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The Business Cycle Approach to Sector Investing

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At any given time, asset price fluctuations are driven by a confluence of various short-, intermediate-, and long-term factors. For this reason, adopting a comprehensive asset allocation framework that analyzes underlying factors and trends among the following three temporal segments can be an effective approach: tactical (one to 12 months), business cycle (six months to five years), and secular (five to 30 years).

Over the intermediate term, asset performance is often driven largely by cyclical factors tied to the state of the economy—such as corporate earnings, interest rates, and inflation. The business cycle, which encompasses the cyclical fluctuations in an economy over many months or a few years, therefore can be a critical determinant of equity market returns and the performance of equity sectors. The following paper will demonstrate our business cycle approach to sector investing, and how it can potentially generate positive active returns over an intermediate time horizon.

Understanding business cycle phases

Every business cycle is different in its own way, but certain patterns have tended to repeat themselves over time. Fluctuations in the business cycle are essentially distinct changes in the rate of growth in economic activity, particularly increasing or decreasing rates of growth in corporate profits, credit, inventories, and employment. While unforeseen macroeconomic events or shocks can sometimes disrupt a trend, changes in these key indicators historically have provided a relatively reliable guide to recognizing the different phases of an economic cycle. Our quantitatively backed, probabilistic approach makes it possible to identify the state of the business cycle at any point in time.

Specifically, there are four distinct phases of a typical business cycle (see Exhibit 1, page 2):

- **Early-cycle phase:** A "V-shaped," sharp recovery from recession, marked by an above-average acceleration in economic activity (e.g., gross domestic product, industrial production, employment). Credit begins to grow amid easy monetary policy, creating a healthy environment for rapid profit growth. Business inventories are low, while sales growth improves significantly.

- **Mid-cycle phase:** Typically the longest phase of the business cycle. The mid cycle is characterized by a positive but more moderate rate of growth than that experienced during the early-cycle phase. Economic activity gathers momentum, credit growth becomes strong, and profitability is healthy against an accommodative—though increasingly neutral—monetary policy backdrop. Inventories and sales grow, reaching equilibrium relative to each other.

- **Late-cycle phase:** Emblematic of an "overheated" economy poised to slip into recession and hindered by above-trend rates of inflation. Economic growth rates slow to "stall speed," against a backdrop of restrictive monetary policy, tightening credit availability, and deteriorating corporate profit margins. Inventories tend to build unexpectedly as sales growth declines.

KEY TAKEAWAYS

- The business cycle, which reflects the fluctuations of activity in an economy, can be a critical determinant of equity sector performance over the intermediate term.
- Changes in key economic indicators historically have provided a fairly reliable guide to recognizing the four different phases of an economic cycle—early, mid, late, and recession.
- The business cycle approach to sector investing uses probabilistic analysis to identify the shifting phases of the economy, which provides a framework for allocating to sectors according to the probability they will outperform or underperform.
- Generating outperformance among equity sectors with a business cycle approach may be enhanced by adding complementary analysis on industries and inflation, as well as fundamental security research, among other factors.
- Sector performance in the latest economic cycle has played out similarly to historical patterns, but the current mid-cycle phase has traditionally provided fewer opportunities for capturing relative performance using a business cycle approach.

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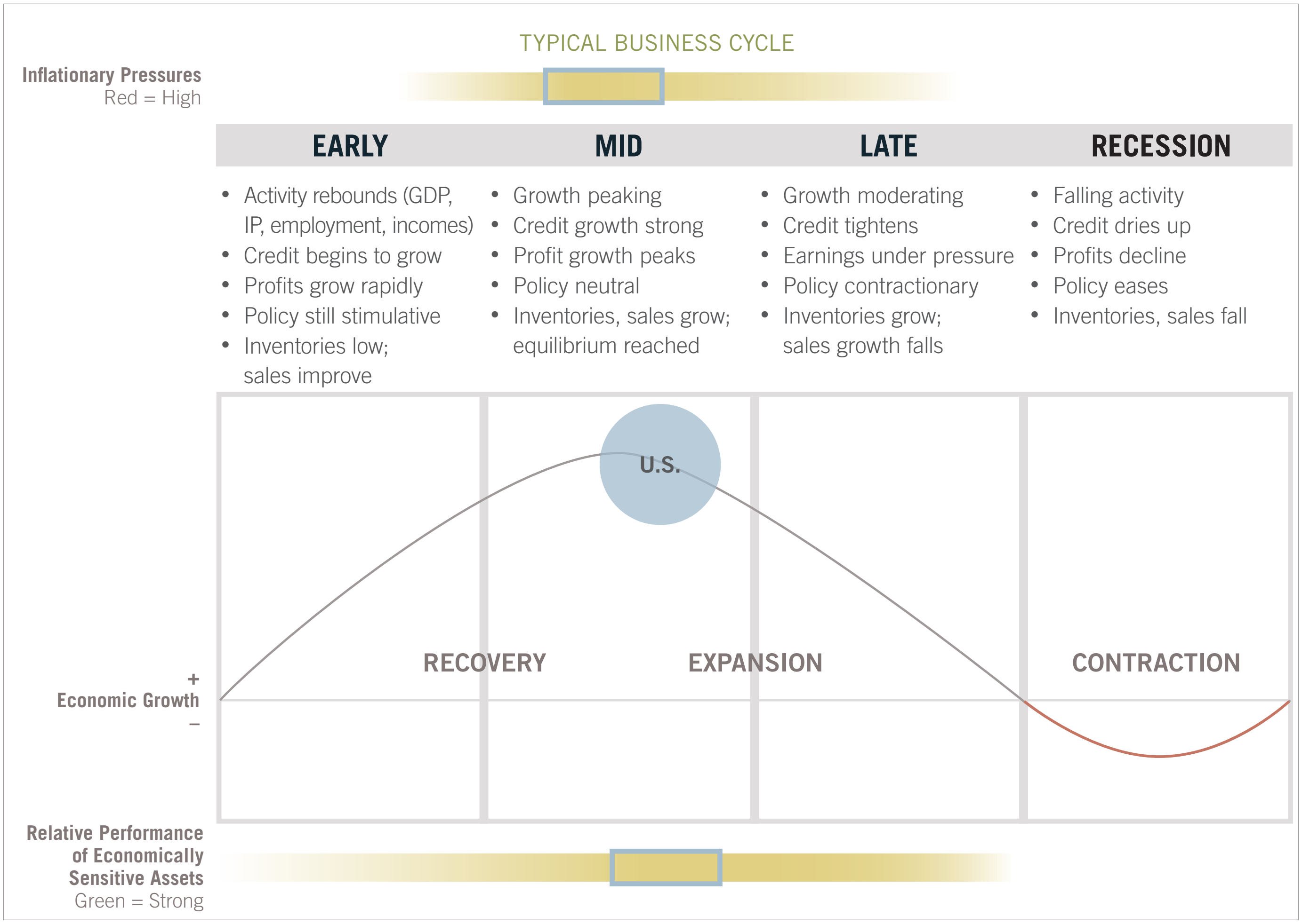
EXHIBIT 1: The business cycle has four distinct phases.



Note: This is a hypothetical illustration of a typical business cycle. There is not always a chronological progression in this order, and there have been cycles when the economy has skipped a phase or retraced an earlier one. Economically sensitive assets include stocks and high-yield corporate bonds, while less economically sensitive assets include Treasury bonds and cash. Source: Fidelity Investments (AART).

- **Recession phase:** Features a contraction in economic activity. Corporate profits decline and credit is scarce for all economic actors. Monetary policy becomes more accommodative and inventories gradually fall despite low sales levels, setting up the next expansion.

The performance of economically sensitive assets such as stocks tends to be the strongest during the early phase of the business cycle when growth is rising at an accelerating rate, then moderates through the other phases until returns generally decline during the recession. In contrast, more defensive assets such as Treasury bonds typically experience the opposite pattern, enjoying their highest returns relative to stocks during a recession and their worst performance during the early cycle.

Equity sector performance patterns

Historical analysis of the cycles since 1962 shows that the relative performance of equity market sectors has tended to rotate as the overall economy shifts from one stage of the business cycle to the next, with different sectors assuming performance leadership in different economic phases.[1] Due to structural shifts in the economy, technological innovation, varying regulatory backdrops, and other factors, no one sector has behaved uniformly for every business cycle. While it is important to note outperformance, it is also helpful to recognize sectors with consistent underperformance. Knowing which sectors of the market to avoid can be just as useful as knowing which tend to have the most robust outperformance.

The following analytical metrics help evaluate the historical performance of each sector relative to the broader equity market (all data are annualized for comparison purposes):

- **Full-phase average performance:** Calculates the average performance of a sector in a particular phase of the business cycle and subtracts the performance of the broader equity market. This method better captures the impact of compounding and performance that is experienced across full market cycles (i.e., longer holding periods). However, performance outliers carry greater weight and can skew results.

- **Median monthly difference:** Calculates the difference in the monthly performance for a sector compared to the broader equity market, then takes the mid-point of those observations. This measure is indifferent to when a return period begins during a phase, which makes it a good measure for investors who may miss significant portions of each business cycle phase. This method mutes the extreme performance differences of outliers, and also underemphasizes the impact of compounding returns.

- **Cycle hit rate:** The frequency of a sector outperforming the total market over each business cycle phase since 1962. This measure represents the consistency of a sector's performance relative to the broader market over different cycles, removing the possibility that outsized gains during one period in history influence overall averages. This method suffers somewhat from small sample sizes, with only six full cycles during the period, but persistent over- or underperformance can still be observed.

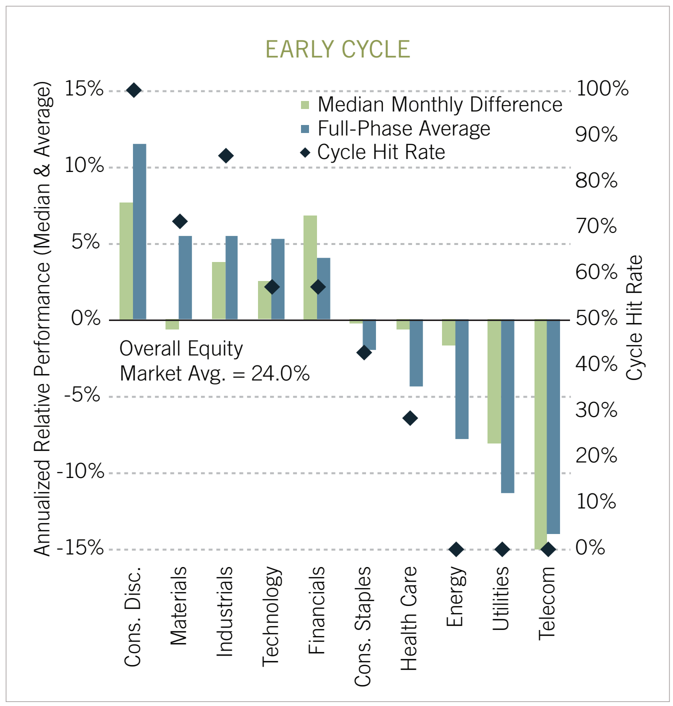
Early-cycle phase

Historically the phase of the business cycle with the most robust performance, the early-cycle phase has tended to feature positive absolute performance. The broader stock market (i.e., top 3000 stocks by market capitalization) has produced a 24% average total return per year during this phase, and its average length has been a little more than a year (15 months). On a relative basis, sectors that typically benefit most from a backdrop of low interest rates and the first signs of economic improvement have tended to lead the broader market's advance. Specifically, interest-rate-sensitive sectors—such as ***consumer discretionary*** and ***financials***—historically have outperformed the broader market by roughly 12 percentage points and 4 percentage points, respectively, on average (see Exhibit 2, right). These sectors have performed well partly due to industries within the sectors that typically benefit from increased borrowing, which includes consumer finance in financials and consumer-linked industries such as autos and household durables in consumer discretionary.

Elsewhere, economically sensitive sectors—such as ***industrials***, ***information technology***, and ***materials***—have been boosted by shifts from recession to recovery. For example, the industrials sector has some industries—such as air freight and road & rail (includes trucking and rail transportation)—in which stock prices often have rallied in anticipation of economic recovery. Tech stocks typically have been aided by renewed expectations for consumer and corporate spending strength, boosting the prospects of industries such as semiconductors & semiconductor equipment that produce components for a broad array of goods. In the materials sector, industries such as containers & packaging have tended to benefit from rising trade activity.

Laggards of the early-cycle phase include ***utilities*** and ***telecommunication services***, which generally are more defensive in nature due to fairly persistent demand across all stages of the cycle. ***Energy*** sector stocks also have lagged during the early phase, as inflationary pressures—and thus energy prices—tend to be very low during a recovery from recession. Each of these three sectors has failed to outperform the market in every early-cycle phase since 1962. From a performance consistency perspective, consumer discretionary stocks have beaten the broader market in every one of the early-cycle phases since 1962, while industrials (86%) and materials (71%) also have exhibited impressive cycle hit rates. The financials and information technology sectors both have had healthy average and median relative performance, though their surprisingly low 57% frequency rates are due in part to the diversity of their underlying industries.

EXHIBIT 2: Sectors that have tended to perform well in the early cycle are those that are interest-rate sensitive (consumer discretionary and financials) and economically sensitive (industrials, information technology, and materials).

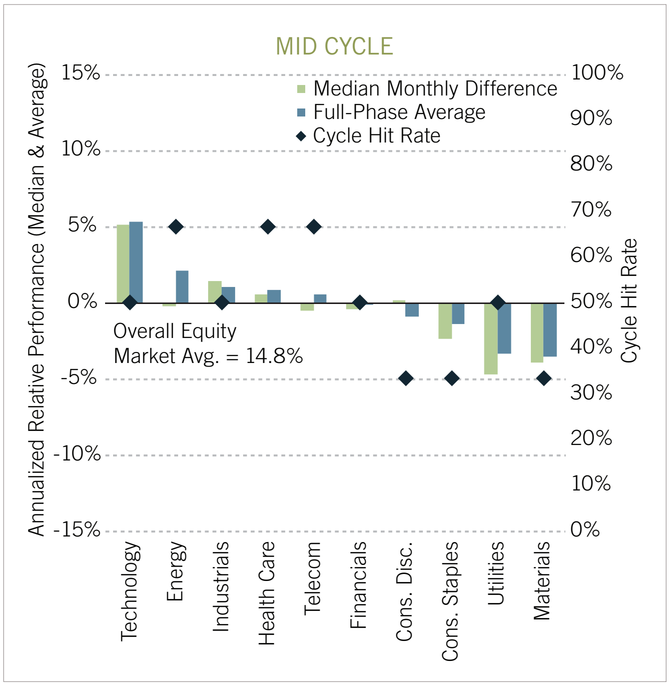


Includes equity market returns from 1962 through 2010. Returns are represented by the top 3000 U.S. stocks ranked by market capitalization. Sectors as defined by GICS. Source: Fidelity Investments (AART) as of Apr. 30, 2012. Past performance is no guarantee of future results.

Mid-cycle phase

As the economy moves beyond its initial stage of recovery and growth rates moderate, the leadership of interest-rate sensitive sectors typically has tapered. At this point in the cycle, economically sensitive sectors still have performed well, but a shift has often taken place toward some industries that see a peak in demand for their products or services only after the expansion has become more firmly entrenched. Average annual stock market performance has tended to be fairly strong (15%), though not to the same degree as in the early-cycle phase. In addition,

EXHIBIT 3: Sector leadership has rotated frequently in the mid cycle, resulting in the least sector performance differentiation of any business cycle phase.



Includes equity market returns from 1962 through 2010. Returns are represented by the top 3000 U.S. stocks ranked by market capitalization. Sectors as defined by GICS. Source: Fidelity Investments (AART) as of Apr. 30, 2012.

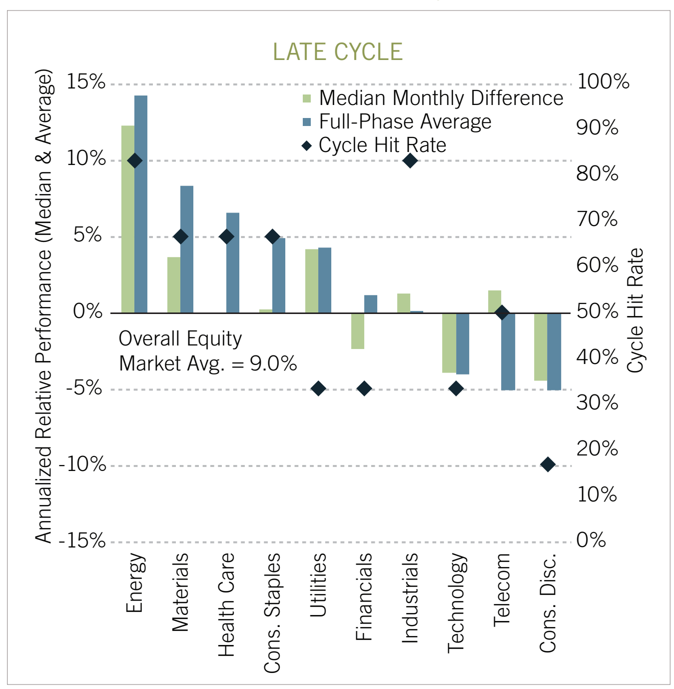
the average mid-cycle phase of the business cycle tends to be significantly longer than any other stage (4 years), and this phase is also when most stock market corrections have taken place. For this reason, sector leadership has rotated frequently, resulting in the least sector performance differentiation of any business cycle phase. No sector has outperformed or underperformed the broader market more than two-thirds of the time, and the magnitude of the relative performance of these more frequent outperformers has been modest compared to the other three phases.

Information technology has been the best performer of all the sectors during this phase, having certain industries—such as software and computers & peripherals—that typically pick up momentum once companies gain more confidence in the stability of an economic recovery and are more willing to spend capital (see Exhibit 3, above). The ***industrials*** sector may lack consistent outperformance, but contains industries that are well-suited for a mid-cycle expansion. For example, demand for certain industrials—such as airlines and industrial conglomerates—tends to pick up during this phase because they have generally fared well in environments of sustained and more predictable economic growth. From an underperformance perspective, the ***utilities*** and ***materials*** sectors have lagged by the greatest magnitude. Due to the lack of clear sector leadership, the mid-cycle phase is a market environment where investors may want to consider keeping their tactical sector bets to a minimum.

Late-cycle phase

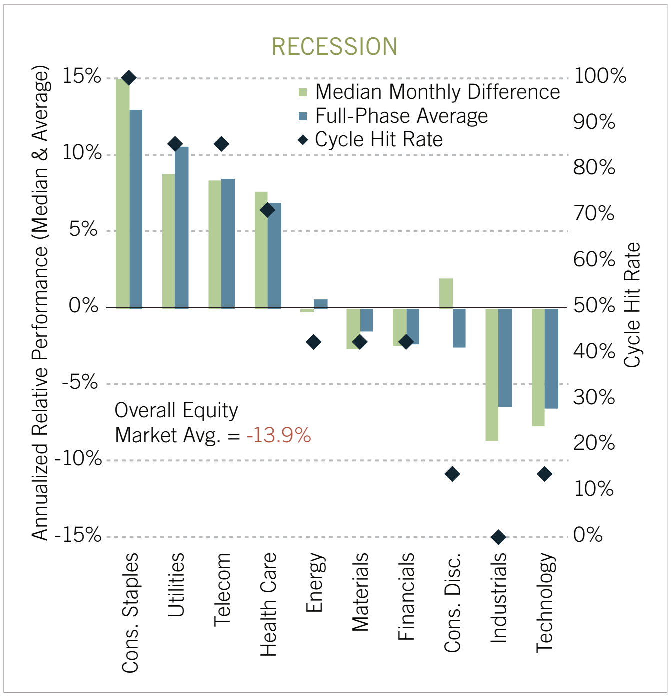
The late-cycle phase has tended to last a year and a half (18 months) in average duration, and overall stock market performance has averaged 9% on an annualized basis. As the economic recovery matures, the ***energy*** and ***materials*** sectors, which have their fates closely tied to the prices of raw materials, have previously done well as inflationary pressures build and the late-cycle economic expansion helps maintain solid demand (see Exhibit 4, below). Elsewhere, as investors begin to glimpse signs of an economic slowdown, defensive-oriented sectors—those in which revenues are more tied to basic needs and are less economically sensitive, such as ***health care***, ***consumer staples***, and ***utilities***—have generally performed well. Looking across all three analytical measures, the energy sector has seen the most convincing patterns of outperformance in the late cycle, with high average (14%) and median (12%) relative performance along with a high cycle hit rate (83%). Materials sector stocks have experienced solid relative performance (8% average, 4% median) at a respectable 67% hit rate. Some other sectors with more defensive characteristics—health care, consumer staples, and utilities—showed generally positive, though mixed, relative performance. ***Information technology*** and ***consumer discretionary*** stocks have lagged most often, tending to suffer the worst during this phase as investors shift away from economically sensitive areas.

EXHIBIT 4: As the economic recovery matures, the energy and materials sectors, which have their fates closely tied to the prices of raw materials, have typically performed well, as have defensive-oriented sectors (health care, consumer staples, and utilities).



Includes equity market returns from 1962 through 2010. Returns are represented by the top 3000 U.S. stocks ranked by market capitalization. Sectors as defined by GICS. Source: Fidelity Investments (AART) as of Apr. 30, 2012.

EXHIBIT 5: Defensive-oriented sectors (consumer staples, utilities, telecommunication services, and health care) have tended to outperform during the recession phase.



Includes equity market returns from 1962 through 2010. Returns are represented by the top 3000 U.S. stocks ranked by market capitalization. Sectors as defined by GICS. Source: Fidelity Investments (AART) as of Apr. 30, 2012.

Recession phase

The recession phase has historically been the shortest, lasting less than a year on average (10 months)—and the broader market has performed poorly during this phase (-14% average annual return). As economic growth stalls and contracts, sectors that are more economically sensitive fall out of favor and those that are defensively oriented move to the front of the performance line. These less economically sensitive sectors, including ***consumer staples***, ***utilities***, ***telecommunication services***, and ***health care***, are dominated by industries that produce items—such as toothpaste, phone service, electricity, and prescription drugs—that consumers are less likely to cut back on during a recession (see Exhibit 5, above). Investors tend to gravitate to these sectors because their profits are likely to be more stable than those in other sectors during a contracting economy. The consumer staples sector has a perfect track record of outperforming the broader market throughout the entire recession phase, while health care (71%), utilities (86%), and telecom (86%) are frequent outperformers. High dividend yields provided by utility and telecom companies have also helped these two sectors hold up relatively well during recessions. On the downside, economically sensitive sectors—such as ***industrials***, ***information technology***, and ***consumer discretionary***—have typically underperformed the broader market during this phase.

The merits of the business cycle approach

The business cycle approach offers considerable potential for taking advantage of relative sector performance opportunities. As the probability of a shift in phase increases—for instance, from mid cycle to late cycle—such a strategy allows investors to adjust their exposures to sectors that have prominent performance patterns in the next phase of the cycle (see Exhibit 6, below). Our views on these phase shifts are presented in recurring monthly updates on the business cycle.[2] By its very nature, the business cycle focuses on an intermediate time horizon (i.e., cycle phases on average rotate every few months to few years). This makes it more practical to execute than tactical shorter-term approaches, while reducing the potential for being whipsawed by the reversal of a short-term indicator.

Additional considerations for capturing alpha in equity sectors

Incorporating analysis and execution at the industry level may provide investors with greater opportunities to generate relative outperformance ("alpha") in a business cycle approach. Industries within each sector can have significantly different fundamental performance drivers that may be masked by sector-level results, leading to significantly different industry-level price performance. For example, during the early cycle—the phase with the most differentiated sector performance—the difference between the average relative returns of the best- and worst-performing sectors was 25 percentage points, whereas the relative performance differential at the industry level was more than 45 percentage points.[3]

EXHIBIT 6: Each phase of the business cycle has sectors that historically have tended to either lead or lag the broader market.

Sector	Early	Mid	Late	Recession
Financials	+			
Consumer Discretionary	+		–	–
Technology	+	+	–	–
Industrials	+	+		–
Materials	+	–	+	
Consumer Staples			+	+
Health Care			+	+
Energy	–		+	
Telecom	–			+
Utilities	–	–	+	+

Source: Fidelity Investments (AART). Unshaded (white) portions above suggest no clear pattern of over- or underperformance vs. broader market.

In addition, there are other strategies that can be incorporated to complement the business cycle approach and potentially capture additional alpha in equity sectors. Consider the following:

- **Inflation overlay:** The inflation backdrop can heavily influence some sectors' profitability. Short-term inflation trends tend to ebb and flow with the movement of the business cycle, but longer-term inflation trends sometimes move independently of the business cycle. Of particular importance is whether producer prices are rising more quickly than consumer prices, and thus impacting profit margins negatively, or vice versa.

- **Secular overlay:** Long-term secular trends that are expected to unfold over multiple business cycles can warrant a permanently higher or lower allocation to a given sector than a pure business cycle approach would suggest.

- **Bottom-up analysis:** Fundamental company research can identify near-term trends that may affect performance independently from typical business cycle patterns. For example, a new breakthrough in technology can cause a sector's primary performance drivers to change, or a particular sector may be extremely overvalued relative to its history and thus offer lower expected returns.

- **Global economic analysis:** The U.S. stock market has global exposure, which may warrant allocating toward or away from domesticly focused sectors depending on the phase of the U.S. business cycle relative to the rest of the world.

- **Tactical and quantitative strategies:** Other short-term factors may include sector volatility, price momentum, or the implementation of new tax policies.

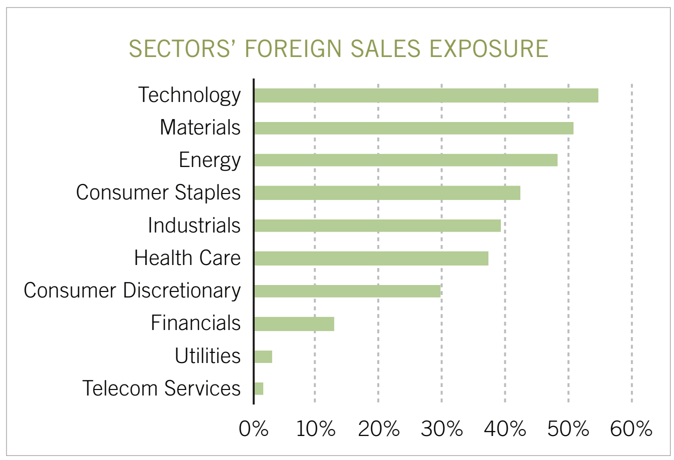
Where are we now?

So far, the sector performance patterns during the current business cycle have been similar to previous cycles.[1] Specifically, the broader market and sector returns that took place from early 2009 to early 2010 were largely consistent with performance patterns during prior early-cycle phases. With the broader market up by 30% on an annualized basis, four of the five typical early-cycle sectors outperformed (i.e., consumer discretionary, industrials, materials, and information technology), with financials being the lone exception. Similarly, all three of the sectors identified by history as likely early-cycle underperformers lagged the overall market (i.e., telecommunication services, utilities, and energy).

Currently, the U.S. economy is in a mid-cycle expansion, and has been in this phase of the business cycle since the second half of 2010.[2] Stock market returns have been healthy, averaging 10% per year (21% cumulative) during the past two years. As discussed, the mid-cycle phase has historically provided the lowest opportunity for capturing alpha relative to the broader market, and to date, sector-level performance during the current phase has been a mixed bag (see Exhibit 3, page 4). More specifically, the technology sector has outperformed the broader market (6%) and the materials sector has underperformed (-7%) as expected. However, the normally strong industrials sector has lagged slightly (-1%) while the typically weak utilities sector has performed relatively well (6%). In addition, telecommunication services stocks have atypically outperformed the market by the greatest magnitude (14%) largely due to high dividend yields, while the aftermath of the financial crisis has caused the financial sector to suffer the worst performance (-21%).

Given the lesser degree of clear-cut historical performance patterns in the mid-cycle phase, utilizing other types of analysis or other approaches to complement sector allocations may be particularly relevant. For example, fundamental, bottom-up security analysis may become a larger portion of an integrated approach at this stage. Currently, with China and Europe in late-cycle or recessionary phase of the business cycle, global business cycle considerations are important. Globally linked sectors are likely to face headwinds to revenue growth from overseas, while more domestically linked sectors could fare relatively well. When the 10 equity market sectors are ranked by their exposure to foreign revenues, information technology comes out on top and telecommunication services lands at the bottom (see Exhibit 7, below). This may provide a partial explanation for the surprising strength of telecom stocks and the lack of clear leadership from technology during the current mid-cycle phase.

EXHIBIT 7: Certain sectors, such as information technology, materials, and energy, tend to generate a greater percentage of their revenues abroad.



Average, market capitalization-weighted foreign sales as % of total for Russell 1000 Index sectors. Source: FactSet, Fidelity Investments (AART) as of Dec. 31, 2011.

Investment implications

Every business cycle is different, and so are the relative performance patterns among equity sectors. However, using a disciplined business cycle approach, it is possible to identify key phases in the economy, and to use those signals in an effort to achieve active returns from sector allocation.

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[1] Sectors and industries defined by Global Industry Classification Standards (GICS®). All performance data are total returns and are represented by the top 3000 market capitalization-weighted U.S. stocks. Source: Fidelity Investments (AART) as of Apr. 30, 2012.

[2] See, for instance, *Business Cycle Update: Policy Risks Resurface Amid Mixed Economic Data*, Fidelity Investments (AART), April 2012.

[3] Source: Fidelity Investments (AART) as of Apr. 30, 2012.

The Russell 1000 Index is a stock market index that represents the highest-ranking 1,000 stocks in the Russell 3000 Index, which represents about 90% of the total market capitalization of that index. Sectors and industries defined by Global Industry Classification Standards (GICS®).

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