I

GETTING STARTED IN HEALTH CARE

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HEALTH CARE BASICS

Shane is having dinner with his wife Emily when he notices a strange numbness in his arm keeps him from picking up his fork. He tries to tell Emily, but numbness in his face slurs his speech. Worried, she immediately calls 911, and an ambulance arrives and rushes him to the nearest hospital. Doctors run various tests and determine plaque formation in his carotid artery is preventing adequate blood flow to his brain, causing a stroke. To treat Shane, doctors will perform a procedure called carotid angioplasty and stenting, where a small balloon will open the clogged carotid artery, and a stent (a thin, metal mesh tube) will be inserted to keep the artery open. Shane is moved and placed on a stainless steel table in a sanitized operating room. Doctors wash their hands, put on their scrubs and gloves, and use various tools and equipment to perform the procedure. Shane successfully recovers and heads to the local pharmacy to pick up his newly prescribed medicine. He later receives the bill and works with his insurance company to pay for the services rendered. Shane is thankful Emily recognized the early signs of a stroke.

This is more than a simple anecdote with a happy ending—it's an illustration of how Health Care products and services impact our

Table 1.1 Health Care Sector Impact

Interaction With	Health Care Sector Involvement
Ambulance	Performed by a Health Care Services company
Hospital	Run by a Health Care Facilities company
Diagnostic machines used to run tests	Made by Life Sciences and Health Care Equipment firms
Lab test	Performed by a Health Care Services company
Balloon and stent	Manufactured by a Health Care Equipment company
Stainless steel table, knives, and gloves	Manufactured by Health Care Equipment and Supplies companies and delivered to hospitals through Health Care Distributors
Prescription drugs	Manufactured by a Pharmaceuticals firm
Health insurance company	Run by a Managed Care provider

lives. Every event, interaction, and item in Shane's situation used products and services from the Health Care sector. Table 1.1 lists just some of the Health Care products and services he encountered.

This book covers investment opportunities in the Health Care sector, as well as how to better incorporate a Health Care allocation into a broader portfolio. Many of the firms making people's lives healthier are publicly traded and can be an integral part of your portfolio. Of the 10 standard investing sectors, Health Care arguably plays the most critical role—literally—in daily life. Moreover, in recent years, health care—its availability, cost, and how it should be delivered—are among the most hotly debated topics around the world. After all, it was Mahatma Gandhi who said, "It is health that is the real wealth and not pieces of gold and silver."

This doesn't suggest Health Care is inherently superior to other sectors (Energy, Materials, Industrials, Consumer Staples, etc.)—it isn't. But Health Care, like each sector, has unique attributes leading both to outperformance and underperformance depending upon economic, market, and industry-specific conditions. There will be periods when Health Care performs very well relative to the broader market and periods when it lags.

While health care can be a politically touchy subject and can foster great ethical debate, the aim of the book isn't to support one ideology or another. Rather, the goal is to help you gain a basic understanding of the Health Care sector—its components, drivers, and challenges—and serve as a general guide for better Health Care investing. Wherever possible, we'll also help you think critically about the sector to generate your own views rather than just dictating rules. Successfully investing in Health Care firms doesn't require an advanced degree in medicine. Instead, you need a firm grasp of the laws of supply and demand and an understanding of what drives the earnings and stock prices of Health Care firms.

HEALTH CARE BASICS

Figure 1.1 shows how the sector composition of the MSCI All Country World Index (ACWI) is broken down. The ACWI index covers the entire globe, including emerging markets, and is currently the broadest representation of global stocks. The index is capitalization weighted, meaning larger firms have more weight. Health Care currently accounts for 9 percent of the index and is one of the

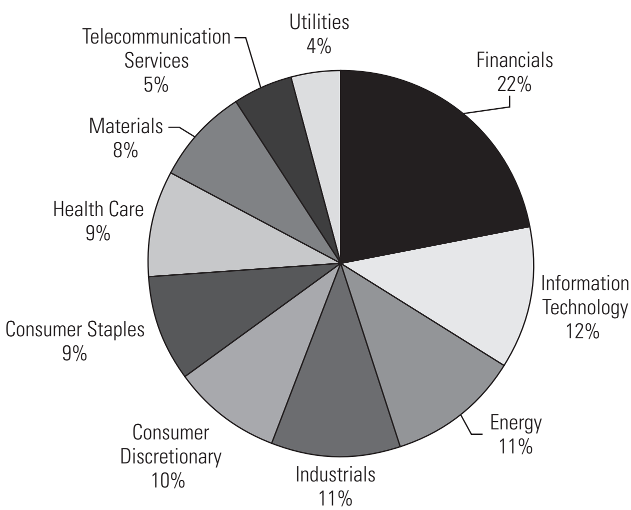

Figure 1.1 Breakdown of the MSCI All Country World Index

Source: Thomson Reuters, MSCI Inc.,[1] as of 12/31/2009.

smaller sectors by weight. That doesn't make it unimportant, however. Further, sector weights may differ among various indexes, as you will see in subsequent chapters. And as sectors go in and out of favor, their relative weights can change, sometimes tremendously.

What does the Health Care sector look like from a high level? Not all health-related firms belong in the sector. For example, food, some consumer products, and retail pharmacies belong in the Consumer Staples sector, while some Industrial sector conglomerates, such as General Electric and Siemens, own large Health Care equipment and diagnostic divisions. This isn't a hard and fast rule, but classification as a Health Care firm largely depends upon how much health-related revenues and profits comprise a firm's overall sales and earnings.

Because Health Care has many diverse industries, it's split into two broad groups (as defined by the Global Industry Classification Standard [GICS] classification system):

- Pharmaceuticals, Biotechnology & Life Sciences
- Health Care Equipment & Services

Pharmaceuticals, Biotechnology & Life Sciences, the larger group, includes firms involved in the discovery, development, manufacturing, and distribution of prescription drugs. It also includes firms supporting the drug discovery process, as well as those that serve firms outside the health care business by testing the quality of

Table 1.2 Largest Firms in the Pharmaceuticals, Biotechnology & Life Sciences Group

Name	Ticker	Market Cap ($Mil)	Country	Industry
Johnson & Johnson	JNJ	$177,714	US	Pharmaceuticals
Pfizer	PFE	$146,785	US	Pharmaceuticals
Novartis	NVS	$144,165	Switzerland	Pharmaceuticals
Roche Holding	RHHBY	$119,482	Switzerland	Pharmaceuticals
Merck & Co.	MRK	$111,610	US	Pharmaceuticals

Source: Thomson Reuters, as of 12/31/2009.

Table 1.3 Largest Companies in the Health Care Equipment & Services Group

Name	Ticker	Market Cap ($Mil)	Country	Industry
Medtronic	MDT	$48,583	US	Health Care Equipment
Baxter International	BAX	$35,376	US	Health Care Equipment
UnitedHealth Group	UNH	$35,418	US	Managed Health Care
WellPoint	WLP	$26,717	US	Managed Health Care
Medco Health Solutions	MHS	$30,470	US	Health Care Services
Covidien	COV	$24,062	US	Health Care Equipment

Source: Thomson Reuters, as of 12/31/2009.

food, water, air, and metals. There are over 1,600 publicly traded firms globally in this segment.[2] Table 1.2 lists the largest firms in this industry group.

The Health Care Equipment & Services group includes medical equipment makers, health insurance firms (called managed health), pharmacy benefit managers, hospitals, and technology firms. There are over 1,200 globally publicly traded firms in this segment.[3] Table 1.3 lists the largest firms in this group.

HEALTH CARE CHARACTERISTICS

Although Health Care firms span various industries, firms in this sector tend to share some similar characteristics. Generally, the sector as a whole:

- Is less economically sensitive and less volatile than the broad market.
- Deals with heavy government involvement.
- Has a large, global market.
- Is mostly characterized by big cap, growth companies.
- Is dominated by US firms.

Let's look at each of these characteristics in more detail.

Less Economically Sensitive

As we'll cover more in depth in Chapter 4, Health Care's drivers can be somewhat independent of pure economic growth. In other words, demand for Health Care goods and services typically holds up well even when the economy sours. In a down economy, consumers might buy fewer Consumer Discretionary goods and firms might delay upgrading computer systems during recession (which isn't great for the Tech sector), but folks are likely to keep taking heart medication and visiting the emergency room. In other words, Health Care firms produce goods and services for which there is typically *inelastic* demand.

Health Care, as a relatively economically insensitive sector, can be a useful part of your portfolio because it can perform relatively well when the economy contracts and broader markets decline. For this reason, the sector is also sometimes described as *defensive.* This doesn't necessarily mean Health Care stocks will post positive returns during a market downturn—instead, those stocks may just perform relatively better than stocks as a whole during those periods. Nor does it mean the sector must underperform in good times. For example, Health

Elasticity

Elasticity is a measure of one variable's sensitivity to a change in another variable. The term references changes in demand relative to changes in price or income. The concept of elasticity is core to understanding what makes the Health Care sector tick.

Health Care products are generally inelastic because they are necessities purchased regardless of how an individual's personal economic situation shifts over time. Discretionary purchases, like vacations, are just the opposite—elastic—because income or price fluctuations do materially impact demand.

For example, if our friend Shane's income increased, he wouldn't demand more surgery or prescription drugs. And if the price of surgery or drugs increased, he would still need those things to keep him alive. An elastic industry might be the Consumer Discretionary industry. Take the Automobile industry, for example. An increase in either income or the price of cars could substantially alter demand.

Table 1.4 Pharmaceuticals Outperformance During US Bear Markets

Bear Market/ Corrections	S&P 500 Pharma	S&P 500	Pharma Outperformance
1929–1932	–79.6%	–86.0%	6.5%
1934–1935	16.6%	–24.2%	40.8%
1937–1942	–46.6%	–57.7%	11.1%
1946–1948	–47.5%	–27.0%	–20.5%
1956–1957	20.9%	–19.0%	40.0%
1961–1962	–33.8%	–23.5%	–10.3%
1966	–15.0%	–17.6%	2.5%
1968–1970	–2.6%	–32.9%	30.3%
1973–1974	–34.3%	–46.2%	11.9%
1976–1978	–16.4%	–19.0%	2.6%
1980–1982	1.3%	–23.8%	25.1%
1987	–26.0%	–30.2%	4.2%
1990	–3.4%	–15.8%	12.5%
1998	–4.2%	–15.6%	11.3%
2000–2002	–26.3%	–46.3%	19.9%
2007–2009	–36.5%	–52.6%	16.0%

Source: Global Financial Data, Inc., S&P 500 Price Index, S&P 500 Pharmaceuticals Price Index, from 12/31/1925 to 12/31/2009. Performance based on monthly data.

Care led at some points as broader markets rose during the late 1990s. No sector has a single, defining driver, and there can be myriad reasons Health Care (though generally defensive in nature) might lead during broad market advances and lag during declines.

Historically, however, Health Care has held up relatively well during bear markets and corrections. Table 1.4 shows the relative performance between the S&P 500 and S&P Pharmaceuticals during bear markets going back to 1929. (Note: We encourage you to always think globally, but when studying history, US markets are a good proxy for the world because we have more and better data going back further on US stocks at this point.) Pharmaceuticals—a majority of the Health Care sector—outperformed the broader market in 14 of 16 bear markets and/or corrections—sometimes by a very wide margin.

Table 1.5 Global Health Care Outperformance During Global Bear Markets

Peak	Bottom	MSCI World Health Care	MSCI World	Health Care Outperformance
3/27/2000	10/9/2002	–14.50%	–51.40%	36.90%
10/31/2007	3/9/2009	–39.30%	–59.10%	19.80%

Source: Thomson Reuters, MSCI Inc.[4] MSCI World Index, MSCI World Health Care Price Index from 3/27/2000 to 03/09/2009. Performance based on daily data.

At this point, there's limited sector-specific data going back very far for global stocks, but what we've observed so far for the world seems to confirm the US history. Table 1.5 shows global Health Care handily outperforming global stocks over the last two bear markets.

Beta Another way to help determine how volatile a sector is, is to look at its *beta.* Because broad markets tend to rise in anticipation of strong or ongoing economic growth and fall in anticipation of economic weakness, we can measure if a sector tends to rise or fall more or less than the market using beta. Beta is a statistical measure of relative *volatility* or sensitivity between an asset (e.g., sector, portfolio, or individual security) and a broader index such as the S&P 500 or MSCI World Index.

The index you measure against has a beta of one. If the subject (sector, portfolio, single stock) you compare it to has a number less than one, it's less sensitive than the general market; a number greater than one means it's more sensitive than the market.

Keep in mind, beta isn't static. There will be periods when a sector will have higher or lower beta during different periods. Also, beta is inherently a backward-looking measurement. Some people say beta measures risk. That's partially right—beta *measured* volatility risk. It does not tell you how volatile something will be going forward.

However, it's still a useful metric and can show us, historically over long periods, which sectors tend to have higher or lower beta than the

Table 1.6 Sector Betas to the MSCI World and S&P 500

Sector	Beta to MSCI World	Beta to S&P 500
Financials	1.38	1.57
Materials	1.35	1.28
Industrials	1.15	1.21
Information Technology	1.03	1.13
Consumer Discretionary	1.00	1.15
Energy	0.98	0.87
Telecommunication Services	0.72	0.74
Utilities	0.71	0.58
Consumer Staples	0.60	0.55
Health Care	**0.60**	**0.69**

Source: Thomson Reuters, MSCI Inc.,[5] MSCI World Price Index, S&P 500 Price Index from 12/31/1994 to 12/31/2009. MSCI World and S&P 500 Sector Price Indexes: Financials, Materials, Industrials, Information Technology, Consumer Discretionary, Energy, Telecommunications, Utilities, and Consumer Staples from 12/31/2004 to 12/31/2009.

market. Table 1.6 shows, for example, betas for the standard sectors relative to both world and US stocks from 1995 to 2009.

Health Care historically has one of the lower betas among all 10 sectors. A 0.6 beta to the MSCI World Index can be interpreted to mean that if the World Index increased 10 percent, the Health Care sector would be anticipated to increase 6 percent. Conversely Health Care is expected to only decrease 6 percent if the broader market fell 10 percent. In contrast, the more economically sensitive Materials sector has a beta of 1.35 versus the MSCI World index—so if the broader market increased 10 percent, the Materials sector would be expected to increase 13.5 percent.

This also means that a lower beta isn't inherently better than a higher beta. Lower beta sectors have historically fallen less than markets have, but they have also underperformed overall during rising periods. Both low and high beta categories play important roles in a portfolio.

EPS Comparison Corporate earnings are a primary driver of share price performance over long periods. Therefore, we should expect earnings of a more economically sensitive sector, like Materials (for

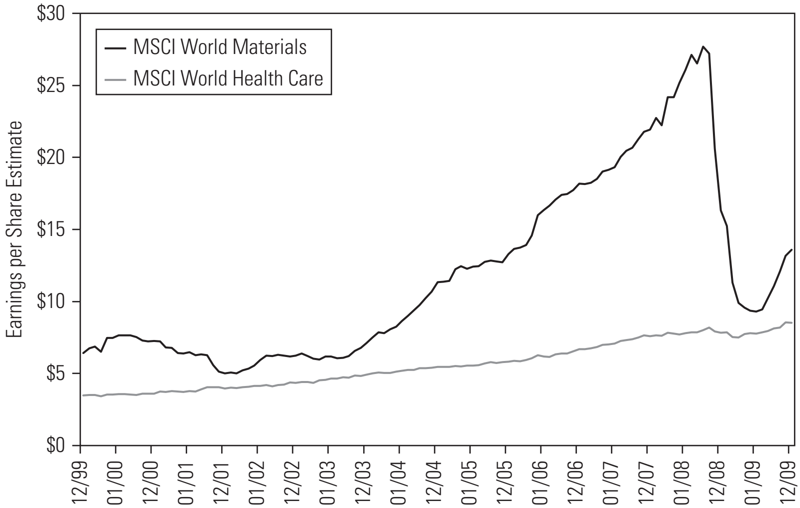

Figure 1.2 Health Care and Materials 10-Year EPS Estimates Comparison

Source: Thomson Reuters, MSCI World Health Care Index, MSCI World Materials Index from 12/31/1999 to 12/31/2009.

illustration's sake), to be more volatile than Health Care. Figure 1.2 shows earnings-per-share (EPS) estimates for both Materials and Health Care—and Materials is clearly more volatile. Starting in 2004, when that bull market was already a year old, Materials earnings started increasing sharply in erratic spurts—even into 2008. Estimates fell off sharply in the wake of the credit crisis spurred by the Lehman Brothers bankruptcy—which had a devastating impact on almost all sectors. Meanwhile, during that period, Health Care earnings estimates were slow and steady. Note, when Materials estimates dropped, they fell to the level of the Health Care estimates. Quite a roller coaster ride to end up back in the same place. That's the difference between an economically sensitive sector (Materials) and one that's less so (Health Care).

Now look at Figure 1.3. You'll see stock prices traveled a similar path as the earnings estimates—with some more volatility. It's clear from these graphs that EPS volatility helps explain quite a bit of share price volatility.

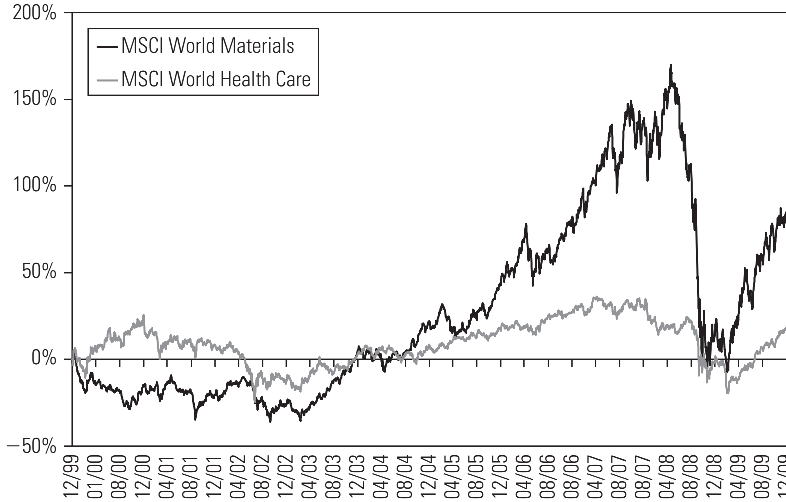

Figure 1.3 Share Price Performances of Health Care and Materials Over the Last 10 Years

Source: Thomson Reuters; MSCI, Inc.,[6] MSCI World Health Care Price Index, MSCI World Materials Price Index from 12/31/1999 to 12/31/2009.

Further, note from late 1999 to mid-2003, Health Care outperformed Materials—the market was in a state of contraction for much of that period, which coincided with recession in 2001. Then, Health Care significantly underperformed Materials starting with the next bull market, which returned in early 2003—all while Materials earnings estimates spiked and Health Care stayed steady. (Again, Health Care earnings estimates weren't lousy; they were just less rosy compared to Materials). Finally, Materials and the broader market fell while Health Care held up better during the precipitous market decline in 2008. That's pretty textbook behavior for a defensive, economically insensitive sector.

Heavy Government Involvement

Few sectors have as much heavy government involvement as Health Care—understanding the role of government and potential policy changes is vital when researching Health Care companies. In many countries, the government pays for nearly all of its citizens' medical costs. Since the government is paying the bill, expect it to be directly or indirectly mandating prices as well as what procedures and drugs will be covered.

As a major, if not the largest, net consumer of health services in many nations, governments can exert significant pricing influence. A government's decision to reduce or increase payments for certain services can have material ramifications on a firm's bottom line. Regulatory bodies can approve or reject new innovations while requiring existing products be pulled from the market. Regulators can appear to be more or less stringent at times, which can also directly impact companies' sales and profits.

Time spent understanding existing and upcoming legislation both in the US and globally is time well spent in the Health Care sector. (Health care systems of major countries are covered in Chapters 2 and 3.)

A Big, Global Market

George Carlin famously said, "I wanna live. I don't wanna die. That's the whole meaning of life: Not dying!" His words must be at least somewhat true because tremendous amounts of money are spent each year to improve or maintain people's health. Global health care spending was approximately $6 trillion in 2009, or roughly 9 percent of global gross domestic product (GDP).[7] This amount exceeds the total economic output of Japan, the world's third largest economy.[8] A $6 trillion market makes the Health Care segment one of the largest in the world. In the US alone, 2009 health care spending was projected to be $2.5 trillion, more than 17 percent of its GDP.[9] Health spending is expected to grow due to demographics, demand, and inefficiencies. Figure 1.4 shows health care spending as a percentage of GDP among major nations as of 2008, the latest available data.

Health Care is global in nature. Naturally, most everyone everywhere consumes some amount of health care. But it's also common

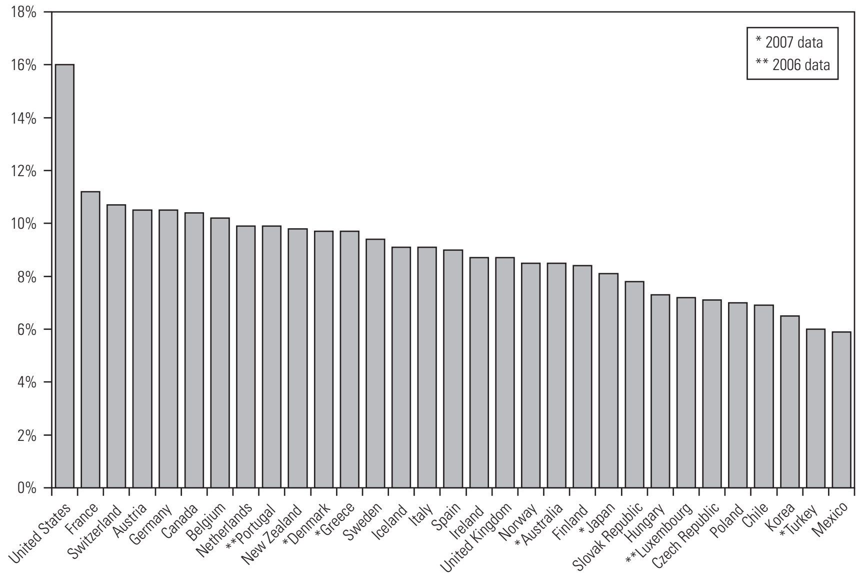

Figure 1.4 Country Health Care Expenditures as a Percentage of GDP: 2008

Source: Organisation for Economic Co-operation and Development

for firms to derive a significant portion of their revenues outside their home country. And it's becoming increasingly common for patients to seek medical attention outside their country's borders. As some nations try to restrict health care markets through regulation and price caps, some consumers can still create their own, somewhat freer markets by shopping outside their borders.

Mostly Big Cap, Growth Companies

Growth companies tend to have relatively higher valuation ratios such as price-to-earnings, price-to-book, price-to-sales, and price-to-cash flow. Value-oriented companies tend to have relatively lower valuations. Health Care firms are historically known to have more growth characteristics than value. Innovation, favorable demographics, and inelastic demand help drive profits and valuations. In contrast, Materials are generally known to have more value chacteristics

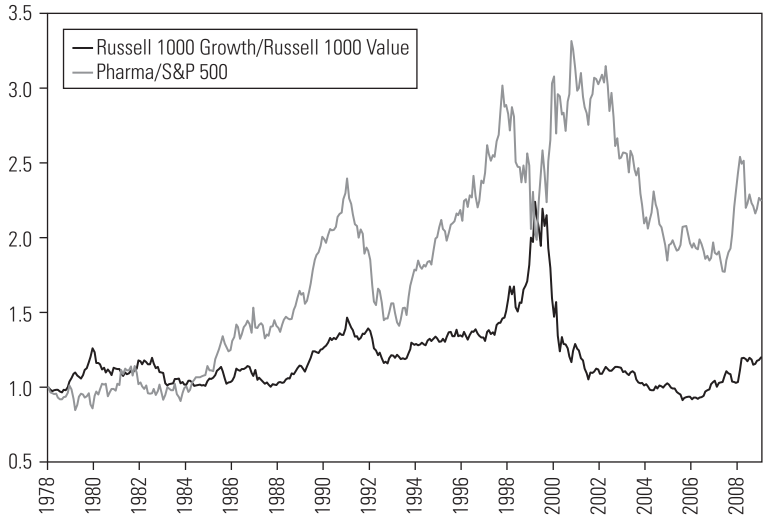

Figure 1.5 Health Care Performance When Growth Outperforms Value

Source: Global Financial Data, Inc., Thomson Reuters, Russell 2000 Growth Price Index, Russell 2000 Value Price Index, S&P 500 Pharmaceuticals Index, S&P 500 Index from 12/29/1978 to 12/31/2009.

because investors are generally not willing to pay high prices for volatile earnings cycles.

If you anticipate growth will outperform value, then perhaps it may be a good time to consider increasing exposure to the Health Care sector. Figure 1.5 shows the relationship between when Pharmaceuticals (again, our proxy for Health Care) outperforms the broader market and when growth outperforms value since 1979. The relationship is not perfect, but it is apparent. Growth outperforms value and Pharmaceuticals outperforms the S&P 500 when the lines increase, and both underperform when the lines decrease.

Big Versus Small When it comes to size, Health Care firms are generally larger stocks market cap–wise. There are numerous small cap Health Care firms, and Biotechnology firms can be tiny, but the sector is dominated by large Pharmaceuticals (as we will see in Chapter 4). Table 1.7 provides a list showing the weighted average and the median

Table 1.7 MSCI World Sector Market Capitalizations

Sector	Weighted Average Market Cap ($Mil)	Median Market Cap ($Mil)
Energy	$106,708	$9,229
Information Technology	$94,650	$7,064
Telecommunication Services	$84,097	$10,866
Health Care	**$72,409**	**$7,515**
Consumer Staples	$69,145	$7,977
Financials	$56,556	$7,305
Materials	$37,478	$5,853
Consumer Discretionary	$31,434	$5,918
Industrials	$31,430	$5,894
Utilities	$31,260	$7,566

Source: Thomson Reuters, MSCI, Inc.[10] as of 12/31/2009.

market capitalizations of all 10 sectors. While Health Care is dwarfed by Energy, its weighted-average market cap is still sizable.

The weighted average is more useful than the median in understanding how the overall sector behaves. Though each sector has firms of varying market size, the larger firms inherently have more impact on overall sector performance. So while the median market cap might be much smaller, the overall sector will behave, by and large, like a firm with a weighted-average market cap.

Mostly US

The US is home to the majority of the world's Health Care market cap—largely because it's the world's largest market and known to have the most innovative health care sources. Part of the reason the US dominates Health Care is because Americans spend the most and demand the newest medical innovations, allowing corporations to further research and development (R&D) expenditures. Others argue America is the leader in Health Care because its capitalistic system rewards innovation. (And we'd agree.) Table 1.8 shows Health Care firms' market capitalization by country. The United States is by far the dominant player in Health Care.

Table 1.8 MSCI ACWI Health Care Exposure by Country

Country	% of MSCI ACWI Health Care
US	59.8%
Switzerland	11.1%
UK	8.3%
Japan	5.5%
France	4.0%
Germany	3.8%
Israel	2.5%
Denmark	1.9%
Australia	1.2%
India	0.4%
South Africa	0.2%
Sweden	0.2%
Belgium	0.2%
Ireland	0.2%
Hungary	0.1%
Canada	0.1%
Korea	0.1%
Russia	0.1%
China	0.1%
Finland	0.1%
Spain	0.1%

Source: Thomson Reuters; MSCI, Inc.[11] as of 12/31/2009.

Chapter Recap

You've now been introduced to some of the fundamental characteristics distinguishing the Health Care sector. We will build upon many of this chapter's concepts as we progress.

- The sector is composed of two main segments—Pharmaceuticals, Biotechnology & Life Sciences and Health Care Equipment & Services.
- Government is heavily involved in the Health Care industry.
- The US is the only developed country not to offer health care to all citizens.
- The Health Care market is one of the largest markets in the world.
- The sector is known to have defensive, large cap, and growth characteristics.
- The US dominates the market.