

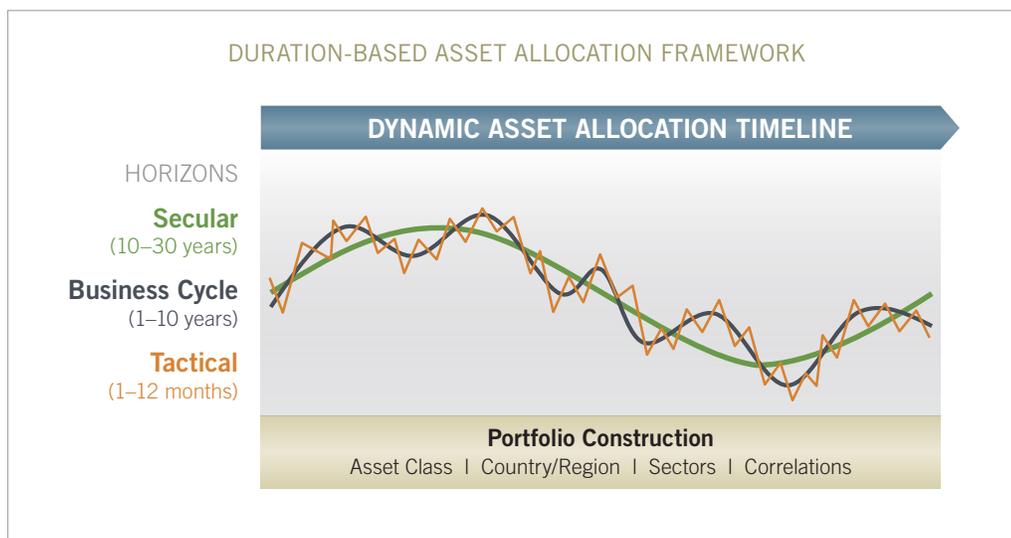
# The Business Cycle Approach to Equity Sector Investing

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, can therefore be a critical determinant of equity market returns and the performance of equity sectors. This paper demonstrates our business cycle approach to sector investing, and how it potentially can generate positive active returns over an intermediate time horizon.

## Asset allocation framework

The Asset Allocation Research Team (AART) conducts economic, fundamental, and quantitative research to produce asset allocation recommendations for Fidelity’s portfolio managers and investment teams. Our framework begins with the premise that long-term historical averages provide a reasonable baseline for portfolio allocations. However, over shorter time horizons—30 years or less—asset price fluctuations are driven by a confluence of various short-, intermediate-, and long-term factors that may cause performance to deviate significantly from historical averages. For this reason, incorporating a framework that analyzes underlying factors and trends among the following three temporal segments can be an effective asset allocation approach: tactical (one to 12 months), business cycle (one to 10 years), and secular (10 to 30 years). Exhibit 1 (below) illustrates our duration-based asset allocation framework.

EXHIBIT 1: Asset performance is driven by a confluence of various short-, intermediate-, and long-term factors.



Source: Fidelity Investments (AART).



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## 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.
- 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.
- For example, the early-cycle phase typically is characterized by lower interest rates and a sharp economic recovery, which tends to lead to outperformance by the consumer discretionary and industrials sectors.
- 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.

## Understanding business cycle phases

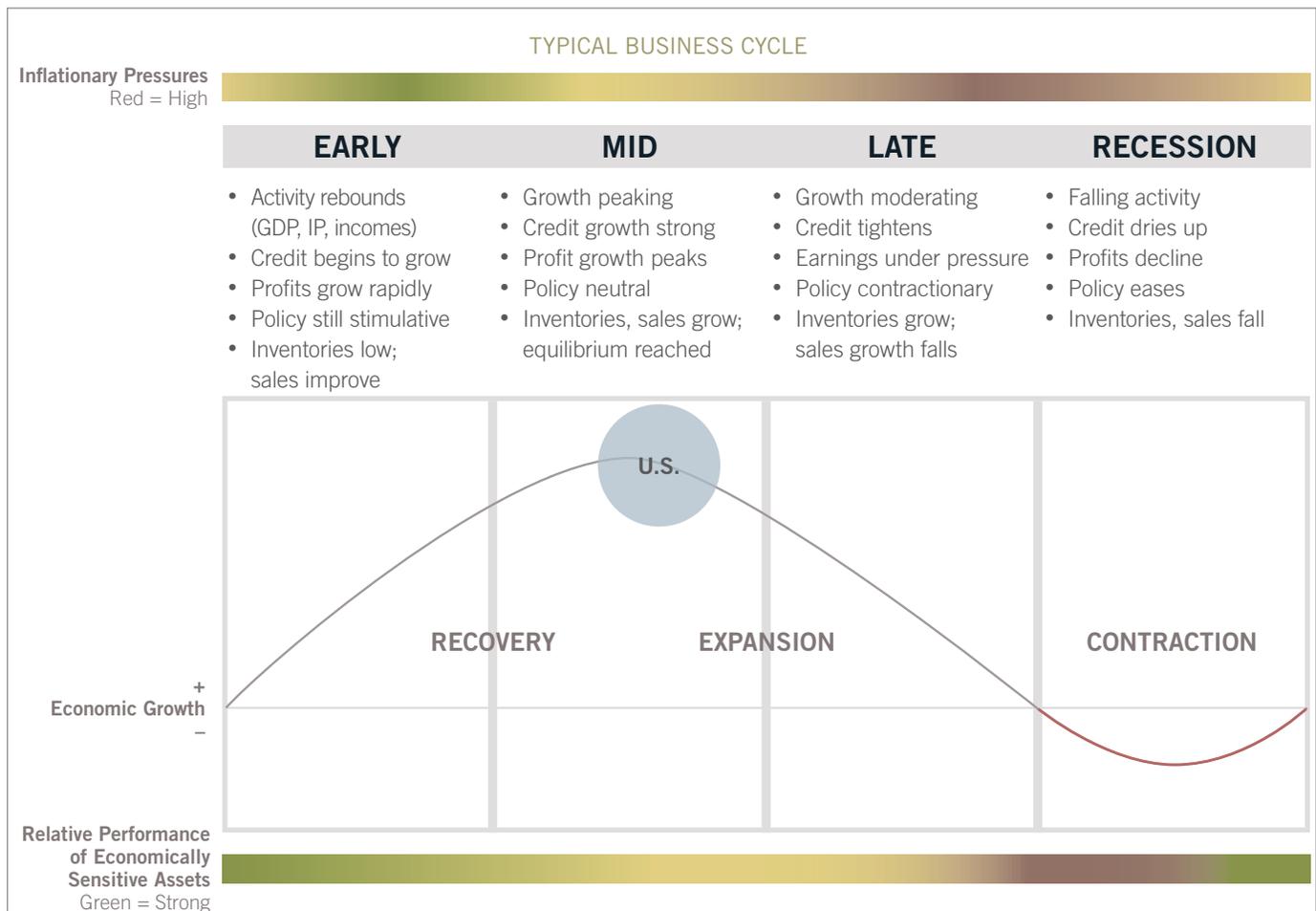
Every business cycle is different in its own way, but certain patterns have tended to repeat themselves over time. Fluctuations in the business cycle are essentially distinct changes in the rate of growth in economic activity, particularly changes in three key cycles—the corporate profit cycle, the credit cycle, and the inventory cycle—as well as changes in the employment backdrop and monetary policy. 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 helps in identifying, with a reasonable degree of confidence, the state of the business cycle at different points in time. Specifically, there are four distinct phases of a typical business cycle (see Exhibit 2, below).

- **Early-cycle phase:** Generally, a sharp recovery from recession, marked by an inflection from negative to positive growth in eco-

nommic activity (e.g., gross domestic product, industrial production), then an accelerating growth rate. Credit conditions stop tightening amid easy monetary policy, creating a healthy environment for rapid margin expansion and 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

EXHIBIT 2: The business cycle has four distinct phases, with the example of the U.S. in a mid-cycle expansion in mid-2014.



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. Please see the endnotes for a complete discussion. Source: Fidelity Investments (AART).

a backdrop of restrictive monetary policy, tightening credit availability, and deteriorating corporate profit margins. Inventories tend to build unexpectedly as sales growth declines.

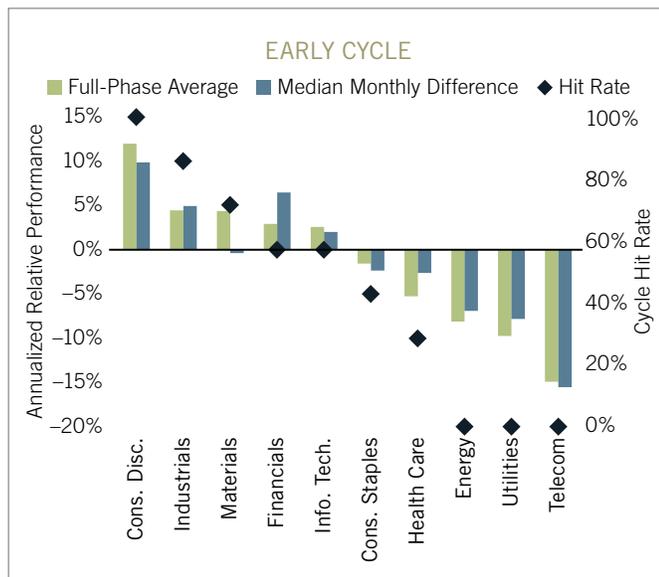
- **Recession phase:** Features a contraction in economic activity. Corporate profits decline and credit is scarce for all economic actors. Monetary policy becomes more accommodative and inventories gradually fall despite low sales levels, setting up for the next recovery.

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 (see *Leadership Series* article “The Business Cycle Approach to Asset Allocation,” Sep. 2014).

### 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<sup>1</sup> (see “Analyzing relative sector performance, right). Due to structural shifts in the economy,

EXHIBIT 3: 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 and information technology).



Source: Fidelity Investments (AART) as of Jul. 31, 2014. Past performance is no guarantee of future results.

### Analyzing relative sector performance

Certain 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 (geometric) 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 of a sector compared with the broader equity market, and then takes the midpoint 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:** Calculates the frequency of a sector’s outperforming the broader equity market over each business cycle phase since 1962. This measure represents the consistency of sector 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 seven full cycles during the period, but persistent out- or underperformance still can be observed.

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.

### Early-cycle phase

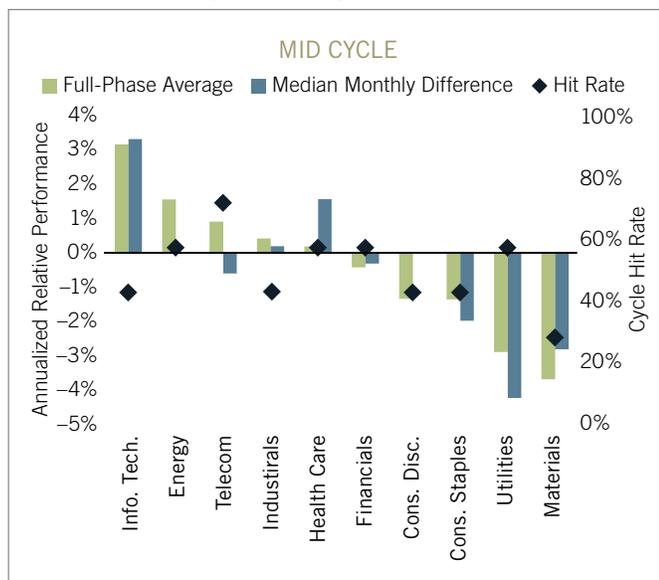
Historically the phase of the business cycle with the most robust performance, the early-cycle phase has tended to feature positive absolute performance. Since 1962, the broader stock market has produced an average total return of more than 20% per year during this phase, and its average length has been roughly one year. 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 (see Exhibit 3, page 3). These sectors have performed well, due in part to industries within the sectors that typically benefit from increased borrowing, including diversified financials and consumer-linked industries such as autos and household durables in consumer discretionary.

Elsewhere, economically sensitive sectors—such as **information technology** and **industrials**—have been boosted by shifts from recession to recovery. For example, the industrials sector has some industries—such as 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.

Laggards of the early-cycle phase include **telecommunication services** and **utilities**, 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 lower 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 early-cycle phase since 1962, while **industrials** also have exhibited impressive cycle hit rates. The **financials** and **information technology** sectors both have had healthy average and median relative performance, though their low hit rates are due in part to the diversity of their underlying industries.

EXHIBIT 4: Sector leadership has rotated frequently in the mid-cycle phase, resulting in the smallest sector performance differentiation of any business cycle phase.



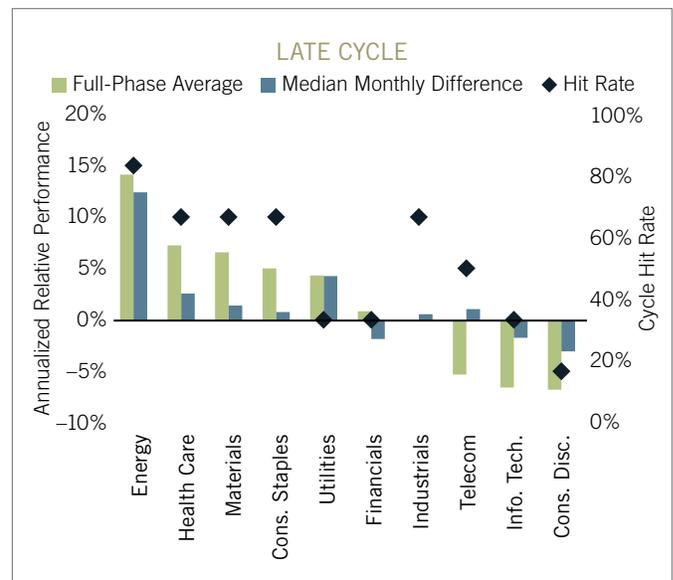
Source: Fidelity Investments (AART) as of Jul. 31, 2014.

### Mid-cycle phase

As the economy moves beyond its initial stage of recovery and as 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 (roughly 15%), though not to the same degree as in the early-cycle phase. In addition, the average mid-cycle phase of the business cycle tends to be significantly longer than any other stage (roughly three-and-a-half 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 smallest sector performance differentiation of any business cycle phase. No sector has outperformed or underperformed the broader market more than three-quarters of the time, and the magnitude of the relative performance has been modest compared with 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 hardware—that typically pick up momentum once companies gain more confidence in the stability of an economic recovery and are more willing to make capital expenditures (see Exhibit 4, below left).

EXHIBIT 5: As the economic recovery matures, the energy and materials sectors, whose fate is closely tied to the prices of raw materials, have typically performed well, as have defensive-oriented sectors (health care, consumer staples, and utilities).



Source: Fidelity Investments (AART) as of Jul. 31, 2014.

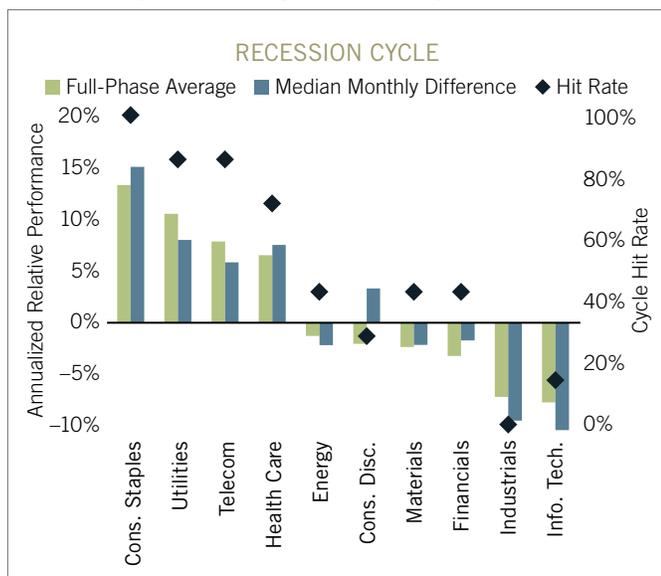
The **industrials** sector has lacked consistent outperformance, but contains industries that are well suited for a mid-cycle expansion. For example, capital goods producers tend to benefit from the pickup in demand in an environment of sustained and more predictable economic growth. From an underperformance 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 in which investors may want to consider keeping their sector bets to a minimum while employing other approaches to generate additional active opportunities (see “Additional considerations for capturing alpha in sectors,” page 6).

### Late-cycle phase

The late-cycle phase has had an average duration of roughly a year and a half, and overall stock market performance has averaged a little over 5% on an annualized basis. As the economic recovery matures, the **energy** and **materials** sectors, whose fate is closely tied to the prices of raw materials, previously have done well as inflationary pressures build and the late-cycle economic expansion helps maintain solid demand (see Exhibit 5, page 4).

Elsewhere, as investors begin to glimpse signs of an economic slowdown, defensive-oriented sectors—those in which revenues are tied more to basic needs and are less economically sensitive, particularly **health care**, but also **consumer staples** and **utilities**—generally have 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 and median relative performance along with a high cycle hit rate.

EXHIBIT 6: Defensive-oriented sectors (consumer staples, utilities, telecommunication services, and health care) have tended to outperform during the recession phase.



Source: Fidelity Investments (AART) as of Jul. 31, 2014.

EXHIBIT 7: Equity sector relative performance has tended to be differentiated across business cycle phases.

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

Unshaded (white) portions above suggest no clear pattern of over- or under-performance vs. broader market. Double +/- signs indicate that the sector is showing a consistent signal across all three metrics: full-phase average performance, median monthly difference, and cycle hit rate. A single +/- indicates a mixed or less consistent signal. Source: Fidelity Investments (AART).

**Information technology** and **consumer discretionary** stocks have lagged most often, tending to suffer the most during this phase as inflationary pressures crimp profit margins and investors move away from the most economically sensitive areas.

### Recession phase

The recession phase has historically been the shortest, lasting slightly less than a year on average—and the broader market has performed poorly during this phase (roughly -15% 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, electricity, phone service, and prescription drugs, which consumers are less likely to cut back on during a recession (see Exhibit 6, left). These sectors’ 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 **utilities**, **telecommunications services**, and **health care** are frequent outperformers. High dividend yields provided by utility and telecom companies also have helped these two sectors hold up relatively well during recessions. On the downside, economically and interest-rate-sensitive sectors—such as **industrials**, **information technology**, **materials**, and **financials**—typically have 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 exposure to sectors that have prominent performance patterns in the next phase of the cycle (see Exhibit 7, page 5). Our views on these phase shifts are presented in recurring monthly updates on the business cycle.<sup>2</sup> By its very nature, the business cycle focuses on an intermediate time horizon (i.e., cycle phases that rotate on average every few months to few years). This may make it more practical for some investors to execute than shorter-term approaches.

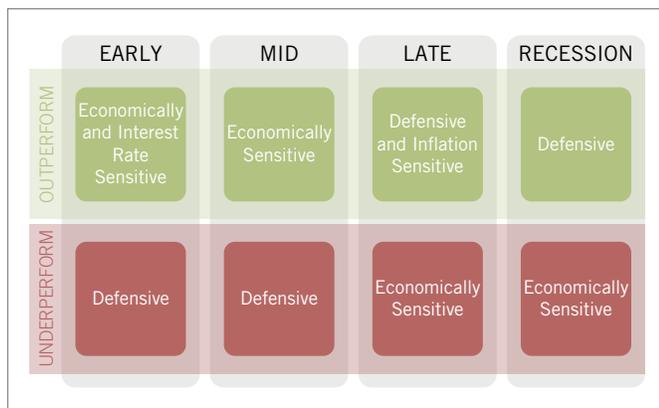
### Additional considerations for capturing alpha in sectors

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 (see Exhibit 8, below). 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 since 1981 was roughly 25 percentage points, whereas the relative performance differential at the industry level was roughly 75 percentage points.<sup>3</sup>

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:

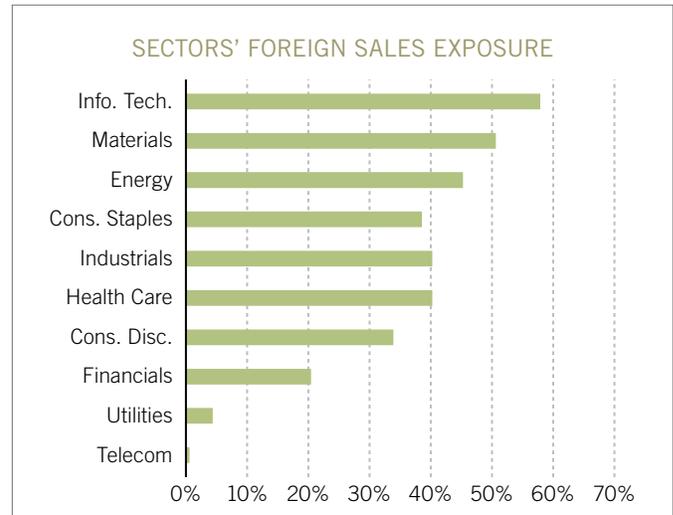
- **Macro-fundamental analysis:** Macro-fundamental industry research can identify—independently of typical business cycle patterns—variables specific to the dynamics of each industry that may affect performance. For example, a significant change

EXHIBIT 8: Each industry within a sector has specific drivers that may affect performance.



Source: Fidelity Investments (AART).

EXHIBIT 9: 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 a percentage of the total for Russell 1000® Index sectors. Data complete through 2012, with two-thirds of companies reporting data for 2013. Source: FactSet, Fidelity Investments (AART), as of Jul. 31, 2014.

in the cost of key raw material inputs can drive a deviation in an industry’s performance—such as oil prices for airlines.

- **Bottom-up analysis:** Company-specific analysis—through individual security selection—can identify unique traits in individual companies that may outweigh the impact of the typical business cycle pattern on that company’s future performance.
- **Global business-cycle analysis:** The U.S. stock market has global exposure, which may warrant allocating toward or away from domestically focused sectors depending on the phase of the U.S. business cycle relative to the rest of the world. When the U.S. business cycle is more favorable than the global cycle, sectors with more global exposure are likely to face greater headwinds to revenue growth, 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 9, above).
- **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 affecting 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.

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

### 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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**Past performance is no guarantee of future results.**

**Neither asset allocation nor diversification ensures a profit or guarantees against a loss.**

Investing involves risk, including risk of loss.

Stock markets are volatile and can decline significantly in response to adverse issuer, political, regulatory, market, or economic developments.

Because of its narrow focus, sector investing tends to be more volatile than investments that diversify across many sectors and companies. Each sector investment is also subject to the additional risks associated with its particular industry.

References to specific investment themes are for illustrative purposes only and should not be construed as recommendations or investment advice. Investment decisions should be based on an individual's own goals, time horizon, and tolerance for risk.

All indexes are unmanaged. You cannot invest directly in an index.

The Typical Business Cycle depicts the general pattern of economic cycles throughout history, though each cycle is different. In general, the typical business cycle demonstrates the following:

- During the typical early-cycle phase, the economy bottoms and picks up steam until it exits recession and then begins the recovery as activity accelerates. Inflationary pressures are typically low, monetary policy is accommodative, and the yield curve is steep.
- During the typical mid-cycle phase, the economy exits recovery and enters into expansion, characterized by broader and more self-sustaining economic momentum but a more moderate pace of growth. Inflationary pressures typically begin to rise, monetary policy becomes tighter, and the yield curve experiences some flattening.
- During the typical late-cycle phase, the economic expansion matures, inflationary pressures continue to rise, and the yield curve may eventually become flat or inverted. Eventually, the economy contracts and enters recession, with monetary policy shifting from tightening to easing.

Please note that there is no uniformity of time among phases, nor is there always a chronological progression in this order. For example, business cycles have varied between one and 10 years in the U.S., and there have been examples when the economy has skipped a phase or retraced an earlier one.

**Endnotes**

<sup>1</sup> Source: Fidelity Investments (AART), as of Jul. 31, 2014.

<sup>2</sup> See the latest monthly "Business Cycle Update," Fidelity Investments (AART), for a complete discussion of current trends.

<sup>3</sup> Source: Fidelity Investments (AART), as of Jul. 31, 2014.

**Index definitions**

The S&P 500<sup>®</sup> Index is a market capitalization-weighted index of 500 common stocks chosen for market size, liquidity, and industry group representation to represent U.S. equity performance. S&P 500 is a registered service mark of Standard & Poor's Financial Services LLC.

The Russell 1000<sup>®</sup> Index is a stock market index that represents the highest-ranking 1,000 stocks in the Russell 3000<sup>®</sup> Index, which represents about 90% of the total market capitalization of that index.

Sectors and industries are defined by the Global Industry Classification Standard (GICS<sup>®</sup>). The S&P 500 Sector Indices include the 10 standard GICS<sup>®</sup> sectors that make up the S&P 500<sup>®</sup> Index. The market capitalization of all 10 S&P 500 Sector Indices together compose the market capitalization of the parent S&P 500<sup>®</sup> Index; all members of the S&P 500<sup>®</sup> Index are assigned to one (and only one) sector.

S&P 500 sectors are defined as follows: **Consumer Discretionary:** companies that provide goods and services that people want but don't necessarily need, such as televisions, cars, and sporting goods; these businesses tend to be the most sensitive to economic cycles. **Consumer Staples:** companies that provide goods and services that people use on a daily basis, like food, household products, and personal-care products; these businesses tend to be less sensitive to economic cycles. **Energy:** companies whose businesses are dominated by either of the following activities: the construction or provision of oil rigs, drilling equipment, or other energy-related services and equipment, including seismic data collection; or the exploration, production, marketing, refining, and/or transportation of oil and gas products, coal, and consumable fuels. **Financials:** companies involved in activities such as banking, consumer finance, investment banking and brokerage, asset management, insurance and investments, and real estate, including REITs. **Health Care:** companies in two main industry groups: health care equipment suppliers and manufacturers, and providers of health care services; and companies involved in the research, development, production, and marketing of pharmaceuticals and biotechnology products. **Industrials:** companies whose businesses manufacture and distribute capital goods, provide commercial services and supplies, or provide transportation services. **Information Technology:** companies in technology software and services and technology hardware and equipment. **Materials:** companies that are engaged in a wide range of commodity-related manufacturing. **Telecommunication Services:** companies that provide communications services primarily through fixed-line, cellular, wireless, high bandwidth, and/or fiber-optic cable networks. **Utilities:** companies considered to be electric, gas, or water utilities, or companies that operate as independent producers and/or distributors of power.

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