



What If There Is No More Weather?: Harvesting Returns Amid Economic Climate Change

December 2015

For decades, balanced beta portfolios have delivered strong risk adjusted returns, but it is unclear whether this outperformance will continue in the years to come. Recent struggles, particularly those in August 2015, caused many investors to reconsider the role of risk balanced strategies in their portfolio. These struggles may be a symptom of economic climate change. In fact, secular trends have disrupted traditional business cycles and historical relationships between the economy and assets have been challenged. In this new economic climate, investors should consider a more adaptive, forward looking asset allocation model that may capitalize on accelerated investment cycles with potentially violent reversals. Doing so may maximize the likelihood of meeting investment objectives.

Concerns over climate change have mounted in recent years as meteorologists, earth scientists, and activists point to warning signs that portend an unnerving planetary future. They reason that climate change threatens to disrupt weather patterns and alter biological processes, the result of which could be disastrous for mankind if we fail to adapt to the new environment. The warning signs are not new, but for decades they were written off as cyclical, rather than secular. It was not until the 1990s that scientists pushed climate change to the fore.¹

¹<http://graduateinstitute.ch/files/live/sites/iheid/files/sites/admininst/shared/doc-professors/luterbacher%20chapter%202%20102.pdf>

In investing the stakes are not quite as dire, but we nonetheless face a similar challenge. Warning signs are flashing that our economic weather may in fact be shifting, but some investors are dismissing these trends as short term in nature. Economic climate change threatens to disrupt economic weather and alter investment processes. This could be problematic for many investors, particularly those who fail to acknowledge the new paradigm and continue to base their asset allocation and portfolio construction models on outmoded, historical economic weather patterns. The end result of these suboptimal investment methods could be habitual underperformance and worsening asset/liability ratios.

DYNAMIC INSIGHTS

In these challenging times, it is important for investors to find adaptive investment solutions that offer a better chance of meeting their risk and return goals. To address these issues we must first answer the question: what is causing this economic climate change? We then examine its implications, and explain why a dynamic, forward looking approach may help investors navigate through the new economic environment.

How is the Economic Climate Changing?

The drivers of asset class returns are myriad, and in the absence of a complete taxonomy of factors, investors have relied on relatively simple heuristics to estimate how asset classes perform in various economic regimes. One of the most popular is to divide asset classes according to their sensitivity to changes in discounted growth and inflation. Such an approach is necessarily reductionist, but it has served investors well for several decades.

Recently however, this approach has been called into question, and it appears that growth and inflation may no longer be the powerful drivers they once were. **As we transition into a new economic climate, we believe that growth and inflation are likely to remain muted, resulting in business cycles that are driven by non-traditional factors. As a result, asset prices are likely to respond to sector and firm-level dynamics, as well as investors' appetite for risk. This seems evident in today's risk on/risk off environment.** There are several catalysts behind this change; among them are

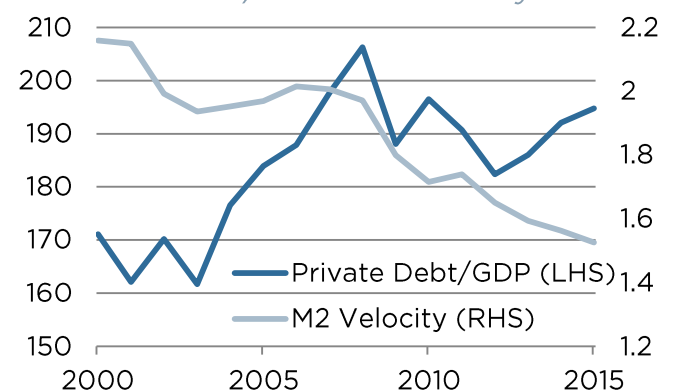
pervasive dovish monetary policy, exponential innovation, Chinese development, and demographic changes. These secular changes are likely to alter economic weather patterns, and change the drivers of asset returns. To elaborate, we will examine each of the secular trends to understand how they are disrupting economic weather.

Zero Interest Rate Policy (ZIRP)

The first force that appears to be altering the economic climate is the secular tendency towards dovish monetary policies by developed market central banks. Under normal circumstances, lower interest rates stimulate economic growth by encouraging the private sector to incur debt. Near the zero bound, however, that relationship comes under stress. Consider [Exhibit 1](#), which illustrates the velocity of money (M2) and US Private Sector Debt/GDP from 2000-2014.

Exhibit 1: The Effects of ZIRP

US Private Debt/GDP & M2 Velocity



Source: Bloomberg.

Over that time, M2 velocity has fallen 32%, indicating that lower interest rates are doing little to spur economic activity. At the same time, US private sector debt has fallen

considerably from its 2007 peak despite easy money policies.

Ordinarily, a lack of credit expansion would be bearish for risky assets such as US equities, but since the 2008 Financial Crisis, equity indices including the S&P 500 have reached all-time highs. This is likely due to the fact that low interest rates encourage risk seeking behavior as investors find it increasingly difficult to reach target returns by investing in the bond market. Instead, investors are forced out on the risk curve and into assets that are more susceptible to painful drawdowns.

Zero bound interest rates also force central banks to pursue unconventional policies that further disrupt the economic weather. For example, government bonds have historically been relied upon to provide stable returns in the event of economic turmoil because they offer investors a

potentially risk free way to generate returns. During previous downturns, bonds rallied as investors fled to safe haven assets. These rallies were further supported by Central Banks' efforts to lower interest rates through bond purchases. With rates now at the zero bound, Central Banks have used unconventional means to stimulate the economy during economic downturns. In the United States, for example, the Federal Reserve engaged in Quantitative Easing (QE), expanding its asset purchases to include mortgage backed securities. As seen in [Exhibit 2](#), each round of QE has resulted in higher nominal interest rates on US Treasury Bonds. So long as interest rates remain near the zero bound, central banks may continue to rely on these unconventional means to stimulate the economy. As a result, the relationship between economic growth and asset returns is likely to be more tenuous than has been the case historically.

Exhibit 2: Are Bonds Still Safe?

US Treasury Bond Yields Since 2008



Source: Bloomberg, [calculatedriskbog.com](#)

Zero interest rate monetary policy has not only disrupted the relationship between asset classes and the economy, it has also forced some investors to incur additional risk in order to achieve target returns. This, coupled with investment methodologies and products that are backward looking, may severely impair investor's abilities to meet its obligations.

The Information Economy

The weakening relationship between growth and assets may be further supported by structural changes in the global economy. Throughout the world, technological innovation has fundamentally altered the nature of commerce. The mechanism behind this change is advancements in the microprocessor, storage capacity and machine learning algorithms. Since its invention in the early 1970's, the microprocessor's capacity has increased exponentially, a trend that was later dubbed Moore's Law. Strictly speaking, Moore's Law applies to the density of transistors in a microprocessor; however the theme of exponential innovation can be applied to technology more broadly. For example, IBM estimated in 2011 that the world creates 2.5 quintillion bytes of data daily, and 90 percent of the world's data had been created over the prior two years².

Exponential innovation in software has ushered in a new economic paradigm in which substantial value is created by "bits", rather than "atoms". For example, consider Alibaba, which is now the preeminent retailer

in China. By using an innovative business model, Alibaba has become a retail powerhouse despite having a relatively small physical footprint. This is a non-trivial point; Alibaba has leapfrogged traditional businesses by eschewing brick and mortar investments in favor of investments in software and information technology.

This may be a harbinger of things to come; the new economic climate will be littered with businesses that generate substantial economic value with relatively little capital input. In order to compete in the new economy, businesses will need to follow Alibaba's lead and utilize software and technology to augment their businesses. The power of organizations applying machine learning on big data procured by an Internet of Things cannot be overstated.

The ripple effects of this change are manifold. One notable by-product of the Information Economy is a weakening relationship between GDP and commodity prices. Previously, commodities performed well in high growth and high inflation environments. Higher expected growth typically leads to increased demand for raw materials which cannot immediately be met by new supply. In order to balance this disequilibrium, commodity prices contemporaneously rise. In the new economic climate, however, growth is likely to be driven by software and technology rather than heavy industrial spending. As a result, demand for raw materials is likely to be subdued, with inflation relatively muted. We have seen evidence of this already, with commodity indices trading substantially lower over the past several years.

² <http://www-03.ibm.com/press/us/en/pressrelease/35633.wss>

The China Effect

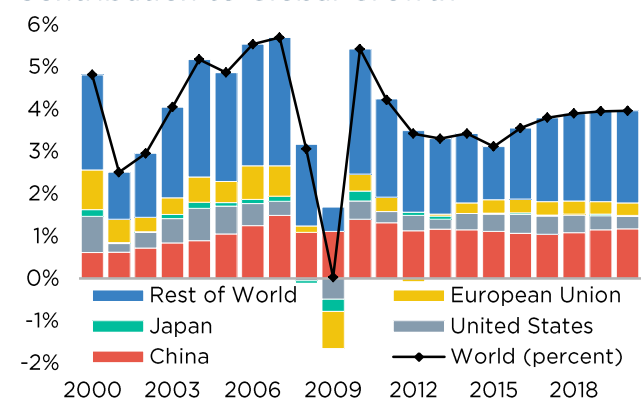
Lastly, technological innovation is also the mother of the sharing economy. Improved mobile and communication technology has enabled collaborative consumption in industries ranging from transportation (Uber), to real estate (Airbnb), and even to banking (Lending Club). Such companies have made it clear “that trust and safety could increasingly be underwritten by data instead of brand promises and regulation.”³ **And while the “Uberization” of the economy may lead to an improved aggregate quality of life, it is not conducive to economic growth as it is currently measured. In the absence of a better way to measure economic growth, one that measures services provided rather than the materials and costs associated with them, the familiar relationship between GDP and asset prices is likely to remain strained.**

More importantly, exponential innovation has led to breakthroughs that were previously unfathomable. For example, advancements in sensing technology, robotics, and data processing have put driverless cars and the Internet of Things on the horizon. This may impact everything from employment to consumption and perhaps even the efficacy of monetary policy. **Indeed, these breakthroughs will disrupt the economic climate as an increasing proportion of economic value will likely be generated by information and predictive analytics, rather than industry.**

For more than a decade China has experienced tremendous economic growth, and has averaged roughly +10% annually after adjusting for inflation. In fact, China's economy has grown to become the largest in the world on a purchasing power parity basis, and accounts for nearly one third of yearly global output.⁴ This locomotive for global growth has expanded the world economy by pursuing an export-led industrialization process, which is common in the emerging world. In order to support economic growth, the Chinese government has suppressed wages and devalued the renminbi. Developed nations have taken advantage of this economic model by consuming Chinese goods, and incurring debt in the process. This dynamic has persisted for decades, but deleveraging across the developed world threatens to put an end to China's export-led economy and alter global economic weather patterns.

Exhibit 3: China's Place in the Global Economy

Contribution to Global Growth



Source: IMF, *World Economic Outlook*⁵

⁴ World Bank, http://databank.worldbank.org/data/download/GDP_PPP.pdf
⁵ IMF,

³ “A New Soft Technology”, *Breaking Smart*, Season 1

Demand for Chinese goods has fallen considerably, leading to a supply glut and deflationary pressures.⁶ Such pressures put tremendous strain on the Chinese economy, and they must find new consumers to work off the slack. As it turns out, they may not have to look very far. In order to tackle this problem, China will likely transition from an industrialized economy to a consumption-based one, a development that will have substantial ripple effects on the global economy.

The best-case scenario both for China and the rest of the world may involve China transitioning from a net-lender to a net-debtor. A necessary by-product of this would be the Chinese consumer emerging as a force in the global marketplace, and the renminbi appreciating. This may stabilize the global trade imbalances that helped fuel excessive debt throughout much of the developed world.⁷ As this sequence of events unfolds, developed market countries that have preyed upon China's export-led economy will face unique challenges. For example, if China makes the transition to a consumption economy, demand for Treasuries should fall considerably. A material reduction in Treasury holdings by the PBOC would ordinarily put upward pressure on yields and inflation in the developed world. This is analogous to the period of stagflation following the collapse of the Bretton Woods system in 1971.⁸

<http://blog-imfdirect.imf.org/2014/03/26/china-size-matters/>

⁶ WSJ,

<http://www.wsj.com/articles/glut-of-chinese-goods-pinches-global-economy-1433212681>

⁷ China Business Review,

<http://www.chinabusinessreview.com/consumption-new-key-to-chinese-growth/1>

⁸ IMF,

<https://www.imf.org/external/about/histend.htm>

Further complicating matters are advances software and technology which, as previously mentioned, are profoundly deflationary. Moreover, advances in robots have spurred renewed interest in companies reshoring their manufacturing operations. In the absence of clarity around these issues, the transition to a new global equilibrium will likely be tumultuous as inventories, currencies and inflation measures will all be impacted. Forecasting asset performance in this new environment will require a more nuanced approach that measures appetite for risk, rather than growth and inflation alone.

Shifting Demographics

The final secular trend disrupting economic weather is demographic shifts throughout the developed world. This is a trend that has been many decades in the making, but it appears to have reached a critical inflection point within the last few years. For decades a growing labor force has provided a tailwind for economic growth in the developed world. Now, however, it appears this tailwind may be reversing.

In many countries, fertility rates have declined, which has caused populations to grow older. In fact, most developed world countries have fertility rates below the 2.0 births per woman rate that is required to sustain population levels. As a result, median ages in the United States, Western Europe and Japan are expected to reach 50 years within the next two decades.⁹ China also faces an impending demographic crisis, as the recent relaxation of the One Child Policy

⁹http://www.mckinsey.com/insights/economic_studies/the_coming_demographic_deficit

has done little to increase the future working population and improve the dependency ratio¹⁰. This trend is also supported by increased life expectancy. In fact, the National Institute on Aging reports that from 1840-2007, life expectancy increased steadily at a rate of roughly 3 months of life per year, and that trend is showing no signs of abating.¹¹ Given that populations are aging, we expect an increasing portion of the population to reach retirement age, which will cause the number of workers in the labor force to fall.¹²

Decades ago, this trend may have been offset by increasing labor force participation from women, but it appears that trend has plateaued. For decades, female labor force participation rose from roughly 35% in 1960 to nearly 60% in the late 1990's, and it has remained there since. At the same time, male labor force participation rates have fallen steadily and are not showing signs of stabilizing.¹³ Taken together, it appears the downward pressures created by an aging population will not be offset by increasing labor force participation.

The ongoing decline in labor force participation rates is likely to have a meaningful impact on the global economy. Perhaps most obviously, a decline in the labor force will likely cause economic growth rates to slow. In fact, we have already seen evidence of this as United States GDP has grown at an average of 1.5% for the last

several years after averaging 3.5% for several decades prior. The same can be said of the other G7 countries where growth rates fell from 4.3% in the 1960's and 1970's to the tepid 0.7% growth rate we have seen recently.¹⁴ Though it is difficult to disentangle the myriad factors responsible for changes in GDP growth, it seems clear that part of the decline is due to a secular demographic shift.

Lower levels of global growth will likely contribute to the global wealth shortfall, estimated to be \$31 trillion by 2024.¹⁵ This shortfall, if left unchecked, could exacerbate the already significant asset/liability shortfall that many pensions face. Furthermore, it places a large financial burden on younger generations who may be called upon to help fill the wealth shortfall. These trends will also affect asset flows and consumption patterns in untold ways. Though it is unclear how these trends will impact financial assets, they are likely to increase the strain on the relationship between GDP and asset prices.

A Historical Analog

Historical analogs for the new economic climate are hard to come by, given that many of the changes taking place are without historical precedent. Still, it may be helpful to find comparable examples in order to gain insight into how investors may navigate the new environment. The closest historical analog may be Japan.

¹⁰ <https://www.foreignaffairs.com/articles/china/2015-11-12/two-little-too-late>

¹¹ <https://www.nia.nih.gov/research/publication/global-health-and-aging/living-longer>

¹² "Demographics to Drive Slower Growth, Higher Stocks", RBC, July 27, 2013.

¹³ "Demographics to Drive Slower Growth, Higher Stocks", RBC, July 27, 2013.

¹⁴ "Demographics to Drive Slower Growth, Higher Stocks", RBC, July 27, 2013.

¹⁵ McKinsey, http://www.mckinsey.com/insights/economic_studies/the_coming_demographic_deficit

Of the four secular trends discussed above, Japan has felt the effects of three of them already. For example, Japanese government bonds have traded at remarkably low yield for years now. More recently, the Bank of Japan attempted to spur the economy by engaging in extraordinarily accommodative monetary policy. By purchasing assets at an unprecedented pace, the BOJ hoped to improve growth and inflation rates. However, even after expanding the BOJ's balance sheet to nearly 70% of annual GDP, low growth and low inflation remain firmly entrenched.¹⁶

Japan has also felt the effects of an emerging China more acutely than most. In 2010 China overtook Japan as the world's second largest economy, but still lagged behind Japan in terms of consumption. That changed in 2013 when China surpassed Japan as the world's largest consumer.¹⁷ As China's top trading partner, Japan experienced an economic contraction in the third quarter of 2015, falling 0.8% as China's economy stumbled.¹⁸ This is likely an opening salvo for what other developed nations face as the Chinese economy continues to evolve. The dynamics of global trade may be disrupted and as a result, the behavior of asset prices will come under stress.

Lastly, Japan has one of the most pressing demographic imbalances in the developed world. In fact, The Economist reports, "Japan's population began falling in 2004 and is now ageing faster than any other

on the planet. More than 22% of Japanese are already 65 or older. A report compiled with the government's co-operation two years ago warned that by 2060 the number of Japanese will have fallen from 127m to about 87m, of whom almost 40% will be 65 or older."¹⁹ In response, the Japanese government is taking drastic steps to ameliorate the demographic crisis. Still, little progress has been made to fix Japan's demographic crisis, and the shrinking population has curtailed Japan's economic prospects.

It is worth mentioning too, that Japan has participated in the information revolution, and while they may not be world leaders in that space, they certainly have not been laggards either. Taken together, these secular trends have resulted in a low growth, low inflationary environment in Japan, and returns on beta investments have been unsurprisingly low. While Japanese Government Bonds have offered some respite, returns on beta investments remain inadequate for investors that had grown accustomed to the return boom that preceded the so-called "Lost Decade." Investors seeking returns in the 5-8% range faced tremendous difficulty in meeting their objectives without employing substantial leverage. Of course, leverage is a valuable portfolio tool, but it is not without risk since it increases the odds that investors will be pro-cyclical sellers of risk assets.

While the comparison is far from perfect, studying Japan may offer some insight into what the rest of the developed world can expect as the economic climate changes. More specifically, as we transition

¹⁶ <http://www.bloomberg.com/news/articles/2015-10-28/boj-bazooka-beats-the-rest-at-qe-as-balance-sheet-keeps-swelling>

¹⁷ <http://www.economist.com/blogs/analects/2014/02/chinas-economy>

¹⁸ http://www.nytimes.com/2015/11/17/business/international/japans-economy-feels-the-sting-of-chinas-slowdown.html?_r=0

¹⁹ <http://www.economist.com/blogs/banyan/2014/03/japans-demography>

into a new economic climate, one that is likely to be characterized by low growth and low inflation, we anticipate similar investment headwinds. In fact, beta assets may be mired in the same malaise that Japanese investors have experienced for more than three decades. In spite of these challenges, investors must continue to meet risk and return objectives. In order to do so, they may consider investment strategies that are adapted to the new economic climate.

Navigating the New Economic Climate

As noted above, an economic environment that is characterized by low growth and low inflation is unlikely to produce acceptable beta returns for many institutional investors.²⁰ By balancing beta, investors can improve their risk adjusted returns, but beta alone may not be adequate in the new economic environment. Fortunately, investors may improve the likelihood of meeting their risk and return objectives by adding alpha.²¹

While beta may struggle in the new economic environment, alpha has the opportunity to deliver positive returns because it extracts value cross-sectionally and does not rely on harvesting passive beta risk premium. Long/short active managers may be positioned to take advantage of opportunities that are manifest through fundamental and return dispersion. These opportunities cannot be exploited by passive

exposure to a broad index. In a sense, hedge funds have the potential to generate returns on a different investment dimension. Theoretically, this helps drive the asset class' uncorrelated returns but more importantly, dispersion opportunities will likely continue to exist as the secular trends outlined earlier take hold.

Furthermore, we expect the nature of alpha to change in the new economic environment. **Alpha strategies that rely on outmoded economic weather patterns may struggle to provide consistent returns. We believe that a more adaptive approach is needed to generate uncorrelated, positive returns in the new economic climate.** Previously, business cycles lasted 5-8 years, thus providing investors ample time to conduct analysis, size positions, and build a portfolio.²² In a low growth, low inflation environment however, that window has been compressed. Investment opportunities are unlikely to last for years at a time; instead, we believe they will appear sporadically, and disappear quickly. And while business cycles remain, they are likely to be driven by non-traditional factors.

For example, consider credit markets, which have historically been a major component of business cycles. Previously, credit markets tended to move slowly, given that growth and inflation were the major drivers of return. Now however, we believe the drivers are non-traditional, and are likely to be sector or firm specific. In many ways, credit performance may depend on

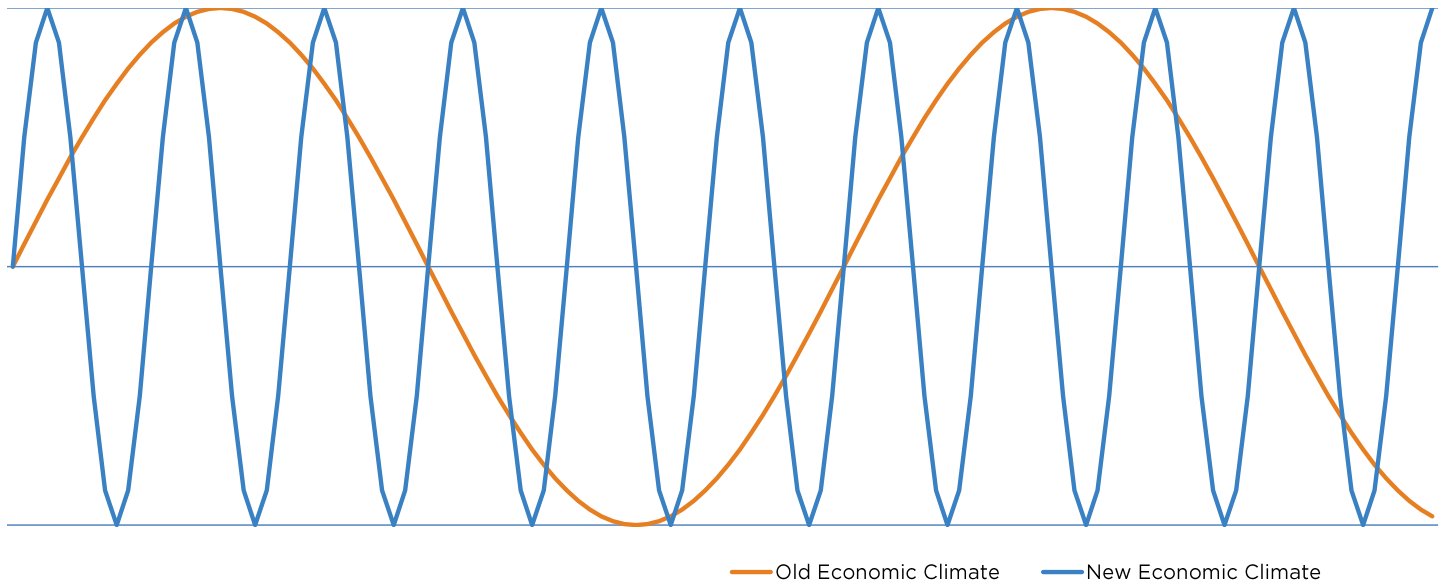
²⁰ "Can Beta Save the Day?", Weiss Multi-Strategy Advisers LLC, December 2015

²¹ "Alpha Unmasked - Disentangling Portfolio Returns", Weiss Multi-Strategy Advisers LLC, November 2015

²² <http://www.nber.org/cycles.html>

Exhibit 3: Economic Climate Change

New vs Old Investment Climates over Time



Source: Weiss²³

companies' ability to respond to the aforementioned secular changes. In effect, business cycles happen at the sector level or firm level rather than the economic level.

The same phenomenon seems evident in equity markets as the lifecycle of the firm seems to be accelerating. A recent report by The Economist notes "Ideas move around the world more quickly. Supply chains bristle to the instant commands of big-data feeds.

Customers' grumbles on Facebook are met with real-time tweaks to products. Some firms are so fast that they can travel into the future."²⁴ To be successful in this new economic climate, firms must be adaptive and nimble. Similarly, successful investing demands an adaptive strategy that is not dogmatically biased towards factors or betas.

Exhibit 3 offers a schematic diagram of this new reality. While it falsely conveys some regularity and predictability to investment cycles, it does show the shortening of investment opportunities. **When business and investment cycles were longer, the margin for error was great because investors had time to build their portfolios. Now however, the margin for error has been compressed and alpha managers must be nimble and trading-oriented in order to capitalize on short-lived investment opportunities with potentially violent reversals. Such an environment will likely reward managers who have the ability to provide liquidity strategically. Moreover, managers must be adaptive and forward looking in order to manage the multitude of factors that may affect asset prices in the future.**

²³ This schematic is for illustrative purposes only in order to show what shorter cycles could look like, and is not based on proprietary Weiss models or other such data

²⁴ "The Creed of Speed", *The Economist*, December 2015

Beta Grazing Won't Cut It as Secular Shifts Take Hold

Predictions of economic change are not new, as many before have tried and failed to anticipate momentous economic changes. In fact in his February 1997 testimony to the Senate Banking Committee, Alan Greenspan warned, "History counsels caution, visions of such 'new eras' that, in the end, have proven to be a mirage."²⁵ However, there are several secular changes taking place that suggest we may be standing on the precipice of a substantial economic paradigm shift. Zero bound interest rates, exponential innovation, the rise of the Chinese consumer, and demographic dynamics may be contributing to an economic environment in which growth and inflation are no longer be the powerful drivers of asset returns that they once were. Business cycles will continue to exist, but they will be driven by non-traditional factors, rather than broad based macro factors.

Successful navigation of this environment requires a more nuanced approach to portfolio management. First, there is reason to believe that beta alone will not be sufficient for achieving target returns. The addition of alpha may improve the likelihood of meeting objectives, but alpha must also adapt to the new economic climate.

Previously, investors had ample time to build alpha portfolios. Now that markets are more heavily influenced by non-traditional factors, the lifecycle of alpha may be shortened. Thus, investors may no longer

have long standing biases towards beta or alternative beta strategies. Instead, alpha managers must be unbiased and nimble in order to capitalize on investment opportunities.

The new economic climate certainly has created headwinds for many investors, but by taking an adaptive approach, one that acknowledges that the future may look different than the past, investors may maximize the likelihood of meeting their risk and return objectives.

For additional information, please contact us.

²⁵ <https://www.foreignaffairs.com/articles/united-states/1997-07-01/end-business-cycle>

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