 6 | 32,775 |
| Public School Retirement System of Missouri | 1,943 | 6 | 34,600 |
| Kentucky Retirement Systems | 1,796 | 12 | 14,600 |
| Arizona State Retirement System | 1,754 | 6 | 28,400 |

Source: PitchBook, authors' calculations.