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INDEX DEFINITIONS
Making sense of a transforming world

It is getting complicated and confusing out there.

Civil unrest in the Middle East, a depression in Greece, a structural slowdown in China, the rise of Africa, a game-changing energy revolution in the United States — the only constant in the global economy is change. What is true today was not true yesterday, while the contours of tomorrow remain murky and ill-defined. Such are the turbulent and ever-shifting global cross-currents investors find themselves in at the moment.

The global investment landscape is always fluid and choppy but never before have U.S. investors had to disentangle and decipher so many conflicting signals from various parts of the globe; never before have investors had to cope with the stunning velocity of information that circles the planet at warp speed; and never before have investors had to digest so much natter and chatter from 24/7 media outlets, leaving many, not surprisingly, ill at ease about investing and ill-advised about what’s really going on in the world.

It all used to be a lot simpler for U.S. investors, notably for America’s baby boomers. When the boomers entered the labor force, the preeminent economy in the world was the United States. China was poor and closed. The Soviet Union held a huge swath of Central and Eastern Europe under lock and key. Across many sectors, U.S. firms were the most competitive in the world. America was a creditor, not a debtor nation. There were no smartphones or iPads, or even laptop computers to disrupt and distract the lives of millions of Americans. Finally, investment choices for investors were rather elementary and unsophisticated. A house and a company pension were the retirement foundation of most working Americans.

Today, it’s a great deal more complicated. Albeit one of the largest and most competitive economies in the world, America is no longer the lone global alpha dog. The competition has become more intense and unrelenting. China is opening up and getting wealthier and more influential by the day. The 28-member European Union is no economic lightweight; indeed, it ranks as the largest economic entity in the world. The U.S. consumer still matters to global growth, but the emerging market consumer will matter even more in the years and decades ahead.

By living beyond its means for years, the U.S. is now a debtor nation, not a creditor nation — that’s China and Japan. The pace of technological change only continues to accelerate, destroying old firms and creating new players with the power to disrupt the economic status quo.

Once able to set the tune for the global economy, America increasingly finds itself a co-maestro to China, the G-20 or Europe. The U.S. economy has rarely been as open or exposed to external influence as it is today. We are dependent on the world’s natural resources, human capital, savings, technology and markets, to name just a few items. That is another way of saying that when things go bad in Europe or China, or unexpectedly turn for the better a la accelerating growth in Africa, the aftershocks are quickly transmitted to the shores of the United States.

For U.S. investors, the risks and rewards of a more open and integrated global economy are tremendous. But exploiting these opportunities and managing the attendant risks require a more fundamental understanding of the global
economy — how it works, who leads and lags, who does what better than the others, and on down the line. We think of the global economy as a singular entity, and in one sense, it is — mother earth is all we have to work with when it comes to a living and breathing entity. That said, the global economy consists of many different parts and components — the countries, companies and citizens of the world are very diverse and dispersed, having different attributes, endowments and capabilities that make for a very complicated and messy risk-and-reward profile for investors. Hence the need for this research.

The book attempts to make sense of the world we live in and to provide a few clues as to where we might be headed. In the following pages, we try to explain “what’s going on,” a difficult task since it is very hard to boil down the global economy into 101 snapshots. Nonetheless, we try.

The plan of the book

We divide the book into six chapters, with each chapter containing a number of stand-alone entries. Each entry consists of a high-level narrative, accompanied by one or two exhibits, and concludes with an Investment Summary box. The goal of each entry is to state the trend, explain its importance, visually show what’s happening, and conclude with the “so what?” for investors.

Chapter One (Global Output) provides a high-level examination of the global economy, and delves into the key players, significant trends and related metrics like urbanization and demographics.

A key takeaway is this: The post-war development of the global economy has been nothing short of stunning. Unappreciated by many, the past 60 years have been a near-unprecedented period of prosperity. By spurring more global growth, opening new markets, and allowing for more investment choices among different asset classes, globalization’s return has yielded significant opportunities for U.S. investors. Hopefully the good times will continue. We remain very bullish about the long-term prospects of the U.S. economy in general and corporate America in particular.

Chapter Two (Global Trade) focuses on one of the most important agents of globalization — cross-border trade. As we note, nations do not exist in isolation. They prosper and develop when they interact with one another. In the process, new wealth is created and new investment opportunities emerge.

This chapter highlights the world’s largest traders of goods and services, with the U.S. again near or at the top of the charts. Unbeknownst to many investors, the U.S. is a $2 trillion exporting gorilla, with America’s breadth of exports (including goods and services) incomparable on a global basis. Another key trend of global trade pivots around China. However, as we discuss ahead, “Made in China” is not what it appears to be. We also examine the key commercial arteries of the United States and review two new global trade agreements that could — if concluded — change the nature of global trade.

Chapter Three (Global Investment). Global commerce is not just about trade, but also about foreign direct investment (FDI) and portfolio flows. It is about countries and companies investing in each other’s economies, further deepening the economic ties that bind nations together. Like trade, foreign direct investment has soared over the past few decades, underpinned by falling transportation and communication costs, the global diffusion of production and many other factors. We examine offshoring and foreign direct investment inflows, and the positive benefits of both to the U.S. economy. We analyze the critical role of U.S. multinationals and their foreign affiliates in driving profits.
This chapter also takes stock of China’s outward thrust, with China not only one of the largest recipients in the world of FDI, but also one of the largest suppliers. China has gone global, a game changer for many companies and nations. Meanwhile, the emerging markets in general are becoming more substantial players in global mergers and acquisitions (M&A). We also speak to the continuing reign of the U.S. dollar as the world’s primary reserve currency, and we highlight the importance of foreign capital to the proper functioning of the United States — which, let’s not forget, is the largest debtor nation in the world.

Chapter Four (Global Competitiveness) discusses the key trends and dynamics of global competitiveness, a hugely important topic for companies and countries alike, and for investors looking for the best long-term investment opportunities.

In a world where the race to be first never ends, where disruptive technologies always lurk just beneath the surface, and where new competitors can now emerge from virtually any corner of the world, the premium on being competitive has never been greater. Competitiveness matters, serving as a distinct differentiator between nations or companies that succeed or fail. It’s that simple.

Productivity is another key component of competitiveness and is outlined in the pages ahead. Other topics include infrastructure spending and other competitiveness-related metrics like “ease of doing business,” global savings rates and corporate taxes. All three variables are hugely influential in determining a nation’s underlying competitiveness. Immigration, innovation, education, wages, healthcare costs, hours worked — these factors are highlighted in this chapter as well.

Chapter Five (Global Asset Performance) shines a particular light on market returns and performance. In this chapter we analyze various asset classes and their absolute and relative performance over the past few decades. For starters, we assess the relative performance of equities versus bonds versus cash; we also look at dividends, bear markets and recessions, including their frequency and market returns, as well as Fed tightening cycles and their overall market effect.

We take a look at the S&P 500’s sector performance of the past few decades and conclude that, over time, cyclical sectors like information technology, energy, consumer discretionary, financials and industrials typically outperform (in price terms) more defensive sectors like healthcare, consumer staples, telecommunication services and utilities. The performance gap, however, narrows when dividends are added to the mix.

Investing and asset allocation are also about non-U.S. equities and other asset classes, so we discuss relative returns of the developed nations and emerging markets. The frontier markets, which are now more accessible to U.S. investors than ever before, are also discussed, as are other asset classes like fixed income, commodities, real estate and specialty asset classes like farmland and timberland.

The final chapter — Chapter Six (Global Odds and Ends) — is a smorgasbord of key trends and dynamics affecting the global economy. We paint with a broad brush in this chapter and analyze such key global trends as soaring water scarcity, womenomics, global obesity, global brand leaders, and the challenge of feeding 7 billion people. Regarding the latter, we remain long-term bulls on agricultural commodities. We are also bullish on information technology, and discuss a number of game-changing innovations/trends like 3D printing, the global dispersion of the internet, the emergence of Big Data, and the ubiquitous state of smart connected devices like tablets and smartphones. Never has the world been as connected and mobile as it is today. And the best is yet to come, in our opinion, considering that roughly 60 percent to 65 percent of the world has never logged on to the internet!
The chapter also tackles such topics as China’s exploding penchant to travel and the attendant explosion in global tourism; the opening of the last frontier — the Arctic Ocean; and the big business of global remittances and the global drug trade. Speaking of big business, we also include an entry on the unwieldy U.S. healthcare industry. We focus on key policy challenges in this chapter as well. Of particular importance to investors, we highlight the key risk in the Middle East — or the growing bloody divide between the two branches of Islam, the Sunnis and Shia. No investor can begin to understand the Middle East without recognizing this dynamic.

Our final entry — 101 — discusses one of the most important ingredients of economic success — sleep. That’s right, sleep matters. A well-rested nation is a competitive nation.

We hope you will find the following pages provocative and insightful, and emerge with a better sense of “what’s going on” in the marvelous world we live in.

Chris Hyzy  
Chief Investment Officer  
U.S. Trust  
212.852.2981

Robert T. McGee  
Director of Macro Strategy & Research  
U.S. Trust  
212.852.2151

Joseph P. Quinlan  
Chief Market Strategist  
U.S. Trust  
212.852.2956
We begin at the 65,000-foot level — or with a global overview of the shape and size of the global economy, and the key trends and players. In general, the post-war evolution of the global economy has been nothing short of staggering, with global output rising from $1.3 trillion in 1960 to over $71 trillion in 2012. In the not-too-distant future, global output will be in excess of $100 trillion.

While the developed nations have led the way in promoting economic growth over the past few decades, future growth will be increasingly dependent on the developing nations. As the following pages make clear, the emerging markets, spurred on by their burgeoning middle classes, have emerged as key drivers of global output.

China is now the second-largest economy in the world1; the combined gross domestic product (GDP) of the developing nations now exceeds the developed nations (based on a purchasing power parity basis (PPP)). However, there is more to an economy than sheer output.

When it comes to the wealth of nations, the developed nations still rule. China and India are large but also poor. Wealth remains concentrated in the developed nations.

The United States stacks up rather well in the following pages; America is still among the largest and wealthiest countries in the world, a fact that runs counter to all the declinist talk in the U.S. The same can be said for Europe, with the European Union (EU) the largest economic entity in the world.2

The following pages also touch on global demographics, urbanization trends, and the awakening of Africa. We also take a look at the automobile revolution in the emerging markets and some byproducts — soaring global demand for energy and surging global carbon emissions.

Key technological advances that are rapidly changing and reshaping the world are also discussed.

On balance, the post-world-war development of the global economy has been a resounding success, helping to boost the living standards of Americans, while pulling millions out of poverty in the developing nations. However, is the past prologue?

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1 International Monetary Fund, World Economic Outlook Database, October 2013.
2 Ibid
THE POST-WAR GLOBAL ECONOMY IS A STARTLING SUCCESS BY ANY MEASURE

Given the underlying economic prosperity of today, with both the developed and developing nations enjoying unprecedented material benefits, it is easy to forget how far the global economy has come and developed since the conflict-ravaged days of World War II.

The second great war left the global economy in tatters — of the major powers, only the U.S. economy emerged stronger, with Japan, much of Asia and most of Europe in ruins following the global conflict. At war’s end, the United States was the undisputed economic leader of the world, although global growth would spread in subsequent decades.

The second half of the 20th century would turn out to be radically different from the first half. The latter, of course, was a time of turmoil and tumult, with World War I (1914–1918), the global Depression (1929–1939) and World War II (1939–1945) all conspiring to inhibit or suppress global economic activity, notably global trade and investment.

Beginning in the 1950s, however, and carrying into the early part of the 21st century, the global economy enjoyed a remarkable period of growth and prosperity. In 2011, aggregate world output totaled $70 trillion for the first time, more than double the level of global output in 2000 and 51 times the level of 1960. Global output reached over $71 trillion in 2012, a 23 percent rise from the depressed levels of 2009, when global output (in nominal terms) contracted 5.4 percent.

There have been only eight economic downturns/recessions since 1960. On average, the global economy has expanded by 3.5 percent per annum since 1960, an impressive track record supported by a number of factors, including the steady expansion of global trade over the past half-century; the globalization of investment and capital flows, which helped promote economic growth in both the developed and developing nations; and the rise of global enterprises, which has helped diffuse capital, technology and production-enhancing skills to various corners of the world.

World Economic Output: The Long View

U.S. aid and assistance to Japan and Europe were critical in launching global growth in the 1950s and 1960s. Thereafter, world output expanded as Europe, led by Germany, France and the United Kingdom, emerged as one of the largest economic entities in the world. The economic integration of Europe has been a boon to global growth, with the continent emerging from a loosely configured market of six nations in the late 1950s to an economic behemoth of 28 member states today.

Japan, meanwhile, rose from the ashes of WWII to become a global manufacturing powerhouse and Asia’s largest economy. For most of the post-war period, or up until around 1990, global economic activity — growth, trade and investment — was driven primarily by the developed nations, or the United States, Europe and Japan. The developed nations led, the developing nations followed.

Then things changed.

China’s opening to the West in the late 1970s; the collapse of Communism in the late 1980s; sweeping economic reform in India in 1991; and the adoption of pro-business policies throughout Latin America over the 1990s — all of these seminal events gave the global economy a massive shot in the arm in the latter stages of the 20th century. Globalization flowered, with more and more nations woven into the global economy via cross-border trade and investment flows. Falling transportation and communication costs helped promote global trade and investment and pulled millions of new consumers into the mainstream global economy. Even Africa has become more plugged into the global economy over the past decade thanks to rising cross-border trade and investment flows.

Greater global participation and engagement on the part of emerging market giants like China, India and Brazil have been critical in driving global output higher over the past few decades. China is now the second-largest economy in the world, eclipsing Japan in 2010. Since 1990 nearly 1 billion people have been lifted out of poverty, cutting the global poverty rate in half. Never before have so many people been integrated into the global economy.

Notwithstanding the current pace of sluggish global growth, there is a very good chance that global output could top $100 trillion by the end of this decade. Were that to transpire, the 70-year period following WWII would go down as one of the most prosperous periods in economic history.

Granted, the path has not always been smooth — over the decades there have been periods of weak growth, rising protectionism, regional conflicts and other barriers to growth. That said, mankind’s ability to generate growth and prosperity through technological innovation, through open cross-border trade and investment, and through a sustained period of global peace is unprecedented. In general, the world has learned to live and prosper together since World War II. This dynamic, fundamentally, is a very positive backdrop for investors.

**Investment Summary**

Despite periods of strain, the global economy has posted a remarkable track record of growth over the past six decades. The peace and prosperity of the post-WWII era are unprecedented; aggregate global output is headed for $100 trillion.
Recall that when the Greek financial crisis hit the front pages in the last few weeks of 2009, most investors paid little heed to the problem. The Greek economy, after all, was about the size of Connecticut and really no threat, so many thought, to its neighbors or the world economy.

Reality turned out to be far different — and far more disruptive.

Through financial contagion — massive increases in credit spreads or a spike in the cost of capital — Greece ultimately infected the rest of the Eurozone (which encompasses 17 European states) and the European Union, consisting of 28 member states. As the dominos in Europe fell in 2010 and 2011, pushing the European Union into recession, it finally dawned on investors that what’s bad for Europe is bad for the global economy.

Why? Because the sum of Europe’s parts is incomparable and greater than any other competing economic entity in the world. By breaking down barriers to trade and investment — by allowing for the free flow of capital and people, by opting for a single market and a single currency in some cases and by embracing other strategies over the past few decades — the European Union has become the largest economic entity in the world.

What started out as a loosely configured market of six nations (Belgium, France, West Germany, Italy, Luxembourg and the Netherlands) in the late 1950s is now an economic behemoth of 28 member states, with Croatia joining the club in mid-2013.

Even allowing for the last four years of sluggish real growth, the aggregate output of the European Union was estimated at roughly $16.1 trillion in 2012 (based on a purchasing power parity basis). To put that figure into perspective, the EU’s economy is roughly 30 percent larger than China’s and nearly 3.5 times larger than India’s.
While Asia’s twin giants are expanding at a faster rate than the EU, the global economic clout of Europe—here, now and in the future—remains immense. No aspiring multinational can afford to be absent a market that was roughly 2.6 percent larger than America’s in 2012.

Europe is not only the largest economic entity in the world, it is also among the wealthiest. The average per capita income (based on a purchasing power parity basis) of the European Union was $32,021 in 2012, well above the comparable figure in China ($9,162) and India ($3,830). It is Europe’s size and wealth that set the region apart from many other parts of the world, the United States included.

To this point, the European Union accounted for roughly one-quarter of global personal consumption expenditures (PCE) in 2012, a share roughly double that of the BRICs (Brazil, Russia, India and China). Gaining access to wealthy consumers is among the primary reasons that U.S. companies venture overseas, and hence the continued attraction of Europe to U.S. firms.

Sustaining the European Union’s size and wealth is its member states’ competitiveness. Despite the negative headlines over the past few years, and the fact that some EU members are highly uncompetitive, Europe, in general, is no slouch when it comes to global competitiveness and innovation/knowledge-based activities.

Switzerland, Denmark, Sweden, Finland and Germany are considered innovation leaders in Europe. In the latest rankings of global competitiveness from the World Economic Forum, six European countries were ranked among the top 10, and six more among the top 25. In the latest rankings, Switzerland, Finland and Germany outranked the United States.

By sector, Europe remains a leader in cutting-edge industries like life sciences, agriculture and food production, automotives, aerospace, nanotechnology and energy. Bolstering the activities of these industries is Europe’s large pool of science and engineering graduates, with the EU, according to the latest data from the National Science Board, accounting for 18 percent of global natural science graduates in 2008. America’s share was 10 percent of the total. The EU’s share of global engineering degrees (17 percent) was even more impressive than America’s (just 4 percent).

In addition to being large, wealthy and competitive, the European Union ranks as one of the largest exporters and importers in the world, and a key source of trade financing for the developing nations. The euro is the second-most popular currency in the world after the U.S. dollar. In the end, the economic weight of the European Union is quite formidable, making it very important that the region emerges from the current recession stronger and more resilient.

**Investment Summary**

Some investors speak of a G-2 world, or a world and its investment landscape dominated by the U.S. and China. That is a false picture of the world. The European Union, unbeknownst to many, is the largest economic entity in the world. Until the EU recovers, the global economy will continue to struggle.
THE WORLD ECONOMY HAS FOUR ENGINES; PROBLEMS IN ONE CAUSE PROBLEMS IN OTHERS

The global economy is made up of over 200 nations, making it difficult for investors to visualize the world economy. In the globalized world of today, it is hard to make sense of how an event in China affects growth prospects in Brazil, which in turn affects business activity in either Mexico or the U.S.

The world economy is a messy term but becomes more transparent and workable when viewed as a Boeing 747. The latter has four engines and so, quite simply, does the world economy. The four engines — and their key characteristics — of the world economy are the following:

**Engine One: North America** — The U.S. and Canada make up Engine One, accounting for just over one-fifth of world GDP, based on purchasing power rates from the International Monetary Fund (IMF) (see accompanying exhibit). Although Engine One is home to just 5 percent of the world’s population, this engine nevertheless accounts for 30 percent of global consumption and for 15 percent of world imports. Up until the financial crisis of 2008, this engine was known for driving global demand, adding significant thrust to other parts of the global economy. When the crisis struck, however, the main lubricant of demand — leverage or debt — dried up, sapping Engine One of its power, while pitching the global economy into a downward spiral.

Not unexpectedly, problems in Engine One created problems in Engine Two.

**Engine Two: Europe** — Engine Two consists of the European nations, which, collectively, remain the weakest and structurally impaired engine of the global economy. Europe’s sovereign debt crisis and its aftermath — fiscal austerity, soaring unemployment and a plunge in business investment — have throttled Engine Two, all but immobilizing an economy larger than America’s. Dithering on the part of policymakers in Brussels and other European capitals has compounded matters, triggering, in the process, a significant downdraft in global trade, cross-border lending and global economic activity.

With Europe accounting for over one-quarter of global consumption and more than one-third of total world exports, when the region goes into reverse, so do many other global activities. The stress and strain emanating from Engine Two have not only hampered the corporate profits of many U.S. multinationals but also impaired global trade, notably in Engine Three.

### The Four Engines

<table>
<thead>
<tr>
<th>The Four Engines</th>
<th>Engine One: North America</th>
<th>Engine Two: Europe</th>
<th>Engine Three: Asia</th>
<th>Engine Four: Commodity Producers</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (Purchasing Power Parity)</td>
<td>20.7</td>
<td>21</td>
<td>36.7</td>
<td>21.6</td>
</tr>
<tr>
<td>Population</td>
<td>5.0</td>
<td>8.6</td>
<td>55.8</td>
<td>30.6</td>
</tr>
<tr>
<td>Private Consumption Expenditure*</td>
<td>29.0</td>
<td>27.3</td>
<td>25.7</td>
<td>18.0</td>
</tr>
<tr>
<td>Exports</td>
<td>11.4</td>
<td>34.8</td>
<td>33.0</td>
<td>20.8</td>
</tr>
<tr>
<td>Imports</td>
<td>15.6</td>
<td>34.1</td>
<td>32.7</td>
<td>17.6</td>
</tr>
<tr>
<td>International Reserves**</td>
<td>2.0</td>
<td>8.9</td>
<td>62.6</td>
<td>26.5</td>
</tr>
</tbody>
</table>

*Personal/Household consumption expenditure, 2011.
**Excluding Gold.

Sources: International Monetary Fund; United Nations; U.S. Trust Market Strategy Team. Data as of July 2013.
Engine Three: Asia — Engine Three is the largest in the world in terms of output and population, and the one engine of the global economy that was running smoothly up until weak demand in Engines One and Two crimped export growth among key nations of Engine Three (think China, Japan and South Korea).

Contrary to popular lore, Engine Three cannot fly solo — China is not influential enough to pull the rest of Asia along with it while the U.S. and Europe struggle. No part of the world economy flies solo or is decoupled. China will manage a “soft” landing (growth in the 6.5 percent to 7.5 percent range), but the real issue lies with China’s future growth path. Japan’s new push for growth could lead to more thrust from Engine Three over the medium-term. Home to nearly 60 percent of the world’s population, when demand slows in Asia, the effect is immediately transmitted to Engine Four, or the world’s commodity producers.

Engine Four: Commodity Producers — The common denominator of Engine Four lies with commodities or raw materials and encompasses such regions as Latin America, the Middle East, Russia, central Asia, and Africa.

This engine of the world economy had been on cruise control for most of the past decade, but not anymore. The recent downdraft in global commodity prices has taken a great deal of energy out of Engine Four (think rising budget deficits and a deterioration in the balance of payments). With Engines One, Two and Three growing below historical rates, the net result, not surprisingly, has been falling demand and swooning prices for a variety of commodities. Some investors believe the great supercycle in commodities is over. That remains to be seen — secular demand for agricultural commodities remains quite robust.

Using this framework, it is a little easier to understand how the U.S.-led financial crisis of 2008 led to the global recession in 2009. Plunging demand in Engine One was quickly felt in Engines Two and Three via declining trade volumes, which adversely affected growth in Engine Four. No engine flies solo. Not surprisingly, the global economy lost a great deal of altitude over 2008/2009 before regaining some lift in 2010.

Indeed, the global economy expanded by over 5 percent in 2010 before losing ground again thanks to the European financial crisis. Early in 2013, the world economy was expanding by less than 3 percent.

In the cockpit of our imaginary 747 are the world’s central bankers, pulling various levers to keep the plane flying. They have been successful thus far, but a key question for investors is the following: How much longer can the world’s central bankers keep the global economy afloat? A steadier and sturdier flight path will require more public-sector fiscal spending and the deployment of corporate cash.
2009 marked a turning point in modern economic history. For the first time in over a century, the economic output of the developing nations exceeded the output of the developed nations (based on purchasing power parity). The world, in effect, has been turned upside down early in the 21st century. Recall that over most of the post-WWII era, the developed nations led and the developing nations followed. Indeed, in 1980, roughly two-thirds of the world’s output emanated from the developed nations, while one-third was courtesy of the developing nations (see first exhibit).

However, the secular shift in global growth has been evident for quite some time. For the past few decades, real growth in the developing nations, led by China, has easily outpaced growth among the developed nations, narrowing the gap between the two producing cohorts. The lines finally crossed in 2009, and there has been no turning back: The developing nations accounted for 54 percent of world output in 2012 and are expected to account for over 60 percent in the not-too-distant future.

This significant turn reflects differing economic fortunes of the developed and developing nations. Over the past few decades, real growth in the former has slowed thanks to rising real wages, slower and more saturated growth in various consumer markets, declining rates of labor force participation, and shifting demographics, with the developed nations home to a more elderly and aging population base.

Since the global financial crisis of 2008, heavy debt loads and attendant austerity measures, notably in Europe, have added to the headwinds of growth among the developed nations. Another headwind: Japan’s “lost decades,” which have done more to inhibit rather than assist real economic growth among the more advanced economies of the world.

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**The New World Order:**
**The Developing Nations Take the Lead**
(Purchasing power parity)

Source: International Monetary Fund
Data as of April 2013.
In contrast, faster growth among the developing nations has been fueled by a number of external and internal factors. Key external factors include the following: global trade and investment liberalization; unfettered cross-border capital flows; the global shift toward industry deregulation and privatization; and the spread of multinational global supply chains, which has helped boost employment and consumption in many developing nations.

Internally, an expanding labor force; unsaturated and underdeveloped consumer markets; rising per capita incomes; younger populations; the development of natural resources; and the industrialization and urbanization of China, India and other key economies — all of these forces, and more, have converged in the past few decades to promote faster growth among the developing nations relative to the developed cohort.

Developing Asia, not surprisingly, has led the way, boosted by China’s stunning real annual average growth of 10 percent over the past three decades. Since 1980, China has lifted an estimated 680 million people out of poverty.

As the second exhibit illustrates, future growth to world output will emanate primarily from the developing nations. Note that during the first decade of this century, the contribution to growth was virtually split between developed and developing nations. Looking forward, however, the International Monetary Fund expects a disproportionate percentage of global growth to come courtesy of the developing nations. The latter, according to the IMF, will contribute nearly 62 percent of global growth over the 2010–2018 time frame.

### Contribution Share to Global Economic Growth (Nominal GDP)

<table>
<thead>
<tr>
<th>Period</th>
<th>Advanced Economies</th>
<th>Developing Economies</th>
</tr>
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<tbody>
<tr>
<td>2010-2018*</td>
<td>38.4%</td>
<td>61.6%</td>
</tr>
<tr>
<td>2000-2010</td>
<td>50.6%</td>
<td>49.4%</td>
</tr>
<tr>
<td>1990-2000</td>
<td>79.3%</td>
<td>20.7%</td>
</tr>
<tr>
<td>1980-1990</td>
<td>83.1%</td>
<td>16.9%</td>
</tr>
</tbody>
</table>

*Projected. Source: International Monetary Fund. Data as of April 2013.

### Investment Summary

Global rebalancing — or greater growth emanating from the developing nations — remains a key investment theme of ours. The U.S.-centric global economy is a thing of the past; investors’ portfolios should reflect this new reality by considering a larger share of non-U.S. assets, whether equity, fixed income, currencies, real estate or other investment opportunities.
THE TRANSFORMERS — THE RISE OF THE EMERGING MARKET MIDDLE CLASS

The U.S. consumer is no longer king—or the primary driver of global growth. The baton has been passed to consumers in the emerging markets, among the most potent macro forces of the global economy.

The Transformers—or emerging market consumers—are young, educated and hyper-connected, and inhabit a world radically different from their parents’. What their parents and grandparents considered luxuries—flushing toilets, electricity at home, telephones, air conditioners, refrigerators—the Transformers consider mere staples or basic necessities.

The Transformers are part of an exploding middle class in the developing nations, with this middle class, according to research from McKinsey, expected to reach 4.2 billion people in 2025, up from 2.4 billion today (see accompanying exhibit). By then, “For the first time in world history, the number of people in the consuming class is expected to exceed the number still struggling to meet their basic needs.”¹

Never before have so many people entered the global mainstream, with this massive consuming cohort placing unprecedented demand on the world’s supply of energy, water, agricultural goods, and other natural resources. Pick virtually any commodity—oil, soybeans, copper, meat, or fruit and vegetables—and the emerging market consumer is now setting the price, ending the decades-long monopoly the West has enjoyed in devouring the world’s natural resources.

The Rise of the Emerging Market Middle Class


¹ McKinsey Quarterly, Winning the $30 trillion decathlon: Going for gold in the emerging markets, August 2012.
Not only are emerging market consumers dictating world commodity prices, they are also increasingly driving and determining global sales and earnings in various industries that used to beat to the tune of the U.S. and European consumers. To wit, China’s automobile market is now 32 percent larger than America’s; Diageo, the owner of Guinness, now sells more of the foamy brew in Nigeria than in Ireland; Brazil is the second-largest market in the world for Facebook, and the largest malls in Europe are now in Russia, with Moscow having more mall floor space than any other city in Europe, according to data from the International Council of Shopping Centers.

Not surprisingly, global consumption is tilting toward the developing nations and away from the U.S. and the West. The gap is narrowing in favor of the developing nations, as the second exhibit underscores.

Given the overarching touch points of the Transformers, there are multiple ways by which to invest in this cohort. At the core are Western multinationals with strong and recognizable brands, in addition to unique core competencies. Among sectors, think information technology, consumer discretionary, healthcare and consumer staples. We remain bullish on agricultural commodities due to shifting/improving diets among the emerging market middle class. We also favor water and hard assets like farmland and timber. Firms catering to the needs and wants of women should be positioned for above-average growth. Emerging market currencies and real estate are two other attractive options by which to leverage the rise of the emerging market middle class.

Global Shift: Share of Global Personal Consumption

Data as of December 2012.

Investment Summary
While the spending power of the consumer in the U.S. and Europe has been diminished by the financial turmoil of the past few years, the purchasing power among developing consumers is on a secular upswing.

4 J.D. Power & Associates and LMC Automotive, September 2013.
The Rise of China: Will the Past Be Prologue?

While the previous entry spoke to the rising role and influence of the developing nations, no nation — outside of the United States — has exerted more influence over the global economy in the past quarter-century than China. The mainland’s economic success has been nothing short of stunning, with the Middle Kingdom — a backward, insular, uncompetitive economy in the late 1970s — emerging as one of the largest economies in the world in the early part of the 21st century.

Never before has one country lifted so many people out of poverty — an estimated 680 million — in such a short period of time. And never before has a nation’s economic rise touched nearly every corner of the globe.

There have been many ingredients to China’s success — agricultural reform, urbanization, state-led industrialization, the emergence of a dynamic private sector, robust capital inflows, and plentiful low-cost labor, to name just a few.

In 1980, or about the time China turned or “opened” to the West, China’s economy was about the size of Argentina’s. In subsequent decades, however, economic output soared, with China’s output surpassing Germany’s in 2007 and Japan’s in 2010, making China the second-largest economy in the world. In 2012, China’s aggregate output, in nominal U.S. dollars, totaled $8.2 trillion, a staggering 3,964 percent rise from 1980. The nation’s output is expected to rise to $14.9 trillion by 2018, based on projections from the International Monetary Fund.

As the exhibit highlights, only the United States stands in the way of China becoming the largest individual economy in the world. Based on market exchange rates, U.S. output totaled $15.7 trillion in 2012, about double China’s output.

Also note from the table that six of the 10 largest economies in the world are composed of developed nations. Four of the world’s 10 largest economies are in Europe — led by Germany, France, the United Kingdom and Italy. Investors should not be surprised to see Brazil and India move up the economic ranks — notably India, given the nation’s overwhelmingly young population.

The Rise of China

<table>
<thead>
<tr>
<th>Top 10 Largest Economies in 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. U.S.</td>
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<tr>
<td>2. China</td>
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<tr>
<td>3. Japan</td>
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<tr>
<td>4. Germany</td>
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<tr>
<td>5. France</td>
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<td>6. U.K.</td>
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<tr>
<td>7. Brazil</td>
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<tr>
<td>8. Russia</td>
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<tr>
<td>9. Italy</td>
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<tr>
<td>10. India</td>
</tr>
</tbody>
</table>

Conversely, unfavorable demographics will act as significant headwinds to the future growth of Germany, France, the U.K. and Italy. The same holds true for Russia, whose economic output has been boosted by the surge in world oil prices over the past decade but whose demographics are some of the worst in the world.

As for China, there is nothing preordained about the nation’s economic ascent. In other words, investors beware — the past may not be prologue in the Middle Kingdom. After posting average annual growth of 10 percent for the past three decades, it would be foolhardy to expect China to do the same over the next decade. Investors need to think of Chinese growth rates in the 5 percent to 7 percent range over the medium-term.

China’s economy is in transition, with the past development model of export- and investment-led growth shifting in favor of more consumption-led growth. The hitch is the following: Chinese consumers — at least for now — are not all that omnipotent or important drivers of growth, with PCE accounting for just 35 percent of GDP in 2011. The comparable figure in the United States was 72 percent.

As the accompanying exhibit underscores, China is among the least consumption-led economies in all of Asia, a fact often overlooked by investors. Yes, the Chinese consumers like to shop, but they also like to save given rising costs related to education, healthcare, retirement and pensions.

Another key challenge to China relates to the environment. More than 27 percent of China’s land mass is estimated to be desert, with more and more of China’s land mass degrading into desert each year. Water and food shortages could become a huge growth problem for China in the not-too-distant future.

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**Lagging Behind the Consumption Curve**

(2011)

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Data as of December 2012.

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**Investment Summary**

China’s remarkable economic rise has been an investment hallmark of the past 30 years, although investors should prepare for a different China in the future, one that grows at a slower pace and one based on more consumption-led growth. This transition will be fraught with risks for China and the world at large.
THE U.S. REMAINS A MANUFACTURING POWERHOUSE (REALLY); FOCUS ON U.S. MULTINATIONALS

While the United States remains a formidable manufacturer of goods, the U.S. lost the top spot to China in 2011. The Middle Kingdom accounted for 20.7 percent of world manufacturing output in 2011 versus a U.S. share of 17.3 percent. That the U.S. ranks even second in world manufacturing surprises many investors, considering the incessant narrative in the United States that American industry has been hollowed out and that the U.S. does not make anything the world wants to buy. The consensus is that American manufacturers have decamped the U.S. for lower-cost locations in Asia and Latin America. Reality is far different — America remains a manufacturing powerhouse. Thanks to moderate wage gains, the use of robotics and automation, and super-cheap energy costs, the U.S. manufacturing base is experiencing a revival that has stunned many investors. America is increasingly viewed as a low-cost manufacturing location, helping to pull in manufacturing investment from all over the world.

To wit, U.S. manufacturing output (in nominal terms) totaled $1.9 trillion in 2012, a rise of 27 percent from the depressed levels of 2009. Manufacturing employment has increased by roughly 500,000 workers from the trough of January 2010. Only China manufactures more than the U.S., but the Sino-U.S. spread is not that large and China’s own manufacturing base is under strain thanks to a stronger currency, rising wages and uncompetitive energy costs. In addition, because the U.S. deploys far fewer manufacturing workers than China (15 million versus 100 million), U.S. manufacturers are far more efficient and therefore far more profitable than their Chinese counterparts. As the accompanying chart highlights, U.S. firms are masterful at producing a great deal of output with a lot fewer workers — that is called productivity.

From the global rankings, take note of Japan’s manufacturing prowess. Despite decades of stagnant growth, Japan is still among the world’s most dominant manufacturers, ranking third in 2011. Germany ranked fourth, followed by Italy.

Manufacturing Activity in the U.S.

U.S. manufacturing strengths lie in such industries as biotechnology, computer hardware, capital goods, aerospace, medical devices and equipment, and telecommunications equipment. Europe’s leading manufacturing strengths, meanwhile, are in automobiles and parts, chemicals, electrical components and parts, and industrial metals. Italy ranks as one of the world’s top manufacturers given its capabilities in textiles, wearing apparel, leather products and fabricated metals. Consumer electronics, robotics and automobiles underpin Japan’s manufacturing capabilities.

China ranks as a formidable manufacturer in the following sectors: food and beverages, tobacco products, textiles, wearing apparel, paper and paper products, rubber and plastics, and basic materials.

Despite all the chatter of manufacturing production shifting to the developing nations, note that of the top 15 manufacturers in the world in 2011, more than half — a total of eight — were advanced or industrialized nations. Manufacturing is largely dependent on a skilled labor force and innovative/technological capabilities, attributes more likely to be found in the developed nations than in the developing nations. Newcomers to the list in 2011 were Russia and Indonesia, replacing Turkey and Taiwan in the top 15 rankings.

After China, South Korea ranks as the largest manufacturer among the developing nations. The United Kingdom fell out of the top 10 in 2011, falling to 11th place in the rankings. Canada also fell out of the top 10 the same year, dropping to 15th on the list.

The United States, Canada and Mexico all rank as leading global manufacturers, underscoring the manufacturing capabilities of NAFTA (North American Free Trade Agreement). Mexico has always ranked as one of the largest manufacturers in the world, with NAFTA further bolstering/enhancing the nation’s manufacturing status.

### Top Manufacturing Countries

(Manufacturing value added)

<table>
<thead>
<tr>
<th>Rank</th>
<th>1980</th>
<th>1990</th>
<th>2000</th>
<th>2011*</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>U.S.</td>
<td>U.S.</td>
<td>U.S.</td>
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<td>2</td>
<td>Germany</td>
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<td>3</td>
<td>Japan</td>
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<td>4</td>
<td>U.K.</td>
<td>Italy</td>
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<td>Indonesia</td>
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<tr>
<td>14</td>
<td>Argentina</td>
<td>India</td>
<td>India</td>
<td>Spain</td>
</tr>
<tr>
<td>15</td>
<td>India</td>
<td>Taiwan</td>
<td>Turkey</td>
<td>Canada</td>
</tr>
</tbody>
</table>

Source: IHS Global Insight.
Data as of December 2012.

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**Investment Summary**

We remain bullish on U.S. multinational manufacturers — think industrials, materials and related sectors. This cohort is among the most competitive in the world and well positioned to tap the infrastructure needs and consumer desires of the developing nations.
THE AWAKENING OF AFRICA MEANS GROWTH, GLOBALIZATION AND INVESTMENT OPPORTUNITY

Many investors have an archaic view of Africa, which is not surprising given the common narrative in the United States that Africa equates to conflict, poverty, the spread of AIDS, government corruption, and other nefarious stereotypes. Yes, the continent confronts significant structural challenges, but we believe Africa is poised to be a significant source of global growth in the decade ahead.

Unbeknownst to many investors, Africa is among the world’s fast-growing regions, with real GDP growth in 2012 clocking in at 4.5 percent among countries of the Middle East/North Africa and 4.9 percent in Sub-Saharan Africa. That compares with a pitiful 1.2 percent rise in the developed nations (see first exhibit).

More impressive than simple GDP figures are important alternative metrics that point toward more sustainable growth in many parts of Africa. As recently noted in The Economist, secondary school enrollment in Sub-Saharan Africa expanded by nearly 50 percent between 2000 and 2008, and over the past decade, deaths due to malaria have declined by 30 percent in some of the worst-affected countries. HIV-related deaths have plunged by 74 percent. Life expectancy across Africa has increased by around 10 percent.

Other key metrics cited by The Economist:

- Africa has three mobile phones for every four people, the same penetration as India.
- By 2017, nearly 30 percent of households are expected to have a television set, a nearly fivefold increase over 10 years.
- Nigeria produces more movies than America.
- While not even half of Africa’s nations are what the World Bank classifies as “middle income” at the moment, by 2025, the World Bank expects most African states to have reached that stage.7

Going for Growth: Africa Easily Outperforms the Developed Economies

![Graph showing real GDP growth for Sub-Saharan Africa, MENA, and Developed Economies]

Source: International Monetary Fund.
Data as of July 2013.

Other stats to consider: Between 2000 and 2010, per capita incomes across Africa rose 70 percent, among the fastest levels of growth in the world. In Sub-Saharan Africa, the population is expected to expand to 2.1 billion people by 2050 versus 900 million today.

According to the African Development Bank, the middle class is set to expand from 355 million people in 2010 (or 34 percent of Sub-Saharan Africa’s population) to 1.1 billion (42 percent) in 2060. In 1990, just over a quarter of the population was considered middle class. Meanwhile, the continent’s population is relatively young, with Africa home to 17.5 percent of the world’s 15-to-24-year-olds; by 2050, this share is expected to be 31.3 percent, according to the International Monetary Fund. Presently, more than one half the population is under 24 years of age. By 2050, Africa’s population of 2.4 billion will be larger than India’s and China’s.

Given all of the above, it is not surprising that Africa has finally emerged on the radar screens of many multinationals. Wal-Mart now has some 300 stores in 14 African nations. Given rising beer consumption across the continent, more than a third of SABMiller’s group revenue comes from Africa — it accounts for roughly 60 percent of beer sold by volume in Africa. Heineken’s largest brewery outside of Europe is in Nigeria. Retail, banking and telecommunications multinationals are also in the mix thanks to Africa’s expanding technological capabilities and the attendant innovation and connectivity that are sweeping the continent.

You get the picture: Once a commercial backwater, Africa is now a key source of natural resources and is emerging as a vast new consumer market for many Western multinationals. The combination pushed foreign direct investment (FDI) inflows to a record $58 billion in 2008 before inflows tailed off in light of the global recession. Still, FDI inflows in 2011 — some $42.7 billion — were double the level of 2000 and 15 times larger than inflows in 1990.

Besides better economics, better politics are also enticing more multinationals to sink capital into Africa. While typical day-to-day headlines in the U.S. speak to violence, ethnic conflicts and other political ills — of which there are many — lost in the debate is the fact that Africa’s leaders and general population are better educated today than ever before. They are also better connected, which has helped increase the level of political accountability in many nations and has helped spawn more durable and trustworthy institutions. Better government is becoming the norm. Technocrats — or folks educated in the West — are increasingly at the helm of many central banks across Africa or running key economic agencies.

And consumerism is taking hold, with personal consumption expenditures in Sub-Saharan Africa rising to a record $727 billion in 2011. That is more than triple the level of 2000. For the entire continent, personal consumption expenditures topped $1 trillion for the first time in 2010, and rose another 8.1 percent in 2011, rising to a record $1.2 trillion.

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**Investment Summary**

Africa has awakened — the continent is slowly globalizing and becoming an integral part of the global economy. Attractive investment plays are via large U.S. and European multinationals that are increasingly leveraged to this new global growth story.

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EMERGING MARKET CONSUMERS TAKE TO THE ROAD; U.S. AUTOMAKERS ARE WELL POSITIONED

Automobile ownership has long been the domain of the developed nations, or the near-exclusive preserve of well-heeled consumers in the well-to-do nations of the United States, Canada, Germany, the United Kingdom and other developed countries. Higher incomes afforded these consumers the chance to buy one of life’s greatest purchases: an automobile.

Meanwhile, in the majority of developing nations, the major mode of transportation has long been either a bike or motor scooter, or, in many parts of the world, an animal. An automobile was a luxury, a high-priced good out of the reach of many in society, even for the better-educated and higher-paid workers.

To this point, the emerging markets accounted for just 10 percent of global light vehicle sales in 1990. Even in 2000, despite accounting for 86 percent of the world’s population, the developing nations still accounted for only one-quarter of global light vehicle sales.

Over the past decade, however, times have changed. Rising per capita incomes, falling prices, cheaper financing, more roads to drive on—all of these factors have put car ownership within the reach of millions of new consumers.

Taking to the road in Botswana, China, Vietnam or Chile is not as unusual as it once was. Indeed, owning a car is increasingly commonplace in many parts of the world. In line with the rising middle class in Latin America, and in developing Asia and Africa, mini-automobile revolutions are sprouting all over the world, dramatically changing the dynamics of one of the world’s most important industries.

The first exhibit underscores this revolution. Note that in 2009, auto sales were roughly even between the developed and developing nations, at roughly 32.4 million units each. Between 2009 and 2012, however, vehicle sales in the developing nations soared by nearly 41 percent, while sales in the developed nations rose just 10 percent; depressed sales in Europe held back overall sales in the developed nations.

The developing nations accounted for 56 percent of total global sales in 2012, a share that is expected to rise to roughly two-thirds by 2018. By then, the emerging market consumer—literally and figuratively—will be in the driver’s seat when it comes to determining the fortunes of the world’s top automobile makers.
As the second exhibit highlights, China has been a key factor in the rise of automobiles in the developing nations. To wit, between 2000 and 2012, automobile sales in China soared 918 percent, increasing from 1.9 million units at the start of the century to 19.2 million units in 2012. Comparable auto sales in the U.S. fell 17 percent over the same time period.

Sales in India jumped 351 percent over 2000 and 2012. That is a significant rise, but note that auto sales in India, a country with a population equivalent to China’s, were just 17 percent of the mainland’s in 2012. There is still tremendous upside potential in India, in other words. No major global automaker can afford to be absent that market.

From the table, note that the Brazilians now buy more cars than the Germans; the Russians buy more than the Brits; and the South Koreans buy just as many vehicles as the Italians. Of the top 10 largest markets in the world for light vehicles, four out of the 10 are developing markets.

Combined, the United States and China accounted for over 41 percent of total global sales in 2012. Auto sales in the mainland surpassed sales in the U.S. in 2009. That sounds rather ominous, but both General Motors and Ford Motors have enjoyed robust sales from China over the past few years. Indeed, China has become a very important market to both companies, with India likely to emerge as a key growth market in the future.

The downside from all of the above: rising global demand for oil as millions of new drivers hit the road in the emerging markets. In addition to this: intense urban congestion in many parts of the world and attendant levels of soaring pollution. Greater energy use and environmental degradation have been consequences of the developing nations’ automobile revolution. Another negative effect: soaring deaths related to motor vehicles in a number of nations, notably China.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Vehicles</th>
<th>% of World</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>China</td>
<td>19.2</td>
<td>23.7%</td>
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<tr>
<td>2</td>
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<td>3</td>
<td>Japan</td>
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<td>6.5%</td>
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<tr>
<td>4</td>
<td>Brazil</td>
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<td>Germany</td>
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<td>4.1%</td>
</tr>
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<td>6</td>
<td>India</td>
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<tr>
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<td>2.8%</td>
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<td>France</td>
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<td>Spain</td>
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<tr>
<td>Top 20</td>
<td></td>
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<td>85.1%</td>
</tr>
<tr>
<td>World Total</td>
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<td>81.2</td>
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</tr>
</tbody>
</table>

Sources: J.D. Power & Associates; LMC Automotive.
Data as of September 2013.

**Investment Summary**

The fortunes of the world’s automobile manufacturers are rather bright thanks to the evolving automobile revolution in the emerging markets. Consumers in the latter are now the key drivers of this massive industry. U.S. automakers are well positioned to take advantage of this trend.
IN THE ENERGY PATCH, THE DEVELOPING NATIONS NOW SET THE PRICE

For most of the post-war era, it was the United States and the developed nations that set the price of world commodities, notably global oil prices. The so-called West was home to the wealthiest consumers and the most advanced industries, and therefore placed the greatest demand on the supply of global oil.

As long as consumers in the developing nations remained poor and lacked the incomes to purchase a car or computer, and lived on a farm instead of the city, the West did not have to compete with the developing nations for virtually any commodity, oil, copper or soybeans for that matter. Price setters: the West. Price takers: the Rest.

End of story? Hardly. The demand side of the global energy equation has been fundamentally reshaped and reconfigured by soaring demand from the developing nations.

As the first exhibit depicts, the energy demand of the emerging markets has been almost straight up for the past half-century and notably robust since 1990. Between 1990 and 2012, in fact, the energy consumption of the developing nations roughly doubled thanks to the accelerating pace of industrialization in places like China, India and South Africa. In addition, as millions of people have acquired middle-class status around the world, there has been surging demand for energy in the way of electricity, increasing transportation, rising computer usage, greater food consumption, soaring travel, and other activities that have long been staples of the West.

The upshot: Never before has the world had to accommodate so many energy-dependent consumers.

The second exhibit illustrates how much the world has changed just in the past few decades. As a share of global energy consumption, the West had a slight edge over the Rest in 1990; however, the lines crossed a decade later.

And the divergence has only become more pronounced in the past few years. In 2012, the developing nations accounted for 63 percent of world energy consumption versus a share of 37 percent among the developed nations. Regarding the latter, energy-saving practices and techniques have lowered energy consumption in the West.

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**Total Energy Consumption* in the Developing Nations**

*Includes oil, natural gas, coal, nuclear energy, hydro-electricity and other renewables.


Data as of June 2013.
That is a positive trend since, with a global population on the way to 8 billion people, global demand for energy will only mount in the decades ahead, placing a premium on finding accessible and affordable energy.

And speaking of future demand for energy, it is important to realize that large swaths of the world, notably Asia, the most populated region in the world, remain hugely energy-deprived. Energy poverty is still a key issue for many developing nations, notwithstanding the decades-long surge in consumption.

For instance, energy poverty remains a key challenge in India, where a staggering 293 million people live life without electricity. In all of Asia, some 628 million people—twice the population of the U.S.—have no electricity; some 1.8 billion people in the region, meanwhile, rely on traditional fuels like wood, charcoal, and dung for low-quality energy (think lighting and cooking). Globally, 1.2 billion people do not have access to electricity, while 2.6 billion people are dependent on biomass for cooking.9

All of the above is another way that the future energy demand of the developing nations is simply staggering and frightening.

For consumers in the West—now price takers on account of soaring demand in the developing countries—you ain’t seen nothing yet.

We are in the early innings of burgeoning energy demand from the developing nations, a prospect that should lead to more investment in energy-saving techniques, green technologies (think smart cars, cities, and transportation) and renewable energies.

Changing the energy behavior of consumers and ending consumer subsidies will be key as well in meeting the future energy demands of the budding middle classes in the developing nations.

In the end, the energy patch has been fundamentally changed—the developing nations now call the tune.

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**Share of Global Energy Consumption***


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**Investment Summary**

We are still long-term bulls on energy, and we believe the robust demand side of the equation will lead to investment opportunities in renewable energy, energy-saving devices and technologies, and investments in green technologies. All of the above favors many U.S. energy leaders.

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It is always hazardous to extrapolate, but, based on current and historical growth trends, China and India, after a 200-year hiatus, are expected to re-emerge as the world’s largest economies by 2030, if not sooner, taking the world, in effect, back to where it was in 1820.

To this point, until the 19th century China was among the most powerful states in the world, a global leader in a host of market-determining inventions. In 1820, Chinese GDP was nearly 30 percent higher than that of Western Europe and its western offshoots, with the latter including the United States, whose economy accounted for less than 2 percent of global output. India was also an economic powerhouse, accounting for 16 percent of world output.

However, between the 1840s and 1940s, China’s economy collapsed due to internal strife, foreign conflicts and the Middle Kingdom’s inward gaze and xenophobic policies. As a consequence, China’s per capita GDP in 1950 was less than three-quarters the level of 1820; by then, China’s GDP was less than a twelfth of that of Western Europe and its offshoots. India followed a similar downward path, with the nation’s share of world output declining to just 4.2 percent in 1950. A collapse in trade and the effects of British colonialism contributed to the decline.

The Industrial Revolution hatched in Britain helped change the contours of the world economy. Over the 19th century, the composition and origination of global growth was radically altered by the adoption of steam-powered boats, ships, and railways, and by the technological progress that led to large-scale manufacturing in textiles and related items.

The power loom alone is estimated to have increased the output of a worker by a factor of 40. The use of coal, advanced uses of metals, glass-making, paper machines — these and other inventions helped shift global growth from East to West. Large productivity gains in Britain and later in the United States tilted global growth toward the West beginning in the mid-19th century, a process that continued over the 20th century.

### The Re-emergence of China and India
(Share of world GDP, PPP)

<table>
<thead>
<tr>
<th>Year</th>
<th>China</th>
<th>India</th>
<th>Russia</th>
<th>Brazil</th>
<th>BRICS</th>
<th>U.S.</th>
<th>Western Europe*</th>
<th>Japan</th>
<th>Developed**</th>
</tr>
</thead>
<tbody>
<tr>
<td>1820</td>
<td>32.9</td>
<td>16.1</td>
<td>5.4</td>
<td>0.4</td>
<td>54.8</td>
<td>1.8</td>
<td>23.6</td>
<td>3.0</td>
<td>28.4</td>
</tr>
<tr>
<td>1870</td>
<td>17.2</td>
<td>12.2</td>
<td>7.6</td>
<td>0.6</td>
<td>37.6</td>
<td>8.9</td>
<td>33.6</td>
<td>2.3</td>
<td>44.8</td>
</tr>
<tr>
<td>1913</td>
<td>8.9</td>
<td>7.6</td>
<td>8.6</td>
<td>0.7</td>
<td>25.8</td>
<td>19.1</td>
<td>33.5</td>
<td>2.6</td>
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<td>1950</td>
<td>4.5</td>
<td>4.2</td>
<td>9.6</td>
<td>1.7</td>
<td>20.0</td>
<td>27.3</td>
<td>26.3</td>
<td>3.0</td>
<td>56.6</td>
</tr>
<tr>
<td>1973</td>
<td>4.6</td>
<td>3.1</td>
<td>9.4</td>
<td>2.5</td>
<td>19.6</td>
<td>22.1</td>
<td>25.7</td>
<td>7.7</td>
<td>55.5</td>
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<td>16.4</td>
<td>23.5</td>
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<td>7.7</td>
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</tr>
<tr>
<td>2010</td>
<td>13.5</td>
<td>5.4</td>
<td>3.0</td>
<td>2.9</td>
<td>24.8</td>
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<td>31.2</td>
<td>17.7</td>
<td>16.5</td>
<td>4.7</td>
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<tr>
<td>2020***</td>
<td>20.1</td>
<td>6.8</td>
<td>3.0</td>
<td>2.9</td>
<td>32.8</td>
<td>17.5</td>
<td>16.1</td>
<td>4.6</td>
<td>38.2</td>
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<tr>
<td>2030***</td>
<td>26.8</td>
<td>9.1</td>
<td>3.3</td>
<td>3.1</td>
<td>42.3</td>
<td>16.7</td>
<td>14.4</td>
<td>4.2</td>
<td>35.3</td>
</tr>
</tbody>
</table>

**U.S., Western Europe* and Japan.
***U.S. Trust Estimates.
Sources: Angus Maddison; International Monetary Fund. Data as of July 2013.
Over the 1870–1913 period — dubbed a “Golden Era” of global growth — world trade and investment and international migration were quite buoyant. It was a period of accelerating global interdependence, with 36 million people leaving Europe between 1870 and 1915, two-thirds for the United States.

As for trade, in 1913, the share of exports in world output had increased to 7.9 percent, a level not reached again until the 1960s.

Global trade collapsed, of course, with the Great Depression. The latter resulted in an 18 percent decline in aggregate global output; the U.S. took a bigger hit — output declined 28 percent during the 1929–1932 depression.

From the ashes of WWII, the U.S. emerged as the world’s undisputed economic superpower. The U.S. accounted for an unprecedented 27 percent of world output in 1950, greater than all of war-ravaged Europe. By 1973, America’s share of world output had declined to 22 percent, a reflection not so much of America’s waning economic influence but of a rebound in growth in Europe and Asia. The emerging markets were still “emerging.”

Even at the turn of the century, the United States and Europe remained the world’s dominant economic duo, accounting for nearly half of world output. That position, however, has been subsequently diminished by slower growth in the West relative to robust growth in the emerging markets, namely China.

After posting 10 percent average annual growth over the past three decades, China’s share of world GDP nearly doubled between 2000 and 2010. Based on PPP estimates from the IMF, China’s share of world GDP is forecast to rise to 19 percent by 2018, greater than America’s projected share (17.7 percent).

By 2030, the world is expected to look much like the world of 1820 in terms of global economic leadership, with the BRICs, led primarily by China, accounting for 42 percent of world economic output versus a combined U.S./EU/Japan share of 35.3 percent. These are just projections, however, meaning these figures should be used with care by investors.

There is nothing preordained about the rise of China and India, and the emerging markets in general.

By their sheer size and underdeveloped status, China and India should see more upside to growth in the years ahead. The process will not be linear — there will be plenty of bumps in the road for the twin giants of Asia. Both nations confront significant environmental challenges and the Herculean task of meeting the expectations of a rising middle class that has come to expect and demand clean water, food and air, among other modern amenities. Job creation is going to be a tough challenge for these countries.

Meanwhile, investors should not underestimate the technological capabilities of the West and the ability of economies like the U.S. and Germany to reinvent themselves and remain formidable global economic players.

**Investment Summary**

Nothing lasts forever — not even America’s global economic supremacy. History is about to repeat itself, which is a bullish trend for global growth and investing. The rise of China and the Rest will provide new opportunities for U.S. investors; going “back to the future” means investors should increasingly allocate more of their capital toward non-U.S.-denominated assets.
When It Comes to Investing, GDP Isn’t Everything

Much has been made of the spectacular economic rise of China, and much has been written about China’s potential to emerge as the largest economy in the world in the not-too-distant future, dethroning the United States in the process. This scenario — China ruling the world — has, not surprisingly, alarmed many in the U.S. and the West, and stoked protectionist fears and policies toward China.

If and when China does surpass the U.S. as the world’s largest economy, the seminal event will be touted as a global inflection point, a changing of the global economic guard.

But missing from the China-will-rule-the-world debate is this: China may be large but it is poor. Just because the Middle Kingdom is a large producer, that does not make the nation wealthy. Hardly. When China’s total national income (GDP) is divided by total population, the result is a very low level of per capita income. The latter is an indicator of a country’s wealth or standard of living, and should be watched closely by investors. Per capita income says a great deal more about a nation and its citizenship than the absolute size of its aggregate output.

By this metric, China hardly looks like the omnipotent economic giant it is popularly portrayed as in the media. To the contrary, China may have the second-largest economy in the world, but the nation ranks 84th in terms of per capita income according to the latest figures from the World Bank. In other words, China is more poor than rich, creating tremendous growth challenges in the years ahead.

The Wealth of Nations*
(GDP per capita, 2011)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>U.S. $</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Norway</td>
<td>98,081</td>
</tr>
<tr>
<td>2</td>
<td>Qatar</td>
<td>92,502</td>
</tr>
<tr>
<td>3</td>
<td>Switzerland</td>
<td>83,326</td>
</tr>
<tr>
<td>4</td>
<td>Kuwait</td>
<td>62,664</td>
</tr>
<tr>
<td>5</td>
<td>Australia</td>
<td>61,789</td>
</tr>
<tr>
<td>6</td>
<td>Denmark</td>
<td>59,889</td>
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<tr>
<td>7</td>
<td>Sweden</td>
<td>57,114</td>
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<td>8</td>
<td>Canada</td>
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<tr>
<td>9</td>
<td>Netherlands</td>
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<tr>
<td>10</td>
<td>Austria</td>
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<tr>
<td>11</td>
<td>Finland</td>
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<tr>
<td>12</td>
<td>United States</td>
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<td>13</td>
<td>Ireland</td>
<td>47,478</td>
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<td>14</td>
<td>Belgium</td>
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<td>15</td>
<td>Singapore</td>
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<td>16</td>
<td>Japan</td>
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<td>United Arab Emirates</td>
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<td>18</td>
<td>Germany</td>
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<td>19</td>
<td>Iceland</td>
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<td>France</td>
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<td>U.K.</td>
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<td>New Zealand</td>
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<td>23</td>
<td>Italy</td>
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<td>24</td>
<td>Hong Kong</td>
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<tr>
<td>25</td>
<td>Spain</td>
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<tr>
<td>50</td>
<td>Russia</td>
<td>12,995</td>
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<td>51</td>
<td>Brazil</td>
<td>12,594</td>
</tr>
<tr>
<td>67</td>
<td>South Africa</td>
<td>8,070</td>
</tr>
<tr>
<td>84</td>
<td>China</td>
<td>5,445</td>
</tr>
<tr>
<td>131</td>
<td>India</td>
<td>1,509</td>
</tr>
</tbody>
</table>

*Excludes small financial centers like Monaco, Luxembourg, Macao and Brunei Darussalam.
Data as of April 2013.
India fares even worse. India’s economy has grown rapidly over the past two decades but the nation is still desperately poor. The nation’s GDP per capita was just $1,509 in 2011 versus China’s per capita income of $5,445.

China’s GDP per capita, meanwhile, is less than half that of Brazil’s and Russia’s, with the former ranked 51st in the world in 2011 and the latter 50th. Accordingly, talk of India emerging as one of the largest economies in the world must be tempered by the fact that the nation remains among the world’s poorest. Thus far, India’s population is more a vice than a virtue.

Giving credit where credit is due, all four nations have lifted millions out of poverty over the past few decades, notably India and China. Yet poverty remains a key challenge to the developing nations. Presently, roughly 1.1 billion people in the developing nations live on less than $1.25 per day, the so-called international poverty line. With any luck, millions of people will be pulled out of poverty and into the middle class in the years ahead, adding to global demand.

In the meantime, the “wealth of nations” remains concentrated among the developed nations, with a few small emerging markets as outliers. Of the top 25 nations listed in the accompanying exhibit, 20 are from the developed nations, with oil-abundant Norway topping the list. Qatar, another oil-soaked nation, ranks second, followed by Switzerland, Kuwait and Australia. These nations have relatively small populations but, through means of oil, finance and/or mining, they are very wealthy.

The United States stands out—the nation is blessed with a large population and the largest economy in the world, with U.S. per capita income greater than $48,000 in 2011. China’s per capita income is just 11 percent of America’s; India’s is just 3.1 percent. It is America’s wealth and market size that set it apart from many up-and-coming emerging markets, China and India included.

Europe is also well represented in the table, with the continent, like the U.S., among the largest and wealthiest markets in the world. Even Spain, ranked 25th on the table, is, comparatively speaking, much wealthier than the BRIC nations.

Wealth engenders wealth.

It is a catalyst of growth, spurring innovation, promoting capital formation, and attracting the best and brightest from all over the world. It is the underlying wealth of the developed nations, notably the United States, that continues to attract many of the best minds and the best workers to America, further fortifying the economic strengths and investment opportunities of the United States. Europe is also relatively wealthy, suggesting more investment opportunities in various nations and in various industries.

Conversely, grinding poverty is an impediment to growth, a deterrent to investment, innovation, education, basic health, infrastructure development and a host of other basic indicators.

**Investment Summary**

Wealth matters. The metric is just as important as total output; per capita income is a key metric of a nation’s standard of living and should be viewed carefully by investors when allocating capital between the developed and developing nations.
WITH MORE YOUNG — AND OLD — PEOPLE THAN EVER BEFORE, THERE ARE MANY WAYS TO INVEST IN GLOBAL DEMOGRAPHICS

Globally, the number of people younger and older has never been greater, sending mixed demographic signals to investors. Demographics are hugely important to real economic growth rates and are a key consideration of investment managers when making country/company/sector asset allocation decisions. Hence, while there are more than 7 billion people on planet earth, the composition of the global population — age cohort and sex ratio — is very important in determining investment decisions.

A few facts along these lines (data from the United Nations):

- In 2012, the global sex ratio was approximately 1.01 males to 1 female, with the slight tilt toward males thought to be due to the gender imbalances of India and China.
- Roughly 52 percent of the world’s population is under the age of 30.
- In India, more than 600 million people are 24 years old or younger.
- Today, there are nearly 900 million people over the age of 60 worldwide. By the middle of this century, the number will climb to 2.4 billion.

All of the above gives a smattering of some of the key global demographic trends of our times, as do the accompanying exhibits.

The first exhibit homes in on the global youth — or what we call the global iPhone generation, those between the ages of 10 and 24. In the aggregate, this cohort totaled roughly 1.8 billion people, or around one-quarter of the global population. Not surprisingly, the bulk of the iPhone generation is in Asia — think China and India. However, note how large the iPhone generation is in Africa — 333 million strong, larger than the entire U.S. population.

The key for investors is to find the Western companies that have tapped into this emerging source of global demand. This cohort is increasingly connected and mobile, and contains savvy users of information technology. They favor global brands, which favors many large cap U.S. global brand leaders.

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**The iPhone Generation**

(Population ages 10 to 24, 2011)

<table>
<thead>
<tr>
<th>Region</th>
<th>Millions of people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia and Oceania</td>
<td>1,114</td>
</tr>
<tr>
<td>Africa</td>
<td>333</td>
</tr>
<tr>
<td>Latin America</td>
<td>165</td>
</tr>
<tr>
<td>Europe</td>
<td>130</td>
</tr>
<tr>
<td>North America</td>
<td>72</td>
</tr>
</tbody>
</table>

Data as of July 2013.
At the other end of the demographic spectrum are the elderly. Globally, the population of older persons (over 60 years old) is growing at a rate of 2.6 percent, noticeably faster than the population as a whole.

The second exhibit highlights the massive uptrend when it comes to global graying. The percentage of the global population 50 years old or older is expected to climb sharply over the next decade, notably in the more mature developed markets of Western Europe, Japan and the United States. The impact by sector will be more pronounced in healthcare, travel and leisure, luxury goods and services, and related sectors.

That older populations themselves are aging is one of the most remarkable aspects of global graying. For many nations around the world, the 80-or-over age group is growing faster than any younger segment of the older population, creating all sorts of challenges for governments and opportunities for investors. Six nations currently account for half of the world’s 80-years-or-older crowd: China, with the largest number (12 million), the U.S. (9 million), India (6 million), Japan (5 million), Germany (3 million) and Russia (3 million). Interestingly, most people over 80 years old now live in the developed nations, although the 80+ crowd is set to rise significantly in the developing nations over the next few decades, which will put considerable strain on many governments unprepared for a rapidly aging population.

As for the number of centenarians in the world, their numbers are small but growing. In 2000, there were an estimated 180,000 centenarians in the world; by 2050, the figure is expected to be 3.2 million. Japan is expected to be home to 1 million centenarians by 2050. By then, 1 percent of Japan’s population will be 100 years old or older.

**Global Graying**

<table>
<thead>
<tr>
<th>Country</th>
<th>% of Population Aged 50+</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>2.5</td>
</tr>
<tr>
<td>U.S.</td>
<td>2.1</td>
</tr>
<tr>
<td>Germany</td>
<td>1.4</td>
</tr>
<tr>
<td>U.K.</td>
<td>1.8</td>
</tr>
<tr>
<td>Japan</td>
<td>1.4</td>
</tr>
<tr>
<td>China</td>
<td>1.6</td>
</tr>
<tr>
<td>India</td>
<td>2.6</td>
</tr>
<tr>
<td>Brazil</td>
<td>1.9</td>
</tr>
<tr>
<td>South Africa</td>
<td>2.5</td>
</tr>
</tbody>
</table>

*2012-2025 estimates.
Data as of July 2013.

**Investment Summary**

There are multiple ways to invest in global demographics—the number of global young and old is expanding rapidly. The former cohort will drive global earnings in such sectors as consumer IT, autos, travel, and related sectors, while the spike in global graying will drive growth in healthcare, travel and leisure, luxury items and related products and services.
MORE PEOPLE MEANS MORE DEMAND FOR MANY PRODUCTS

Early in the 1800s, the world’s population topped the 1 billion mark for the first time. It would take another 123 years before the 2 billion mark was reached. The year was 1927. Just 33 years later, in 1960, the 3 billion threshold was reached and since then, the time it takes to add another billion people to planet earth has only accelerated. In fact, it took just 14 years to go from 3 billion to 4 billion people; 13 years to go from 4 billion to 5 billion; just 12 years to reach 6 billion; and 13 years for the population to expand from 6 billion to 7 billion, a milestone reached in 2011.

Never before in human history have so many people inhabited the earth, and we’re not done yet. The United Nations estimates that the global population will top 8 billion by 2024 and 9 billion by 2040. However, global fertility rates are declining, notably in the developing nations, slowing the pace of population growth over the next few decades. Also supportive of this trend: birth rates that are at or below replacement levels in many developed nations, notably in Japan and Europe.

Life expectancies, however, are getting longer. In 1820, for instance, the average infant in the world could be expected to live about 26 years. By 1950, the figure had climbed to 49 years. Today, thanks to improving healthcare, better diets, and related factors, the global average life expectancy is 67 years, a massive improvement over the past half-century. According to various estimates, the world population increases by an average of 220,000 people every day, with most of this growth taking place in high-fertility nations of the Middle East, Sub-Saharan Africa, and Latin America.

Of current global inhabitants, roughly 316 million reside in the United States, the third-most populated country in the world. America’s share of the world population is around 4.5 percent versus China’s (19.1 percent) and India’s (17 percent).

*2012-2025 forecasts.
Data as of July 2013.
In terms of population density, Singapore, Bahrain and Bangladesh ranked as the top three most densely populated nations in the world. By 2025, India’s population is expected to be larger than China’s; based on current projections, India’s population is expected to peak at a staggering 1.7 billion people in 2063.

The good news is that more people are living longer; the bad news—each new billion inhabitants puts unprecedented stress and strain on the world’s finite resources.

More people on earth translates into more demand for physical resources. We are not Malthusians—or in the camp that believes a global population headed for 9 billion will exhaust the earth’s resources. Thus far, advances in technology (notably the Green Revolution) have forestalled any global shortages of food.

However, global resource consumption will inevitably increase in the years ahead as millions of people move out of poverty and toward higher-consumption lifestyles typical of those in the West. Urbanization will be highly supportive of this trend—life changes when you move from the farm to the city. The more these new consumers consume fruits, vegetables and meat, the greater the level of stress on the world’s finite supply of land, water and food.

Lifting millions of people out of poverty has its downside: rising prices for many basic commodities and agricultural staples, the potential disruption of global supplies of key commodities, and mounting risks of resource conflicts among nations. We doubt the world is going to run out of oil, food, water and other key commodities anytime soon. Yet it is how these resources are managed or allocated that could cause global stress points that lead to “water wars” and resource protectionism among producers.

Against this backdrop, the UN estimates that the world will have to produce 70 percent more food by 2050 to feed a projected extra 2.5 billion people.

Another challenge of more people inhabiting the earth lies with the environment, notably global climate change. Think rising levels of atmospheric carbon dioxide, rising sea levels, mounting pollution, water degradation, and increasing land stress. Think environmental refugees in some countries that are under the most physical duress, notably in the Middle East, Africa and part of Sub-Saharan Africa.

**Investment Summary**

The 20th century witnessed the largest rise in population growth in human history, with the world’s population rising from around 1.6 billion in 1900 to over 6 billion in 2000. Not long ago, we topped 7 billion and are headed for 8 billion inhabitants. Due to the steady march of mankind, we remain secular bulls on energy, water and various agricultural products.
RAPID GLOBAL URBANIZATION MEANS MASSIVE INFRASTRUCTURE SPENDING

Throughout most of history, the bulk of the human race has resided in rural areas, making a simple living off the land. The urban areas, in turn, were more sparsely populated. In 1800, for instance, only 3 percent of the world’s population lived in urban areas. By 1890, roughly 14 percent were urbanites; by 1950, the percentage of people living in the cities had jumped to 30 percent. Most of these folks resided in the developed nations.

2008 marked a milestone in the history of mankind, with the world’s population evenly split between urban and rural dwellers (see first exhibit). Since then, there has been no turning back — the pace of urbanization continues, notably among the developing nations where the number of megacities, or urban populations in excess of 10 million people, continues to expand. An estimated 70 percent of the world population will live in cities by 2050, placing tremendous demand on the physical infrastructures of many urban areas and states.

Industrialization, new job opportunities, higher wages, more educational facilities, better health services, falling transportation and technological costs — all of these factors, and more, have played a role in the migration from the farm to the cities.

The urbanization of the past few decades has taken place primarily in the developing nations, where workers and families have uprooted for the cities in the hope of a better life for themselves and their children. China’s pace of urbanization has been nothing short of staggering — from a level of roughly 26 percent in 1990, the percentage of the population living in the cities in China soared to over 52 percent in 2012.

The upshot from this and similar trends in other countries: the rapid spread of so-called megacities.

There were only three megacities in 1975 — Tokyo, New York and Mexico City. By 2011, however, there were nearly 25 urban conglomerates with a population in excess of 10 million people, with most of the growth coming from countries like India, China and Brazil.
Delhi’s population rose nearly sixfold between 1975 and 2011, and is expected to approach a staggering 33 million people by 2025. Shanghai’s urban dwellers jumped nearly four-fold over the same period. China is presently home to five megacities — Shanghai, Beijing, Guangzhou, Shenzhen and Chongqing. The combined population of these five cities — some 67 million people — is greater than the entire population of France. In Brazil, the population of Sao Paulo roughly doubled between 1975 and 2011, as did the population of Rio de Janeiro.

Making these megacities economically vibrant and livable for citizens is a key challenge for nations like China, India, Brazil and Nigeria. This entails massive expenditures on low-income housing, hospitals, schools, highways, airports, and other physical infrastructure over the next few decades. Spending on pollution — clean water and air quality — will soar as well. Without this spending, many of the world’s largest cities will remain massive urban slums, devoid of basic services and subtracting from economic growth.

Spending on green technologies will be very important as well, presenting massive opportunities for Western multinationals that lead in the fields of global climate change and environmental controls.

**Top 25 Largest Cities in the World, 2011**

(Millions of people)

<table>
<thead>
<tr>
<th>Rank</th>
<th>City</th>
<th>Country</th>
<th>1975</th>
<th>2011</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tokyo</td>
<td>Japan</td>
<td>26.6</td>
<td>37.2</td>
<td>38.7</td>
</tr>
<tr>
<td>2</td>
<td>Delhi</td>
<td>India</td>
<td>4.4</td>
<td>22.7</td>
<td>32.9</td>
</tr>
<tr>
<td>3</td>
<td>Mexico City</td>
<td>Mexico</td>
<td>10.7</td>
<td>20.4</td>
<td>24.6</td>
</tr>
<tr>
<td>4</td>
<td>New York-Newark</td>
<td>U.S.</td>
<td>15.9</td>
<td>20.4</td>
<td>23.6</td>
</tr>
<tr>
<td>5</td>
<td>Shanghai</td>
<td>China</td>
<td>5.6</td>
<td>20.2</td>
<td>28.4</td>
</tr>
<tr>
<td>6</td>
<td>São Paulo</td>
<td>Brazil</td>
<td>9.6</td>
<td>19.9</td>
<td>23.2</td>
</tr>
<tr>
<td>7</td>
<td>Mumbai</td>
<td>India</td>
<td>7.1</td>
<td>19.7</td>
<td>26.6</td>
</tr>
<tr>
<td>8</td>
<td>Beijing</td>
<td>China</td>
<td>4.8</td>
<td>15.6</td>
<td>22.6</td>
</tr>
<tr>
<td>9</td>
<td>Dhaka</td>
<td>Bangladesh</td>
<td>2.2</td>
<td>15.4</td>
<td>22.9</td>
</tr>
<tr>
<td>10</td>
<td>Kolkata (Calcutta)</td>
<td>India</td>
<td>7.9</td>
<td>14.4</td>
<td>18.7</td>
</tr>
<tr>
<td>11</td>
<td>Karachi</td>
<td>Pakistan</td>
<td>4.0</td>
<td>13.9</td>
<td>20.2</td>
</tr>
<tr>
<td>12</td>
<td>Buenos Aires</td>
<td>Argentina</td>
<td>8.7</td>
<td>13.5</td>
<td>15.5</td>
</tr>
<tr>
<td>13</td>
<td>Los Angeles-Long Beach-Santa Ana</td>
<td>U.S.</td>
<td>8.9</td>
<td>13.4</td>
<td>15.7</td>
</tr>
<tr>
<td>14</td>
<td>Rio de Janeiro</td>
<td>Brazil</td>
<td>7.6</td>
<td>12.0</td>
<td>13.6</td>
</tr>
<tr>
<td>15</td>
<td>Manila</td>
<td>Philippines</td>
<td>5.0</td>
<td>11.9</td>
<td>16.3</td>
</tr>
<tr>
<td>16</td>
<td>Moscow</td>
<td>Russia</td>
<td>7.6</td>
<td>11.6</td>
<td>12.6</td>
</tr>
<tr>
<td>17</td>
<td>Osaka-Kobe</td>
<td>Japan</td>
<td>9.8</td>
<td>11.5</td>
<td>12.0</td>
</tr>
<tr>
<td>18</td>
<td>Istanbul</td>
<td>Turkey</td>
<td>3.6</td>
<td>11.3</td>
<td>14.9</td>
</tr>
<tr>
<td>19</td>
<td>Lagos</td>
<td>Nigeria</td>
<td>1.9</td>
<td>11.2</td>
<td>18.9</td>
</tr>
<tr>
<td>20</td>
<td>Cairo</td>
<td>Egypt</td>
<td>6.4</td>
<td>11.2</td>
<td>14.7</td>
</tr>
<tr>
<td>21</td>
<td>Guangzhou, Guangdong</td>
<td>China</td>
<td>1.7</td>
<td>10.8</td>
<td>15.5</td>
</tr>
<tr>
<td>22</td>
<td>Shenzhen</td>
<td>China</td>
<td>0.0</td>
<td>10.6</td>
<td>15.5</td>
</tr>
<tr>
<td>23</td>
<td>Paris</td>
<td>France</td>
<td>8.6</td>
<td>10.6</td>
<td>12.2</td>
</tr>
<tr>
<td>24</td>
<td>Chongqing</td>
<td>China</td>
<td>2.4</td>
<td>10.0</td>
<td>13.6</td>
</tr>
<tr>
<td>25</td>
<td>Jakarta</td>
<td>Indonesia</td>
<td>4.8</td>
<td>9.8</td>
<td>12.8</td>
</tr>
</tbody>
</table>


**Investment Summary**

The world has been turned upside down — there are now more people living in urban areas than rural settings for the first time in human history. Most of this urban growth has overwhelmed the physical resources/structures of many nations, suggesting massive infrastructure expenditures in the future. That is a bullish prospect for many U.S. industrial leaders.
SPENDING TO ADDRESS GLOBAL CLIMATE CHANGE SHOULD BENEFIT U.S. MULTINATIONALS

There may be a downside to the relentless march of global growth and the incessant search for prosperity and development — the cost could be a more perilous and endangered climate for mother earth. While a great deal of controversy surrounds the debate about global climate change, a few observations have gone mainstream:

First, the earth is warming. The earth’s average temperature has risen by 1.4°F over the past century; the earth’s temperature is expected to continue rising over the next century, but by how much remains open to much debate.

Second, the rise in the global average temperature of the earth has been caused by increasing concentrations of greenhouse gases in the atmosphere.

As the accompanying exhibit highlights, the past century has seen a sharp spike in global carbon dioxide emissions, with most of this surge taking place over the past 100 years. Indeed, global carbon emissions from fossil fuels have increased significantly since 1900 — emissions rose by over 16 times between 1900 and 2008 and by about 1.5 times between 1990 and 2008, according to the United States government.

Third and finally, global warming, brought on by rising carbon dioxide emissions, has caused changes in global climate patterns. More floods, intense droughts, more frequent and severe heat waves, violent storms — all of the above are believed to reflect subtle changes in the world’s weather and climate. According to the National Oceanic and Atmospheric Administration, the decade from 2000 to 2010 was the warmest on record, with 2010 and 2005 tied for being the warmest years on record.

At risk is the very cohort responsible for the recent change in climate — mankind. It is human activity — how we live, what we drive, what we eat — that has released the largest amounts of carbon dioxide over the century. Fossil fuel use is the primary source of carbon dioxide emissions, and includes the burning of coal, natural gas, and oil for electricity and heat. Industry-intensive use of fossil fuels is another significant source of greenhouse gas emissions; agriculture, commercial and residential buildings, and transportation are key sources as well. Regarding transportation, roughly 95 percent of the world’s transportation energy comes from petroleum-based fuels, namely gasoline and diesel.
By country, the top global emitters of carbon dioxide are China, the United States, India, Russia and Japan (see second exhibit). China only recently passed the United States to become the largest global emitter of carbon dioxide (in 2006), an unwanted first-place prize reflecting the mainland’s rapid industrialization and urbanization, in addition to the effects of China’s automobile revolution. China’s carbon emissions grew 41 percent between 2007 and 2012, to 9.2 billion tonnes.

Emissions in India overtook those in Russia in 2008, with India’s emissions soaring 43 percent between 2007 and 2012. Meanwhile, carbon emissions in Asia’s other giant — Indonesia — expanded 52 percent over the same period.

A carbon tax, cap-and-trade schemes, bans or quantitative restrictions on emissions — a host of policy prescriptions have been prescribed over the past decade, but nothing has really stuck. The world’s largest polluters are basically doing it alone, pursuing their own policies in silos. Hence, the global issue is not being addressed on a global basis, but rather piecemeal and in ad hoc fashion.

After a slight decline in 2009 due to the global economic recession, emissions from fossil fuels rebounded in 2010 and have grown 2.6 percent each year, hitting a record high of about 35 billion tonnes of carbon in 2012. However, in the United States, carbon emissions have been cut by 11 percent over the past five years, with the switch from coal to natural gas and the use of wind among U.S. power utilities bringing about the reduction. That is the good news. The bad news: Carbon dioxide emissions in the developing nations continue to soar; a global solution remains elusive.

**Top 25 Carbon Dioxide Emitters**
(Millions of tonnes of carbon dioxide, 2012)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>CO2</th>
<th>% of World</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>China</td>
<td>9,208</td>
<td>26.7%</td>
</tr>
<tr>
<td>2</td>
<td>U.S.</td>
<td>5,786</td>
<td>16.8%</td>
</tr>
<tr>
<td>3</td>
<td>India</td>
<td>1,823</td>
<td>5.3%</td>
</tr>
<tr>
<td>4</td>
<td>Russia</td>
<td>1,704</td>
<td>4.9%</td>
</tr>
<tr>
<td>5</td>
<td>Japan</td>
<td>1,409</td>
<td>4.1%</td>
</tr>
<tr>
<td>6</td>
<td>Germany</td>
<td>815</td>
<td>2.4%</td>
</tr>
<tr>
<td>7</td>
<td>South Korea</td>
<td>764</td>
<td>2.2%</td>
</tr>
<tr>
<td>8</td>
<td>Canada</td>
<td>620</td>
<td>1.8%</td>
</tr>
<tr>
<td>9</td>
<td>Saudi Arabia</td>
<td>615</td>
<td>1.8%</td>
</tr>
<tr>
<td>10</td>
<td>Iran</td>
<td>608</td>
<td>1.8%</td>
</tr>
<tr>
<td>11</td>
<td>United Kingdom</td>
<td>530</td>
<td>1.5%</td>
</tr>
<tr>
<td>12</td>
<td>Brazil</td>
<td>500</td>
<td>1.5%</td>
</tr>
<tr>
<td>13</td>
<td>Mexico</td>
<td>496</td>
<td>1.4%</td>
</tr>
<tr>
<td>14</td>
<td>Indonesia</td>
<td>495</td>
<td>1.4%</td>
</tr>
<tr>
<td>15</td>
<td>South Africa</td>
<td>446</td>
<td>1.3%</td>
</tr>
<tr>
<td>16</td>
<td>Italy</td>
<td>406</td>
<td>1.2%</td>
</tr>
<tr>
<td>17</td>
<td>Australia</td>
<td>392</td>
<td>1.1%</td>
</tr>
<tr>
<td>18</td>
<td>France</td>
<td>383</td>
<td>1.1%</td>
</tr>
<tr>
<td>19</td>
<td>Spain</td>
<td>339</td>
<td>1.0%</td>
</tr>
<tr>
<td>20</td>
<td>Thailand</td>
<td>332</td>
<td>1.0%</td>
</tr>
<tr>
<td>21</td>
<td>Taiwan</td>
<td>326</td>
<td>0.9%</td>
</tr>
<tr>
<td>22</td>
<td>Poland</td>
<td>326</td>
<td>0.9%</td>
</tr>
<tr>
<td>23</td>
<td>Ukraine</td>
<td>322</td>
<td>0.9%</td>
</tr>
<tr>
<td>24</td>
<td>Turkey</td>
<td>318</td>
<td>0.9%</td>
</tr>
<tr>
<td>25</td>
<td>Netherlands</td>
<td>246</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>CO2</th>
<th>% of World</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>World Total</td>
<td>34,466</td>
<td>84.8%</td>
</tr>
</tbody>
</table>


**Investment Summary**

Global climate change is a key policy issue in front of all governments, and despite the non-global, ad hoc approach to this challenge, billions of dollars will be spent over the subsequent decades on renewable energy sources, new pipelines, water treatment facilities, sea walls and other initiatives to address climate change. The primary beneficiaries will be U.S. multinationals in their respective industries/sectors.
TECHNOLOGY “DISRUPTS” GLOBAL GROWTH FOR THE BETTER

For centuries, technology has been a leading catalyst of global growth and change, relentlessly creating and destroying existing orders for new orders. The application of steam to land and sea transportation; the motor car replacing the horse; the telephone usurping the telegraph; the electrification of rural areas—these transformational technologies, and others, have been key in driving global prosperity, creating winners and losers in their wake.

The march of technology has been relentless through the centuries, and the 21st will be no different. There are a number of technologies on the horizon that are about to transform global growth and the way we live, with a seminal report from the McKinsey Global Institute recently outlining a dozen so-called disruptive technologies.¹⁰

The accompanying exhibit provides a snapshot of each technology; we provide a few of our own comments on each technology below:

Mobile internet: This is a global game changer in that the mobile internet will allow billions more people to be connected; roughly two-thirds of the population has yet to log on to the internet, although the ubiquitous connectivity via the mobile internet will change that. This same technology should allow for the more efficient movement of goods, services and knowledge between companies, and between companies and their customers.

Automation of knowledge work: This speaks to advances in artificial intelligence and machine learning that take automation to the next level, whereby more and more machines do the more sophisticated work of humans.

Internet of Things: As described in the report, “from monitoring the flow of products through a factory to measuring the moisture in a field of crops to tracking the flow of water through utility pipes, the Internet of Things allows businesses and public-sector organizations to manage assets, optimize performance, and create new business models.”¹¹

<table>
<thead>
<tr>
<th>Name of New Technology</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Internet</td>
<td>Increasingly inexpensive and capable mobile computing devices and Internet connectivity.</td>
</tr>
<tr>
<td>Automation of knowledge work</td>
<td>Intelligent software systems that can perform knowledge work tasks involving unstructured commands and subtle judgments.</td>
</tr>
<tr>
<td>Internet of things</td>
<td>Networks of low-cost sensors and actuators for data collection, monitoring decision making and process optimization.</td>
</tr>
<tr>
<td>Cloud technology</td>
<td>Use of computer hardware and software resources delivered over a network or the Internet, often as a service.</td>
</tr>
<tr>
<td>Advanced robotics</td>
<td>Increasingly capable robots with enhanced sensors, dexterity and intelligence used to automate tasks or augment humans.</td>
</tr>
<tr>
<td>Autonomous and near-autonomous vehicles</td>
<td>Vehicles that can navigate and operate with reduced or no human intervention.</td>
</tr>
<tr>
<td>Next-generation genomics</td>
<td>Fast, low cost gene sequencing, advanced big data analytics, and synthetic biology (&quot;writing DNA&quot;).</td>
</tr>
<tr>
<td>Energy storage</td>
<td>Devices or systems that store energy for later use, including batteries.</td>
</tr>
<tr>
<td>3D printing</td>
<td>Additive manufacturing techniques to create objects by printing layers of material on digital models.</td>
</tr>
<tr>
<td>Advanced materials (nanotechnology)</td>
<td>Materials designed to have superior characteristics (e.g. strength, weight, conductivity) or functionality.</td>
</tr>
<tr>
<td>Advanced oil and gas exploration and recovery</td>
<td>Exploration and recovery techniques that make extraction of unconventional oil and gas economical.</td>
</tr>
<tr>
<td>Renewable energy</td>
<td>Generation of electricity from renewable sources with reduced harmful climate impact.</td>
</tr>
</tbody>
</table>


¹¹ ibid.
Cloud technology: Enabling technology that is improving the efficiencies of companies, and creating, among other things, new avenues of growth via Big Data, data streaming, etc.

Advanced robotics: Robots as humans? Not quite, but the next generation of robots is more capable of completing sophisticated tasks through voice activation, enhanced sensors and similar functions. Manufacturing and healthcare are two sectors where advanced robotics will have a huge influence in the future.

Autonomous and near-autonomous vehicles: The driverless car or truck is coming, with new technologies in machine vision, artificial intelligence, and sensors enabling autonomous cars, boats and trucks. Key benefits: better road safety, increased productivity, and lower carbon emissions.

Next-generation genomics: This technology could have massive transformational effects in agriculture, healthcare and energy.

Energy storage: Think batteries and other devices that store energy for later use, technology that would greatly expand the reliable supply of energy to households and businesses. As McKinsey notes, advances in energy storage could make electric vehicles much more competitive relative to fuel-driven vehicles.

3D printing: Think mass customization, with the consumer, via 3D printing, having the capabilities to design and manufacture any product desired. 3D printing enables on-demand production and could be a global game changer (in a negative sense) for mass manufacturers like China.

Advanced materials (nanotechnology): The advanced design and creation of super materials that are, according to McKinsey, “smart materials that are self-healing or self-cleaning; memory metals that can revert to their original shapes; piezoelectric ceramics and crystals that turn pressure into energy,” and related activities. All of the above would help revolutionize medicine and the healthcare industry.

Advanced oil and gas exploration and recovery: Techniques and functions that allow for advanced methods in the exploration and recovery of oil and gas, with the North American shale revolution emblematic of this technology.

Renewable energy: Think greater energy from nontraditional sources like solar, wind, hydro-electric and ocean waves. Notwithstanding the oil and gas revolution in North America, the adoption of renewable energy resources continues in the U.S. and Europe, and is gaining momentum in many emerging markets, notably China and India.

Investment Summary

Technology never rests. There is always a game-changing technology on the horizon that has an impact on global growth; for the most part, the disruptive technologies of the past have made life better and the world more prosperous. We expect this trend to continue in the future.
Nations do not exist in isolation. Countries prosper and develop when they interact with one another. Hence, the cross-border movement of goods and services has been a hallmark of the global economy for centuries. In the past half-century alone, global trade ties have only intensified, as the following pages illustrate. To wit, totaling just $100 billion in 1950, total global trade topped $36 trillion in 2012. As a key driver of global growth, the share of global exports as a percentage of world Gross Domestic Product (GDP) is presently at or near record highs (roughly 32 percent).

The following chapter highlights the world’s largest traders of goods and services. While China leads the way in goods, the U.S. is the frontrunner in service exports (World Trade Organization, November 2013). When the two — goods and services — are added together, the U.S., by a slim margin, emerges as the largest exporter in the world. This fact is not terribly well known or appreciated in the United States.

Indeed, as we outline in the following pages, the U.S. is a $2 trillion exporting gorilla, with America’s breadth of exports (including goods and services) leading on a global basis. U.S. exporters have been notably successful in selling their wares and services in the developing nations, a new and critical source of U.S. export demand.

Global trade in services, meanwhile, now accounts for roughly one-fifth of global trade.

Another key trend of global trade pivots around China. The mainland’s rise as an exporting powerhouse over the past few decades has been nothing short of staggering. However, as we discuss ahead, “Made in China” is not what it appears to be. There is a very important dynamic behind China’s rise as an exporting powerhouse (think foreign affiliates).

In addition, another underappreciated fact lies with the following: U.S. firms deliver their goods and services not only via trade but also via foreign direct investment (FDI) or foreign affiliate sales. The latter — foreign affiliate sales — are the primary means by which U.S. firms compete overseas. This very important concept is discussed and highlighted in the pages ahead.

We also examine the key commercial arteries of the United States and review TTIP and TPP. TTIP stands for the Transatlantic Trade and Investment Partnership, or the free trade agreement the U.S. is currently negotiating with Europe. TPP stands for the Trans-Pacific Partnership and is the free trade agreement America hopes to cobble together with key Asian states. Both agreements, if completed, would be hugely bullish for U.S. trade in general and corporate America in particular. For more, please read on.
GLOBAL TRADE IS GLOBAL GLUE

Nothing has bound the world closer together over the past 60 years than the cross-border movement of goods and services. Global trade is the glue that binds nations together—the world is a great deal richer and more prosperous owing to the impressive rise in global trade over the course of the post-war era. Many asset classes, meanwhile, owe their growth and performance to unfettered global trade.

Falling transportation and communication costs, liberalizing trade regimes, shifting multinational strategies, the inclusion of more nations willing to trade—all of these forces, and more, have helped boost trade flows over the past 60 years. For decades, world trade has grown on average nearly twice as fast as world production.

After reaching $1 trillion for the first time in 1973, total trade (global exports + imports of goods) soared to over $10 trillion in 1995. Global trade then doubled between 1995 and 2005, with trade reaching $21 trillion in 2005. Trade flourished as China, India, Brazil, Poland and other nations opened their economies to more external forces. More exports and imports from Africa also boosted aggregate trade. Not unexpectedly, the Great Recession caused a significant downturn in global trade in 2009; total trade plunged 23 percent in 2009 as world demand collapsed. The annual decline was one of the steepest on record, although global trade has rebounded significantly since then. Indeed, total trade rose to a record $36.4 trillion in 2012 (first exhibit).

In the past 30 years, world merchandise and commercial services trade have increased by roughly 7 percent on average; in 2012, the dollar value of merchandise trade exports was $18.3 trillion. The value of world commercial service exports rose to $4.3 trillion. Thanks to slower growth in China and weak demand in Europe, world merchandise trade expanded by only 2 percent in 2012. That is below the average rate of 5.3 percent for the last 20 years (1992–2012).

New players have had a considerable influence on global trade over the past few decades. Indeed, the developing nations accounted for nearly half of world exports in 2012, up from a share of just 34 percent in 1980.
While trade between the developed and developing nations has increased over the decades, so too has trade between the developing nations. The so-called “South-South” trade is a key component of trade today. To this point, the share of “South-South” trade in world trade rose from 8 percent in 1990 to roughly 25 percent in 2012. Greater trade with Africa has been a key driver of this trend, with African trade flows between India and China, in particular, helping to “open” Africa to the outside world. Presently, most of Africa’s exports take the form of commodities.

The second exhibit is a stark reminder that global trade is neither inevitable nor irreversible. The chart depicts how much global trade collapsed during the Great Depression, with the value of trade plummeting by two-thirds between 1929 and 1933. The downturn, of course, stemmed directly from the destructive trade policies of the U.S. and others, with the U.S. Congress passing the infamous Smoot-Hawley Tariff Act in 1930. The legislation pushed U.S. tariffs to historically high levels and prompted other nations to erect barriers to trade; trade wars pushed the world average tariff up to 25 percent at its 1930s peak.

One of the key lessons of the Great Depression is that the lack of global economic leadership and cooperation can be very destructive to the global economy. A rudderless world in the early 1930s—or a world looking inward and prone to economic nationalism—helped precipitate the devastating events of the 1930s.

Thankfully, the mistakes of the past were not repeated coming out of the Great Recession of 2008/2009. The G-20, while hardly perfect and fraught with divergent interests, has avoided the pitfalls of protectionism over the past few years, allowing for the global economy to heal and global trade to rebound. In the face of stubbornly high unemployment levels not only in the U.S. and European Union (EU) but also in many developing nations, this trend has been remarkable.

Suffice it to say that the avoidance of trade and investment protectionism has been critical in the impressive rebound in the global capital markets since 2009. In the end, trade matters—it is a key determinant of economic growth, investment returns and asset class performance.

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**World Trade During the Great Depression**

(Monthly values in millions of old U.S. gold dollars)

<table>
<thead>
<tr>
<th>Year</th>
<th>Value (millions of old U.S. gold dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929</td>
<td>2,998</td>
</tr>
<tr>
<td>1930</td>
<td>2,739</td>
</tr>
<tr>
<td>1931</td>
<td>1,839</td>
</tr>
<tr>
<td>1932</td>
<td>1,206</td>
</tr>
<tr>
<td>1933</td>
<td>992</td>
</tr>
</tbody>
</table>


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**Investment Summary**

The world is getting smaller—rising trade volumes are increasingly shrinking the world to the benefit of virtually everyone. One of the greatest policy achievements of the past 60 years has been the ability of policymakers to keep trade relatively open and free. Good policies, along with technological advances, will maintain trade’s key role in creating global wealth and prosperity.
GLOBAL TRADE IS A KEY DRIVER OF GLOBAL GROWTH

For centuries, global trade has been a key component of global growth. Trade has helped expand global output and “shrink” the world to the benefit of all mankind.

This “shrinkage” reflects many critical forces — yet nothing has been as important to trade and global growth as advances in technology. Steam power was the first revolutionary technology to transform trade, with the soaring use of steamships over the 19th century boosting trade between Europe and the U.S., and between Europe and South and West Africa. Faster, bigger and more fuel-efficient ships led to more trade and growth in the first half of the 19th century.

The opening of the Suez Canal in 1869; the building of canals and inland waterways; railroad construction; the arrival of the electronic telegraph — all of these technological advances also helped transform global trade and integrate the world in the 19th century. When the first successful transatlantic telegraph message was sent in August 1858, the time it took to communicate between Europe and North America was reduced from 10 days to just a few minutes.

As noted in a report from the World Trade Organization (WTO):

“International trade increased rapidly after 1820, underpinned by falling transport and communications costs. Inland transport costs fell by over 90 percent between 1800 and 1910; transatlantic transport costs fell roughly 60 percent in just three decades between 1870 and 1900. Meanwhile, world exports expanded by an average of 3.4 percent annually, substantially above the 2.1 percent annual increase in world Gross Domestic Product (GDP). As a result, the share of trade in output (in openness) rose steadily, reaching a high point in 1913, just before the First World War, which was not surpassed until the 1960s.”

Note from the first exhibit the rise in exports as a percentage of world GDP between 1870 and 1913, a surge underpinned by the technological advances just mentioned. The inter-war years, however, would decimate global trade flows. It would take until the 1960s for exports to again regain their prominent role in driving global growth. By then, Europe and Japan were healing from the ravages of war and growing again, thus boosting exports and imports.

### Share of World Exports in World GDP

<table>
<thead>
<tr>
<th>Year</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1870</td>
<td>4.6</td>
</tr>
<tr>
<td>1913</td>
<td>7.9</td>
</tr>
<tr>
<td>1950</td>
<td>5.5</td>
</tr>
<tr>
<td>1973</td>
<td>10.5</td>
</tr>
<tr>
<td>2000</td>
<td>24.6</td>
</tr>
<tr>
<td>2012</td>
<td>31.6</td>
</tr>
</tbody>
</table>


---

The introduction of containerization — or container shipping — would also prove to be a huge boost to global trade in the 1960s and 1970s. Yet another key facilitator of trade was the post-war construction of new multilateral economic institutions that helped govern global trade and investment. The International Monetary Fund (IMF), the World Bank and the General Agreement on Tariffs and Trade (GATT) are multilateral institutions that have been key in promoting an open trading system and crucial in engendering international economic cooperation.

The second exhibit highlights the fact that world exports have grown much faster than world output for the past two decades. Note the spike up in the early 1990s, with the end of the Cold War providing a global peace dividend and a surge of new market-friendly players into the global trading system. The development of the internet also helped boost global commerce, as did trade liberalization in a number of countries over the 1990s, including China, India, Brazil, Russia and many others. EU enlargement pulled even more developing nations into the global trade system, helping to drive exports as a percentage of world GDP to over 30 percent by 2004/2005.

In 2008, exports as a percentage of world output hit a record high of 32.6 percent before falling in the wake of the Great Recession of 2008/2009. Over the past few years, the spread of global supply chains — or the unbundling of global production — has helped to facilitate rising volumes of global trade. As the World Trade Organization notes:

“The spread of global supply chains has facilitated a more extensive participation in international trade, allowing for the separation of production into specialized tasks delivered competitively from multiple locations as well as increased technology transfers and spillovers. As a result, countries have become more diversified across sectors and export to an increasing number of destinations.”

---

**World Exports as a % of World GDP**

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
</tr>
</thead>
<tbody>
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<td>19</td>
</tr>
<tr>
<td>84</td>
<td>21</td>
</tr>
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<td>86</td>
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<td>25</td>
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<td>33</td>
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<td>02</td>
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<td>04</td>
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<td>21</td>
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<td>10</td>
<td>19</td>
</tr>
<tr>
<td>12</td>
<td>17</td>
</tr>
</tbody>
</table>

Sources: International Monetary Fund, World Trade Organization. Data as of May 2013.

---

**Investment Summary**

That the world is becoming more integrated and woven together is best illustrated by the rising role of exports in world output. We now stand beyond the 30-percent threshold and should gradually move higher over the course of this decade. An open and unfettered global trading environment is very important to the global economy and to various asset class performances and returns.
THE GLOBAL CHAMPIONS OF TRADE ARE BEST POSITIONED FOR GROWTH

Global trade volumes have climbed steadily over the past few decades, although the forces behind the secular rise in global merchandise trade have shifted.

In the early decades of the post-war era, the United States, Europe and Japan led the way, with a great deal of trade taking place among and within the developed nations. In 1990, just three nations — the United States, Germany and Japan — accounted for roughly one-third of world exports. Then, Germany ranked number one, followed by the U.S. and Japan. France ranked fourth and the U.K. fifth. Combined, the five nations just mentioned accounted for over 44 percent of world exports in 1990 (IMF, data as of October 2013).

Today, however, the combined exports of Germany, the U.S., Japan, France and the U.K. account for just over 26 percent of the global total. In other words, times have changed, with one nation — China — almost singlehandedly reconfiguring global trade flows over the past-quarter-century.

The first exhibit lists the largest exporters of goods in the world, with China holding a commanding lead. Whereas the mainland accounted for just 1.9 percent of total exports in 1990, the nation’s share had climbed to 11.5 percent in 2012. Behind this stunning rise are many variables, including lower Chinese wages, a cheaper currency, a surge in export-related foreign direct investment, China’s expanding low-cost labor force, and an improving transportation infrastructure, to name just a few.

South Korea, Russia, Singapore, India and Mexico have also posted market share gains since 1990, but not on the order of China.

Contrary to popular lore, China’s rise as the world’s largest exporter of goods has been beneficial for the global economy. Consumers in the developed nations benefited from lower-cost Chinese imports, while the surge in Chinese exports helped create millions of jobs for Chinese workers; these workers are also consumers, and when they spend their wages, the result has been rising sales and profits for many U.S. multinationals exposed to China.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>2012 (Bil. $)</th>
<th>% of 2012 Total</th>
<th>% of 1990 Total*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>China</td>
<td>2,052</td>
<td>11.5%</td>
<td>1.9%</td>
</tr>
<tr>
<td>2</td>
<td>U.S.</td>
<td>1,547</td>
<td>8.7%</td>
<td>11.6%</td>
</tr>
<tr>
<td>3</td>
<td>Germany</td>
<td>1,323</td>
<td>7.4%</td>
<td>12.1%</td>
</tr>
<tr>
<td>4</td>
<td>Japan</td>
<td>800</td>
<td>4.5%</td>
<td>8.5%</td>
</tr>
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<td>Netherlands</td>
<td>642</td>
<td>3.6%</td>
<td>3.9%</td>
</tr>
<tr>
<td>6</td>
<td>France</td>
<td>557</td>
<td>3.1%</td>
<td>6.4%</td>
</tr>
<tr>
<td>7</td>
<td>S. Korea</td>
<td>552</td>
<td>3.1%</td>
<td>2.0%</td>
</tr>
<tr>
<td>8</td>
<td>Russia</td>
<td>525</td>
<td>2.9%</td>
<td>1.1%</td>
</tr>
<tr>
<td>9</td>
<td>Italy</td>
<td>490</td>
<td>2.7%</td>
<td>5.0%</td>
</tr>
<tr>
<td>10</td>
<td>Canada</td>
<td>455</td>
<td>2.5%</td>
<td>3.7%</td>
</tr>
<tr>
<td>11</td>
<td>Hong Kong</td>
<td>443</td>
<td>2.5%</td>
<td>2.4%</td>
</tr>
<tr>
<td>12</td>
<td>Belgium</td>
<td>432</td>
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<td>3.5%</td>
</tr>
<tr>
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<td>U.K.</td>
<td>430</td>
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</tr>
<tr>
<td>14</td>
<td>Singapore</td>
<td>412</td>
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<td>1.6%</td>
</tr>
<tr>
<td>15</td>
<td>Mexico</td>
<td>369</td>
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<td>0.8%</td>
</tr>
<tr>
<td>16</td>
<td>Saudi Arabia</td>
<td>366</td>
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<td>1.3%</td>
</tr>
<tr>
<td>17</td>
<td>India</td>
<td>297</td>
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</tr>
<tr>
<td>18</td>
<td>Spain</td>
<td>288</td>
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<td>1.6%</td>
</tr>
<tr>
<td>19</td>
<td>United Arab Emirates</td>
<td>260</td>
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</tr>
<tr>
<td>20</td>
<td>Australia</td>
<td>258</td>
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</tr>
<tr>
<td></td>
<td>World Total</td>
<td>17,873</td>
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<td></td>
</tr>
</tbody>
</table>

Source: International Monetary Fund
Data as of August 2013.
Indeed, as the second exhibit highlights, China is not only a major global exporter of goods but also a major importer of goods. A large share of these imports are parts and components that are assembled in China as final goods for export; against this backdrop, the more China exports to the world, the more it imports key components from various parts of the world, the U.S. included. Multiple benefits flow to U.S. firms that leverage China in their global supply chains. China’s share of world imports jumped from just 1.5 percent in 1990 to nearly 10 percent in 2012, a demand-side dynamic often overlooked by investors.

Note the difference between China, with imports of $1.8 trillion in 2012, and India, with imports totaling $490 billion. The difference reflects, in part, the fact that China’s economy is more open to trade and foreign direct investment than India’s. The latter’s import share has increased significantly over the past few decades, although there should be plenty more upside in the decades ahead.

The U.S. remains the largest importer of goods in the world, although its share declined from 14.7 percent in 1990 to 12.6 percent in 2012. Germany, Japan and France remain significant importers, although all three nations have seen their respective shares decline over the past quarter-century.

Mexico’s share of world exports and imports doubled between 1990 and 2012 thanks to the North American Free Trade Agreement (NAFTA).

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>2012 (Bil. $)</th>
<th>% of 2012 Total</th>
<th>% of 1990 Total*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>U.S.</td>
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<td>Germany</td>
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<td>4</td>
<td>Japan</td>
<td>886</td>
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</tr>
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<td>France</td>
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</tr>
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<td>U.K.</td>
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<td>Netherlands</td>
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<td>S. Korea</td>
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<td>2.1%</td>
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<td>Canada</td>
<td>509</td>
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</tr>
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<td>10</td>
<td>Hong Kong</td>
<td>505</td>
<td>2.7%</td>
<td>2.3%</td>
</tr>
<tr>
<td>11</td>
<td>India</td>
<td>490</td>
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<td>0.7%</td>
</tr>
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<td>Italy</td>
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<td>5.2%</td>
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<td>Belgium</td>
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<td>3.4%</td>
</tr>
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<td>Mexico</td>
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<td>Singapore</td>
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<td>Spain</td>
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<td>17</td>
<td>Russia</td>
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<td>Thailand</td>
<td>249</td>
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<td>1.0%</td>
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<tr>
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<td>Brazil</td>
<td>245</td>
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<tr>
<td></td>
<td>World Total</td>
<td>18,495</td>
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</table>

Source: International Monetary Fund. Data as of August 2013.

**Investment Summary**

Global trade in goods has been sharply reconfigured in the past few decades. In general, this trend has been hugely beneficial to the global economy, U.S. consumers and firms included. The U.S. remains a global champion of trade, a fact lost on many investors. The more U.S. firms engage in global trade, the better their long-term revenue and profits outlook will be.
INCREASING GLOBAL TRADE IN SERVICES IS BULLISH FOR THE U.S.

Thanks to innovations in telecommunications, computing and the internet, many service activities that were once nontradable are now tradable. Hence the steady rise in global service trade over the past few decades, with more activities like banking, retail, education, data processing, accounting, architectural design, and related activities leading the way.

To a large degree, global trade is being reconfigured — trade in physical goods is now complemented by trade in digital goods. To this point, the share of services in global trade stood at 18.7 percent in 2011 and is expected to climb steadily in the years ahead. In 2011, half of world exports of commercial services consisted of travel receipts and “other business services.” Transportation services accounted for roughly one-fifth of the total.

In general, the upside for key global service providers remains substantial. More service-led growth is becoming the norm in China and many other developing nations, which should be mirrored in rising global service exports.

That said, the first exhibit highlights the world’s top service exporters. At the forefront is the United States, whose service exports totaled $621 billion in 2012, according to the World Trade Organization, easily the largest in the world. While America’s share of global service exports has declined over the past decade, the U.S. still accounted for 14.3 percent of the total in 2012. America’s export capabilities go well beyond traditional goods such as heavy machinery, capital goods, agricultural and related items. U.S. export growth increasingly reflects brains, not brawn.

Service exports now rank as one of America’s top exports, bolstered by rising “other private services,” which include such high-value-added activities as medical services, architecture and design, computer processing, and other related activities. In 2012, U.S. exports of “other private services” reached a record $295 billion, an amount greater than the total exports of many countries. The U.S. runs a substantial surplus in services, with the surplus totaling $207 billion in 2012.3

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>2012 (Bil. $)</th>
<th>% of 2012 Total</th>
<th>% of 1990 Total*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>Germany</td>
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<td>6.4%</td>
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<td>France</td>
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<td>China</td>
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</tr>
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<td>Japan</td>
<td>142</td>
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<td>India</td>
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<td>Ireland</td>
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<td>Singapore</td>
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<td>S. Korea</td>
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<td>Italy</td>
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<td>Sweden</td>
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<td>19</td>
<td>Luxembourg</td>
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<td>20</td>
<td>Denmark</td>
<td>65</td>
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<td>1.6%</td>
</tr>
<tr>
<td></td>
<td>World Total</td>
<td>4,350</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Includes Belgium-Luxembourg for 1990.
Source: World Trade Organization.
Data as of August 2013.

3 Bureau of Economic Analysis (BEA). Data as of November 14, 2013.
As for leading service exporters, seven out of the top 10 service exporters in the world were developed nations in 2012. Both China and India have seen a sharp rise in their service exports in the past decade, with China’s share of global services rising from 0.7 percent in 1990 to 4.4 percent in 2012. India’s share jumped to 3.2 percent from 0.6 percent. China’s service exports rose 14 percent on an annual average basis between 2005 and 2012; India’s service exports jumped 16 percent.

Thanks to outsourcing and India’s English-speaking workforce, India has emerged as a key exporter of computer services. South Korea and China have emerged as large exporters of construction services. The U.S., Kuwait and Canada rank as the world’s largest exporters of telecommunication services. Top insurance service exporters include the U.S., Switzerland and Canada. The same is true for financial services. India, the U.S., China and Israel ranked as the four largest exporters of computer and information services in 2011, the last year of available data.

The second exhibit outlines the world’s top service importers. Again, the U.S. leads the way, accounting for roughly 10 percent of global service imports in 2012. Germany was not that far behind the U.S., with a 7.1 percent global share, with China not all that far behind Germany.

China’s service imports now rank as the third-largest in the world, ahead of the more developed economies of the U.K. and Japan. Over the 2005–2012 period, China’s service imports soared by 19 percent on an annual average basis, supported by the greater liberalization and deregulation of a number of sectors like travel and leisure, banking, insurance, telecommunications, and related activities.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>2012 (Bil. $)</th>
<th>% of 2012 Total</th>
<th>% of 1990 Total*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>United States</td>
<td>411</td>
<td>9.9%</td>
<td>12.0%</td>
</tr>
<tr>
<td>2</td>
<td>Germany</td>
<td>293</td>
<td>7.1%</td>
<td>10.1%</td>
</tr>
<tr>
<td>3</td>
<td>China</td>
<td>280</td>
<td>6.7%</td>
<td>0.5%</td>
</tr>
<tr>
<td>4</td>
<td>Japan</td>
<td>175</td>
<td>4.2%</td>
<td>10.2%</td>
</tr>
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<td>5</td>
<td>United Kingdom</td>
<td>174</td>
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<td>5.4%</td>
</tr>
<tr>
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<td>France</td>
<td>172</td>
<td>4.1%</td>
<td>6.1%</td>
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<td>India</td>
<td>127</td>
<td>3.1%</td>
<td>0.7%</td>
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<td>Netherlands</td>
<td>119</td>
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<td>Singapore</td>
<td>118</td>
<td>2.8%</td>
<td>1.0%</td>
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<td>Ireland</td>
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<td>S. Korea</td>
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<td>Brazil</td>
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<td>0.8%</td>
</tr>
<tr>
<td>18</td>
<td>Australia</td>
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<td>1.6%</td>
</tr>
<tr>
<td>19</td>
<td>United Arab Emirates</td>
<td>63</td>
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<td>0.6%</td>
</tr>
<tr>
<td>20</td>
<td>Denmark</td>
<td>57</td>
<td>1.4%</td>
<td>1.2%</td>
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<tr>
<td></td>
<td><strong>World Total</strong></td>
<td><strong>4,152</strong></td>
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<td></td>
</tr>
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Source: World Trade Organization.
Data as of August 2013.

Investment Summary

Technological advances are enabling more activities that were once nontradable to be bought and sold across borders. Trade in services is expected to remain one of the most dynamic components of global trade, a trend that is bullish for the U.S. given America’s comparative advantage in many service activities.
AMERICA: A $2 TRILLION EXPORTING GORILLA

The economic narrative of the U.S. needs a rewrite. The common refrain — that it’s the shop-til-you-drop, credit-card-toting U.S. consumer that drives the economy — is outdated. While hard to believe, America does more than consume — it also exports, in a big way.

The first exhibit supports the common narrative. Yes, U.S. exports as a percentage of the global total have declined over the past half-century. But that was to be expected as Europe and Japan recovered and the emerging markets became more integrated into the global economy. As a share of the global total, U.S. exports have bottomed over the past few years and are poised to trend higher, with America’s newfound energy exports adding to U.S. export momentum.

More broadly speaking, 2011 will go down as a seminal year, the first year in history in which a single nation exported some $2 trillion in goods and services. And the first one to cross the $2 trillion threshold was none other than the U.S.—not China, not Germany. In 2012, U.S. exports of goods totaled $1.6 trillion, while exports of services tallied $649 billion. Adding the two together, U.S. exports totaled $2.2 trillion, among the largest figures in the world.

The second exhibit provides some needed perspective on the export capabilities of the United States. Note the following: With U.S. exports of goods and services totaling $187 billion in May 2013, what the U.S. currently exports in one month is greater than what most other countries (over 170 nations) export in a year. Nothing better underscores the export prowess of the U.S.

The above begs the question: So just what is America peddling to the rest of the world? Answer: Plenty. For starters, most investors are surprised when told that America’s number-one export revolves around high-valued capital goods, which totaled $527 billion in 2012. This figure is greater than the total goods exports of nations such as Italy, Belgium, Hong Kong, Canada and Russia.

Key products in this category include semiconductors, industrial engines, telecommunications equipment, computer accessories and medical equipment.

Other key U.S. exports include industrial supplies (chemicals, pulpwood, iron and steel), food and beverages, automotive vehicles and consumer goods.

### U.S. Share of World Exports (%)

![Graph showing U.S. share of world exports](source: International Monetary Fund, Data as of July 2013.)
All totaled, few nations can match the export breadth and diversification of the U.S., a key but overlooked underlying strength of America.

And there are service exports — rarely discussed in the U.S., which is a shame since service exports now rank as one of America’s top exports. Bolstered by rising “other private services,” U.S. service exports totaled $649 billion in 2012, a 5.2 percent rise from the prior year, according to figures from the Bureau of Economic Analysis (BEA). America’s surplus in services trade — $207 billion in 2012 — helped offset the U.S.’s trade deficit in goods ($741 billion).

A number of factors have greased the wheels of U.S. exports, including a relatively weak U.S. dollar over the past decade; solid underlying demand in the emerging markets for U.S. goods and services; America’s global brand leadership, with nine of the top 10 brands in the world being American (according to BrandZ); strong trade volumes with our NAFTA partners, Canada and Mexico; and strong export growth among foreign-owned U.S. affiliates.

This might come as a surprise to readers, but take Japan for instance. U.S.-based Japanese foreign affiliates rank among the largest U.S. exporters, with U.S. exports of Japanese affiliates totaling $52 billion in 2010, the last year of available data. That equates to four percent of total U.S. goods exports in 2010, a substantial total. Japanese-owned affiliates account for the largest share of U.S. affiliate exports, followed by German-owned and British-owned affiliates.

On balance, exports have rarely been the star of the U.S. economy, with the spotlight always trained on the U.S. consumer. Personal consumption, of course, remains hugely important to the economy, but so are exports. The role of exports in driving real growth and profits is set to expand in the future.

**The U.S. as an Exporting Powerhouse**

(2012 data for countries listed, Billions of $)

<table>
<thead>
<tr>
<th>Country</th>
<th>Exports* in One Month</th>
<th>Exports* in One Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.**</td>
<td>200</td>
<td>180</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>190</td>
<td>160</td>
</tr>
<tr>
<td>Denmark</td>
<td>170</td>
<td>140</td>
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<tr>
<td>Qatar</td>
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<td>120</td>
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<td>Vietnam</td>
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<td>100</td>
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<tr>
<td>Hungary</td>
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<td>90</td>
</tr>
<tr>
<td>Finland</td>
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<td>70</td>
</tr>
<tr>
<td>South Africa</td>
<td>70</td>
<td>50</td>
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<tr>
<td>Argentina</td>
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<td>Chile</td>
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<td>Portugal</td>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>Philippines</td>
<td>30</td>
<td>20</td>
</tr>
</tbody>
</table>

*Goods and services.
**Data for May 2013.
Sources: Bureau of Economic Analysis, World Trade Organization.
Data as of July 2013.

**Investment Summary**

To the surprise of many investors, the U.S. has emerged as a $2 trillion exporting gorilla. In goods and services, and across multiple industries, U.S. firms are among the most competitive in the world. We remain bullish on U.S. multinationals across various sectors.
By marrying smart policies at the state and local levels with revolutionary extraction technology (horizontal drilling and hydraulic fracturing) and good old-fashioned American entrepreneurship, the United States is on its way to becoming the world’s largest natural gas and oil producer.

As the first exhibit highlights, America is presently producing an average of 7.78 million barrels of oil per day, a 20-year high. Think more production from Texas, North Dakota and Alaska, among the three larger energy-producing states in the nation. Other states, like Oklahoma, New Mexico, Utah, Colorado and Wyoming, are involved in the boom as well.

As a side note regarding Texas, if the state were a country, it would be the 14th-largest oil-producing nation in the world. North Dakota now produces more oil than Alaska, with favorable, energy-friendly policies in both states helping to ignite America’s energy revolution. America, in effect, is gushing with oil and gas, a dynamic that comes with many positive spinoffs for the broader economy.

Lower electricity rates, a reduced carbon footprint, rising job growth, surging levels of foreign direct investment, declining energy costs for households and businesses—all of these pro-growth factors have come about due to America’s energy abundance and have helped strengthen the foundation of the U.S. economy. The same dynamics have raised the global competitiveness of the U.S. at a time when many “declinists” or those ultra-bearish on the U.S. have written off America.

Yet there is more. Another pro-growth dynamic from America’s surging energy production lies with trade. As the second exhibit depicts, the United States has been a consistent net exporter of petroleum products since 2011, reversing a trend that was over a half-century old.
While the United States is still a significant importer of oil, we are currently importing a lot less relative to a few years ago. For instance, in June 2013, the U.S. imported some 231 million barrels of crude oil; that was down 23 percent from levels in June 2008, a stunning drop that has helped reduce our oil import bill and overall trade deficit.

Over the same period, America’s daily imports of crude and petroleum products fell from a net 11.2 million barrels per day to 6.2 million barrels by mid-2013.

Even more stunning is the following: Thanks to rising domestic production, and increased energy efficiencies across many different sectors, U.S. net imports of crude and petroleum products are now back to where they were nearly 30 years ago. Such is the explosive dynamic of America’s energy revolution on U.S. trade figures.

Add in rising exports of U.S. natural gas, which could become a reality later this decade, and America’s turn in energy trade becomes even more dynamic and decisive. Key export markets for U.S. energy exports include Mexico, Japan, South Korea and Europe, which would like to import more energy from the U.S. to offset its reliance on Russia’s energy.

Given all of the above, U.S. crude oil imports as a percentage of the total U.S. merchandise trade deficit continues to trend lower, accounting for 40 percent of the U.S. trade deficit in the first seven months of 2013. At its peak — in 1974 — America’s oil import bill accounted for more than 100 percent of the trade deficit, and then some.

**U.S. Imports/Exports of Total Petroleum Products**

(Thousand barrels per day)

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<thead>
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<th>Year</th>
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<th>Exports</th>
</tr>
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<tbody>
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<tr>
<td>2013</td>
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Source: Energy Information Administration

Data as of September 2013. Monthly data through July 2013.

**Investment Summary**

The ingredients of America’s energy revolution are basically threefold: smart policies at the state and local levels, the revolutionary extraction technology of horizontal drilling and hydraulic fracturing, and good old American risk taking or entrepreneurship. The upshot: a dramatic turn in U.S. trade figures, with America emerging as a net energy exporter in 2011. More good news is yet to come, in our opinion.
AMERICA’S EXPORT DEPENDENCE ON THE DEVELOPING NATIONS IS ON THE RISE

America’s shift in exports reflects the new world we live in. American firms now export more to the young, rapidly growing developing nations than to the mature, debt-laden developed nations. The crossover occurred during 2009/2010, with the spread between U.S. exports to the developing versus developed cohort widening over the past few years.

U.S. exports to the developing nations have outstripped exports to the developed nations since 2010. In 2012, U.S. exports to the developing nations totaled $839 billion, some 19 percent larger than exports to the developed nations. Between 2009 and 2012, U.S. exports to the former rose 60 percent, while rising 33 percent to the latter.

While cyclical weakness in Japan and Europe account for some of the dispersion in U.S. export growth (developed versus developing), this trend is more secular than cyclical. The future of U.S. exports will be driven and determined by the wants and needs of the younger populations and newly emerging market consumers of the developing nations. The future of exports will also be determined by where U.S. firms invest and what countries U.S. firms leverage in their global supply chains. U.S. foreign direct investment, don’t forget, is a catalyst for exports — trade and investment are complements, not substitutes.

As a measure of how export-dependent the U.S. has become on the developing nations, the latter accounted for nearly 55 percent of total U.S. exports in 2012, a record high. That is up from a share of roughly 40 percent in 1999 and a one-third share over most of the late 1980s.

The most important export market for U.S. firms among the developing nations is Mexico, and by a wide margin. U.S. exports to our NAFTA partner were double U.S. exports to China in 2012, and were well ahead of other key markets like Brazil, South Korea and Hong Kong. A great deal of what the U.S. exports to Mexico represents intrafirm trade, or trade that stays within the ambit of the firm. Satisfying the wants and needs of Mexico’s emerging middle class, coupled with the industrial and commercial ties forged under NAFTA, underpins and supports the role of Mexico in driving U.S. exports.

The Tide Turns: U.S. Exports to Developed vs. Developing Countries

Source: International Monetary Fund
Data as of May 2013.
China is another significant export market for the U.S., with U.S. exports to the mainland rising nearly sevenfold between 2000 and 2012, from just $16 billion at the start of the century to over $110 billion in 2012.

Brazil is the largest U.S. export market in South America, with Chile and Venezuela second and third. After China, South Korea, Hong Kong and Singapore rank as the largest Asian markets for U.S. exports. The United Arab Emirates is the largest market in the Middle East. Note that U.S. exports to India—roughly $22 billion in 2012—were just 20 percent of U.S. exports to China. In other words, there is a great deal of potential upside for U.S. exports to India.

What is the best way for investors to play this trend? Answer: There is no single investment strategy that best leverages the rising import demand of the developing nations, so we recommend a multifaceted strategy. At the core Western multinationals with strong global brands, expanding exposure in key emerging markets, and unique core competencies are among the most positioned to tap the future wants and needs of the emerging market consumer. Among sectors, think consumer discretionary, technology, healthcare and consumer staples.

Industrials and materials, meanwhile, are favorably leveraged to the steady rise in infrastructure spending, notably on air pollution and water management. We remain bullish on agricultural commodities due to shifting/improving diets among the emerging market middle class; the demand for protein, fruits and vegetables will remain quite robust over the medium term. Hence, our continued long position in farmland, timber and related hard assets.

### Key Export Markets for U.S. Goods:

#### Top Developing Countries for U.S. Exports

(Billions of $)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mexico</td>
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</tr>
<tr>
<td>2</td>
<td>China</td>
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<td>3</td>
<td>Brazil</td>
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Source: International Monetary Fund.
Data as of May 2013.

### Investment Summary

Many U.S. firms have been successful in penetrating the new markets of the developing nations. Demand from the developing world will increasingly dictate the fortunes of U.S. trade and drive U.S. exports.
AMERICA’S TOP FOREIGN EXPORT PLATFORMS ARE NOT WHAT YOU THINK

U.S. firms primarily invest overseas to be close to their customers. Among many other things, intense global competition makes it imperative that firms “build where they sell” and be close to their customers. The needs, wants and desires of customers are always shifting, making it a necessity that firms operate “in-country.” This is counter to the common narrative that 1) it is cheap labor that drives the investment decisions of U.S. companies, and 2) whatever is made or manufactured overseas is exported to the U.S. at the expense of U.S. workers.

In general, that’s wrong.

U.S. foreign affiliate sales totaled an estimated $5 trillion in 2010, the last year of available data. From the total, 61 percent of affiliate sales were for the local market and roughly 30 percent consisted of exports to third markets, while just under 10 percent were classified as exports to the U.S. (see first exhibit).

Given these figures, the first point to understand is that the majority of what U.S. affiliates make overseas stays overseas. Second, while U.S. foreign affiliates are significant exporters in their own right, exports to the U.S. are a small percentage of total affiliate sales.

Third, and finally, the favored export platforms of U.S. multinationals — or preferred nations from which affiliates export — are not low-cost locales like China and Brazil but rather high-wage nations like Switzerland, the United Kingdom and Ireland.

The second exhibit gives some insight on how U.S. multinationals operate on a global scale. The figures represent U.S. affiliate exports from each nation, and surprisingly, America’s favorite export platform is none other than Ireland.

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**U.S. Foreign Affiliate* Sales, by Final Destination, 2010**

*Majority-owned affiliates.
Source: Bureau of Economic Analysis.
Data as of July 2013.
Investment Summary

U.S. foreign affiliates are significant exporters in their own right, adding to the global competitiveness and profitability of the parent firms. U.S. multinationals leverage multiple export platforms, but these locales are not in low-cost places like China and India. Rather, they are primarily in Europe, in addition to Singapore in Asia and Mexico and Canada closer to home.
Almost every day investors are reminded in various media outlets that “China is now the largest exporter in the world,” a stark and ominous claim of how much the U.S.-centric world has changed over the past few decades. Explicit in the warning is that the competitive scales have been tipped in favor of China at the expense of the U.S. and U.S. workers. Another inference — that corporate America just isn’t competitive anymore and the world is not interested in buying anything the U.S. sells — is not only misguided but in some cases just downright wrong, depending on the data source.

In the previous entries, we present trade data from the WTO. Based on WTO figures, China had a slight export edge over the U.S. in 2012. China’s exports of goods and services totaled $2.242 trillion versus U.S. exports of $2.168 trillion. China wins by $74 million. Data from the IMF, however, give the edge to the United States. U.S. exports of goods and services totaled $2.197 trillion in 2012 versus China’s exports of $2.167 trillion. U.S. wins by $30 million.

Where both the WTO and IMF agree is that China is the world’s largest exporter of goods — there is no doubt about that, with China’s merchandise exports soaring over the past few decades on account of lower wages, a cheap currency and FDI-led export growth.

It is in services where the U.S. closes the gap, with U.S. service exports in 2012 — based on IMF data — totaling $627 billion versus service exports of $197 billion from China. The spread is significant and reflects the more knowledge-intensive, innovative-driven nature of the United States economy. As the world’s most innovative economy, the U.S. is expected to maintain this edge over China and the world over the medium term.

Service activities in China, meanwhile, remain largely underdeveloped relative to manufacturing and construction, hence the less dominant role of services in China’s export equation.

The main message from all of the above is that, contrary to the America-doesn’t-export-anything consensus, the United States is a significant exporter of goods and services in both a relative sense and an absolute sense.

Source: International Monetary Fund
Data as of July 2013.
Investors continue to underestimate the breadth, depth and sophistication of U.S. exports. The more corporate America exports, the greater the underlying earnings power of U.S. firms and the better the outlook for the U.S. economy over the long term.

And yes, China too is a powerful exporter, but the ongoing narrative is lopsided, overwhelmingly tilted toward the China-rules-the-world camp. Reality is different. Both parties, whichever way you cut it, are formidable exporters. And one reason both parties export a great deal is that both nations are now exporting more to each other than ever before. Shortly after China opened to the world in 1981, total U.S.-China trade tallied just $5 billion. In 2012, the figure stood at $536 billion.

China is America’s largest source of imports, but the mainland is also the U.S.’ second-largest trading partner and third-largest export market after Canada and Mexico. Relative to Asia’s second largest economy — Japan — U.S. exports to China were 57 percent larger in 2012. From 2003 to 2012, U.S. exports to China rose by 389 percent, three times greater than the overall U.S. export growth at 114 percent (see second exhibit). Only U.S. exports to Brazil grew at a faster pace over this period. Key U.S. exports to China include agricultural products, waste paper and scrap, aircraft, motor vehicles and parts, medical equipment, basic chemicals and semiconductors.

Looking forward, we think the export future is a tad brighter for the U.S. than for China. The latter is still struggling to come to grips with rising wages, a stronger currency and increased competition from low-cost producers like Vietnam and Cambodia. Worker activism, a peak in the labor force, and the rising cost of environmental neglect will also weigh on China’s future export prospects.

In contrast, future U.S. export growth will be supported by the comeback in U.S. manufacturing, aided by a weaker U.S. dollar, greater use of automation, including robotics, and the favorable swing in U.S. energy exports. It is the breadth of U.S. exports — ranging from agricultural products to aircraft, from medical equipment to data processing and education — that makes the U.S. an export powerhouse.

### Major U.S. Merchandise Export Markets
(2003–2012 % change)

<table>
<thead>
<tr>
<th>Country</th>
<th>2003-2012 % Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>390</td>
</tr>
<tr>
<td>China</td>
<td>389</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>222</td>
</tr>
<tr>
<td>Mexico</td>
<td>197</td>
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<tr>
<td>Netherlands</td>
<td>176</td>
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<tr>
<td>South Korea</td>
<td>172</td>
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<td>Canada</td>
<td>169</td>
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<tr>
<td>Germany</td>
<td>162</td>
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<tr>
<td>United Kingdom</td>
<td>135</td>
</tr>
<tr>
<td>Japan</td>
<td>114</td>
</tr>
<tr>
<td>Total U.S. Exports</td>
<td>0</td>
</tr>
</tbody>
</table>


### Investment Summary

Our long-term investment bias remains tilted toward U.S. firms that are engaged beyond America’s shores. We favor U.S. multinationals with deep global breadth and small and medium-sized companies that are increasingly active overseas. Unbeknownst to many on Wall Street, the U.S. is an export giant, looming larger, in some cases, than even China.
THE DEVELOPING NATIONS ARE A NEW SOURCE OF GLOBAL DEMAND FOR U.S. MULTINATIONALS

It is commonplace for investors to think of the developing nations as a source of global supply (workers) rather than a source of global demand (consumers), and for good reason. The developing nations, after all, are home to millions of workers toiling for a fraction of wage levels in the West. Moreover, over the 1990s the global labor force effectively doubled thanks to more workers from Latin America, Central Europe, Africa and Asia entering the global economic mainstream. One upshot from this dynamic: the productive capacity of the developing nations has soared over the past few decades, with the developing nations now accounting for more than half of world output.

Another consequence: Global trade flows have been fundamentally altered. For the first time in roughly two centuries (yes, approximately 200 years), the developing nations now account for a greater share of world imports than the developed nations. This seminal shift in trade underscores the fact that the emerging market worker-cum-consumer is not only a source of global supply but also a critical source of global demand.

Based on data from the IMF, history was made in the last month of 2012, when the aggregate goods imports of the developing nations ($767 billion) exceeded imports of the developed nations ($746 billion). While for the full year the developing nations accounted for 48 percent of world imports, or slightly less than half of the total, consider December a harbinger of the future.

Today represents a radical shift from the early 1990s, when the developing nations accounted for only one-quarter of world imports. Then, global imports in particular and global trade in general were driven by the developed nations, notably the United States. Times have changed, however. Import demand has become more dispersed and more inclusive of the developing nations. Total imports of the developing nations reached nearly $9 trillion in 2012 — a remarkable rise from the levels of 2000 ($2.1 trillion), 1990 ($886 billion) and 1980 ($508 billion).

*The Tide Turns: Developing Nations Now Import More Than Developed Nations*

The sharp spike in the imports of the developing nations reflects a number of variables: rising per capita incomes, wage levels and personal consumption levels in many parts of the world; continued demand for raw materials and agricultural products; China’s entry into the World Trade Organization; global trade and investment liberalization; and the spread of global supply chains, which helped boost trade in intermediate parts and components between the developed and developing nations.

Against this backdrop, the common refrain of the 1980s and 1990s — “when the U.S. sneezes, the rest of the world catches a cold” — is no longer an apt description of the real world. The U.S. is an important but diminished force when it comes to global import demand. To wit, as a share of the global total, America’s import share peaked at nearly 19 percent in 2000. Then, under 5 percent of the world’s population accounted for nearly 20 percent of world imports — such was the dramatic global pull of the U.S. consumer. Today, however, America’s share of global imports is far less — tallying 12.6 percent in 2012, a dramatic decline from the start of the century.

On a regional basis, developing Asia has experienced the strongest level of import growth since 2000 (see second exhibit). In the first dozen years of this century, imports of developing Asia expanded by better than 16 percent on an annual average basis. China, not surprisingly, led the way. The Middle East was not far behind, with rising oil wealth in the region fueling more imports. Take note of Africa, where import demand has increased by roughly 14 percent on a compound annual average basis over the 2000–2012 period. The surge in imports reflects rising mining investment in Africa and more demand for finished goods among African consumers.

Not surprisingly, the laggards were the European Union and the United States. Import demand in the European Union has been severely crimped by Europe’s debt crisis and attendant economic recession — a toxic combination for EU imports the past few years.

### Regional Leaders: Fastest Growing Imports, by Region
(CAGR: 2000–2012, %)

<table>
<thead>
<tr>
<th>Region</th>
<th>CAGR (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing Asia</td>
<td>17</td>
</tr>
<tr>
<td>Middle East</td>
<td>16</td>
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<tr>
<td>Africa</td>
<td>14</td>
</tr>
<tr>
<td>Central and Eastern Europe</td>
<td>13</td>
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<tr>
<td>Western Hemisphere</td>
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<tr>
<td>European Union</td>
<td>7</td>
</tr>
<tr>
<td>United States</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: International Monetary Fund.
Data as of May 2013.

**Investment Summary**

Where is the new source of global demand? Answer: the developing nations, as evidenced by the rising role of the developing nations in driving/determining global imports. The world has changed — global demand does not rely solely on the U.S. consumer anymore. The emerging market consumer is at play as well, which is bullish for U.S. multinationals.
COMPETITIVENESS IS ABOUT MORE THAN “MADE IN CHINA”

China’s emergence as an exporting powerhouse has been nothing short of staggering. A minor exporter in 1980, when exports totaled less than $20 billion, China emerged as the largest exporter of goods in the world in the first decade of this century.

Note from the first exhibit that the U.S. was the largest exporter of goods over most of the 1980s and 1990s. America lost the top spot to Germany in 2003, with Germany, in turn, losing the top seed to China in 2009. China overtook Japan in 2004 and topped the U.S. in 2007 before blowing past Germany late in the decade. The gap has only widened over the past few years, with China’s exports of goods totaling over $2 trillion in 2012 versus U.S. exports of $1.5 trillion, German exports of $1.3 trillion and Japanese exports of $800 billion.

Predictably, China’s export ascent has triggered a great deal of anxiety and angst in the U.S. and Europe, notably among those who believe that China’s soaring exports represent a clear and present danger to workers in the developed nations. These worries are not unfounded—China’s emergence as a 21st-century exporting powerhouse has touched virtually every corner of the world. “Made in China” is one of the most ubiquitous labels in the world.

However, there is more to “Made in China” than the common image of millions of low-wage Chinese workers pumping out goods for export in thousands of Chinese factories dotting the countryside.

Lost on many folks in the U.S. and Europe is this: A great deal of what China exports to the United States and the world are goods from so-called foreign-invested enterprises, or foreign subsidiaries of various global multinationals.

Indeed, the contribution of foreign enterprises to China’s export ascendancy is nothing short of staggering. From a share of 2 percent in 1985, aggregate exports of foreign-owned subsidiaries accounted for nearly half of China’s total exports in 2012, when foreign affiliate exports topped $1 trillion for the first time.

The World’s Top Exporters of Goods

Source: International Monetary Fund
Data as of July 2013.
In 2006, foreign affiliates accounted for nearly 60 percent of China’s total exports; the percentage has come down in subsequent years as more and more foreign affiliates switch their strategic focus in China, producing more for the home market than for export (see second exhibit).

All of the above is another way of saying that China’s true exports to the world are inflated and overstated by official trade statistics. Take out foreign affiliate exports of $1 trillion in 2012, and China’s rise as a global export powerhouse is not as impressive or ominous.

Against this backdrop, thousands of low-cost Chinese firms are not flooding the U.S. market with goods, displacing U.S. workers in the process. Rather, foreign firms are increasingly leveraging low-cost China to their competitive advantage. China has basically outsourced its exports to foreign affiliates over the past quarter-century, a strategy that has helped employ millions of Chinese workers, lowered the cost of production for thousands of foreign companies, and stretched the incomes of millions of consumers in the U.S. and Europe.

The hardest hit have been low-skilled laborers in the U.S. and Europe, but notably in Asia, whose firms have led the way in shifting manufacturing capacity to the mainland and leveraging China as a low-cost export platform. In contrast, U.S. and European investment in China is mainly geared toward the domestic market.

Given all of the above, there is little doubt that China has emerged as a significant global exporter of goods. The mainland is now the world’s top exporter of goods. However, it’s worth keeping in mind that official trade statistics don’t tell the whole story of China’s rise as a trading power.

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**China: Foreign-Funded Enterprises as % of Total Exports**

Source: General Administration of Customs. Data as of July 2013.

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**Investment Summary**

China’s rise as an exporting powerhouse is not as dire and dangerous as many believe. Investors should, in our opinion, not equate China’s surge in exports with its underlying global competitiveness. “Made in China” is not what it seems.
GLOBAL TRADE

GLOBAL COMMERCE IS COMPLEX, BUT COMPANIES THAT DO IT WELL CREATE MASSIVE VALUE

There is a great deal the trade figures don’t tell us. So much of global trade today is composed of intermediate parts and components, with multinationals slicing up various tasks across companies and countries that at the end of the day, it’s hard to tell where a product is actually made and who actually profits at the point of final sale.

Global production networks and highly specialized production processes have radically reshaped global trade. The concept of country of origin — “Made in China,” for instance — is obsolete.

Take the case of Apple’s iPod. Who makes it? Answer: Not Apple. China? Not really. When the iPod is unbundled, a different and much more complex picture of global commerce emerges.

Let’s start with the fact that there are 451 parts to an iPod. The most expensive part in the iPod is the hard drive manufactured by Toshiba (Japan). Cost: $73. The display module is the next most expensive part (roughly $20), which is supplied by a joint venture between Toshiba and Matsushita (Japan). After the hard drive and display, the next two most expensive parts are the video playback chip ($8) and controller chip ($5). The former comes from Broadcom (U.S.) and the latter from PortalPlayer (U.S.).

From here the list of parts goes on and on. Remember, there are over 400 parts to an iPod. China mainly comes at the end, during the final assembly stage, which runs about $3 to $4 per unit.

Before touching on China, it is important to remember a few things. First, Toshiba may be a Japanese company but it makes its hard drives in the Philippines and China. Second, Broadcom chips are manufactured in Taiwan; PortalPlayer’s chip is licensed from a British firm and modified by programmers in Hyderabad, India, in some cases. Third, at each step along the production process, inputs like computer chips and circuit boards are converted into outputs, with each adding value as the parts are readied for final assembly. Often, the finished parts are sent to a warehouse in Hong Kong, then transported to the plants in mainland China, where the iPods are assembled, before being shipped all over the world.

**Distribution of Value for iPhone, 2010**

Source: Capturing Value in Global Networks: Apple’s iPad and iPhone (Kraemer, Linden, Dedrick).
Data as of July 2011.
As the accompanying exhibits highlight, China does not contribute much to the value added to either the iPhone or iPad. China’s value added in both products is rather trivial — two percent in the case of the iPod and less than that in terms of the iPhone.

The largest share of the value added is captured by Apple (and its workers and shareholders), the creator and designer of the actual products. Amazingly, not many of Apple’s key products are manufactured in the U.S., but the majority of value added is captured by Apple.

This is how the real world works — trade is very complex, rendering traditional trade statistics useless and dangerous in the hands of unknowing policymakers.

To this point, all of the above helps distort U.S.-China trade. Remember, Chinese labor accounts for only a few dollars of the iPod’s value, but the trade statistics — or U.S. imports — credit China with producing the full value of the iPod. The factory cost is $150 per unit. So while Chinese workers contribute only about 1 percent to 2 percent of the value of the iPod, the export of a finished iPod to the U.S. counts as $150.

For every $299 iPod sold in the U.S., the U.S. trade deficit with China increases by around $150. For the iPhone and iPad, the increase is about $229 and $275, respectively. Yet the value capture from these products through assembly in China is around $10.4

If China was credited with producing only its portion of the value of an iPod or iPhone, the export value of these products to the U.S. would be a great deal smaller, and hence, the U.S. trade deficit with China would be smaller as well.
GLOBAL ENGAGEMENTS: WHY U.S. FIRMS ARE COMPETITIVE

One of the best-kept secrets in the United States is that American firms deliver their products to foreign customers via not one but two principal means: either through exports (trade) or through their overseas affiliates (investment). Often, firms deploy both modes of delivery. Trade, however, is considered the ultimate scorecard of what and where U.S. companies sell abroad, and that is unfortunate.

How can trade be the sole benchmark of U.S. global engagement when over 26,000 U.S. foreign affiliates dot the global landscape? How can trade be the yardstick of U.S. global engagement when foreign affiliate sales of goods and services are more than two and a half times the level of total U.S. exports in any given year?

The accompanying exhibit highlights this important disconnect. In 2010, for instance, the last year of available data, U.S. exports of goods and services totaled $1.8 trillion, a sizable sum of trade. Indeed, as previously discussed, the U.S. ranks as one of the largest exporters in the world.

But when it comes to doing business overseas, exports are secondary to foreign affiliate sales; the latter totaled $5.2 trillion in 2010, nearly three times greater than total exports.

A great deal of global commerce is missing or not counted from official trade statistics. The latter are incomplete and inaccurate indicators of global commerce. Worse still, the traditional measurements of U.S. global engagement are tremendously dangerous in the hands of U.S. policymakers. To this point, many U.S. legislators want to punish China for running a large trade surplus with the U.S. But this metric is an inadequate means by which to measure how much U.S. companies actually sell in China.

Exports represent just one means by which U.S. companies sell goods/services in China, and they are a secondary means to boot. U.S. foreign affiliate sales of goods and services in China, for instance, totaled $170 billion in 2010, roughly 50 percent larger than exports. That said, however, affiliate sales are never factored into the U.S.-Sino commercial equation.

In the end, the trade-oriented mentality of U.S. policymakers and the general public at large is fraught with danger in that it ignores the fundamental basis of global competition.

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**U.S. Exports Versus Foreign Affiliate Sales**
(Goods and services)

*Data for all majority-owned affiliates.*
*1997-2008 data for nonbank majority-owned affiliates.*
*Source: Bureau of Economic Analysis.*
*Data as of August 2013.*

### Trillions of $

- **Exports**
- **Sales**

---

*Note: Data includes all majority-owned affiliates.*
A close examination of the second exhibit highlights the stunning disconnect between U.S. exports and U.S. foreign affiliate sales. It’s not just in China where the tradeaffiliate sales disconnect is prevalent.

Note the staggering country differences between what the U.S. exports to Italy, for instance, versus what U.S. foreign affiliates sell in Italy. In 2010, the last year of complete data, U.S. exports of goods to Italy totaled just $14.2 billion. That is a rather small number, so when Italy fell into a recession during the Eurozone crisis, many on Wall Street incorrectly assumed that the collateral damage to U.S. businesses would be marginal. Why worry? U.S. exports to Italy are rather small.

But this trade-only view of the world misses that fact that, based on foreign investment and foreign affiliate sales, U.S. firms were far more exposed to Italy’s downturn than the trade figures suggested. What U.S. affiliates sell in Italy is six times greater than comparable exports. The affiliate sales/export ratio is even greater in Poland (9.5), the U.K. (7.3) and Singapore (8.9), and it’s off the charts in Ireland (over 23).

The point is this: Corporate America does not compete via cross-border trade; U.S. firms compete on the ground or “in-country,” making affiliates of these firms among the most competitive in the world. One of corporate America’s greatest strengths is the extraterritorial reach of U.S. firms via thousands of foreign affiliates, the global foot soldiers of corporate America. It is through foreign affiliates that global leaders like Ford Motors, General Electric, IBM and many other U.S. firms leverage the resources of China, sell automobiles in Germany, build pipelines in Chile, assemble trucks in Mexico and Thailand, and conduct similar activities around the world every day.

### U.S. Exports of Goods and Foreign Affiliate Sales,* 2010

(Billions of $)

<table>
<thead>
<tr>
<th></th>
<th>Sales of Goods</th>
<th>Exports of Goods</th>
<th>Sales / Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>134.7</td>
<td>35.4</td>
<td>3.8</td>
</tr>
<tr>
<td>China</td>
<td>139.0</td>
<td>91.9</td>
<td>1.5</td>
</tr>
<tr>
<td>Denmark</td>
<td>14.5</td>
<td>2.1</td>
<td>6.8</td>
</tr>
<tr>
<td>France</td>
<td>151.1</td>
<td>27.0</td>
<td>5.6</td>
</tr>
<tr>
<td>Germany</td>
<td>244.8</td>
<td>48.2</td>
<td>5.1</td>
</tr>
<tr>
<td>Greece</td>
<td>5.4</td>
<td>1.1</td>
<td>4.9</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>65.6</td>
<td>26.6</td>
<td>2.5</td>
</tr>
<tr>
<td>India</td>
<td>27.8</td>
<td>19.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Ireland</td>
<td>171.9</td>
<td>7.3</td>
<td>23.6</td>
</tr>
<tr>
<td>Italy</td>
<td>84.7</td>
<td>14.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Japan</td>
<td>145.8</td>
<td>60.5</td>
<td>2.4</td>
</tr>
<tr>
<td>Netherlands</td>
<td>148.4</td>
<td>34.7</td>
<td>4.3</td>
</tr>
<tr>
<td>Poland</td>
<td>28.4</td>
<td>3.0</td>
<td>9.5</td>
</tr>
<tr>
<td>Portugal</td>
<td>7.8</td>
<td>1.1</td>
<td>7.4</td>
</tr>
<tr>
<td>Singapore</td>
<td>256.7</td>
<td>29.0</td>
<td>8.9</td>
</tr>
<tr>
<td>South Korea</td>
<td>40.3</td>
<td>38.8</td>
<td>1.0</td>
</tr>
<tr>
<td>Spain</td>
<td>66.1</td>
<td>10.4</td>
<td>6.4</td>
</tr>
<tr>
<td>Taiwan</td>
<td>28.1</td>
<td>26.1</td>
<td>1.1</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>351.1</td>
<td>48.4</td>
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</tr>
<tr>
<td>World</td>
<td>3,717.6</td>
<td>1,278.5</td>
<td>2.9</td>
</tr>
</tbody>
</table>

*Majority-owned foreign affiliates.
Sources: Bureau of Economic Analysis;
U.S. Census Bureau.
Data as of August 2013.

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**Investment Summary**

It is the global reach and global presence that make U.S. firms among the most competitive in the world and, in our opinion, provide some of the best long-term investment plays by which to leverage global growth and the emerging middle class.
As the previous entry underscored, there is a great deal more to U.S. foreign commerce than trade — or the sum of exports and imports.

American firms deliver their goods and services to foreign customers via two channels: through trade (exports) and U.S. foreign affiliates (foreign direct investment). But the U.S. is hardly alone in deploying this strategy. Many European multinationals operate the same way, as do other leading multinationals from around the world, whether they are Canadian, Japanese, Australian or South Korean firms. Operating “inside” a particular market, and being close to customers and competitors, is how global leaders become leaders and stay that way. Accordingly, U.S.-based foreign affiliate sales are much greater than total U.S. imports.

Conventional U.S. trade figures, in other words, not only do a poor job recording what U.S. firms sell abroad but also fail to capture the true level of foreign goods and services sold in the U.S. The first exhibit sheds some light on this topic. The figures: U.S. imports and sales of U.S. foreign-owned affiliates; the numbers are for 2011, the last year of available data.

Note first the spread between what the U.S. imports ($2.6 trillion in goods and services in 2011) versus affiliate sales in the U.S. the same year: $3.5 trillion. Affiliate sales of British affiliates in the U.S. were over five times larger than U.S. imports from the U.K. in 2011. America imports a great deal from Japan ($154 billion), but that is rather small in comparison to what Japanese affiliates sell in the U.S.: $571 billion, with a sizable share coming from the automobile sector.

Germany, France and, in particular, the Netherlands—all of their affiliates sell more in the U.S. than what each respective country ships to the U.S. Notice the fact that China and India are outliers—or still dependent on trade as opposed to investment (foreign affiliate sales) in selling goods in the U.S. This reflects their underdeveloped investment stakes in the U.S., and the relatively shallow nature of cross-border commerce between the U.S. and Asia’s twin giants. However, as more and more Indian and Chinese companies invest in the U.S., the spread between affiliate sales and imports will narrow.

### U.S. Imports of Goods and Services and Affiliate Sales,* 2011

(Billions of $)

<table>
<thead>
<tr>
<th>Country</th>
<th>Sales of Goods and Services</th>
<th>Imports of Goods and Services</th>
<th>Sales / Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>42.3</td>
<td>38.7</td>
<td>1.1</td>
</tr>
<tr>
<td>China</td>
<td>8.3</td>
<td>410.7</td>
<td>0.02</td>
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<tr>
<td>France</td>
<td>262.5</td>
<td>55.8</td>
<td>4.7</td>
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<tr>
<td>Germany</td>
<td>386.0</td>
<td>121.6</td>
<td>3.2</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>27.2</td>
<td>11.3</td>
<td>2.4</td>
</tr>
<tr>
<td>India</td>
<td>21.1</td>
<td>53.0</td>
<td>0.4</td>
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<td>Ireland</td>
<td>59.9</td>
<td>48.7</td>
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</tr>
<tr>
<td>Italy</td>
<td>90.5</td>
<td>41.0</td>
<td>2.2</td>
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<tr>
<td>Japan</td>
<td>571.0</td>
<td>153.7</td>
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<tr>
<td>Netherlands</td>
<td>353.9</td>
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<td>Singapore</td>
<td>17.3</td>
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<td>South Africa</td>
<td>5.1</td>
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<tr>
<td>South Korea</td>
<td>95.6</td>
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<td>43.1</td>
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<td>Taiwan</td>
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<td>United Kingdom</td>
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<td>World</td>
<td>3,511.3</td>
<td>2,601.1</td>
<td>1.3</td>
</tr>
</tbody>
</table>

*Majority-owned affiliates.
Sources: Bureau of Economic Analysis; U.S. Census Bureau; Data as of August 2013.
The bottom line is this: When it comes to understanding U.S. global engagement, investors have to take into account trade and foreign affiliate sales. Viewed from this lens, America’s major commercial arteries take on characteristics unfamiliar to most investors. The second exhibit sheds a different light on America’s chief commercial arteries—the channels that really drive and influence U.S. global economic activity, notably U.S. global earnings. The exhibit ranks America’s largest commercial arteries based on either total trade (exports + imports) or foreign affiliate sales (U.S. affiliate sales overseas plus sales in the U.S. by foreign-owned affiliates). The key takeaways:

First, America’s most important commercial artery is the one that stretches across the Atlantic, with total transatlantic foreign affiliate sales in excess of $5 trillion in 2011, based on our estimates. That is a staggering sum of commerce between the U.S. and Europe, which reflects 1) corporate America’s massive investment base in the European Union and attendant size of U.S. foreign affiliate sales, and 2) Europe’s outsized investment presence in the U.S. and related foreign affiliate sales (more on this topic in Chapter 3). Suffice it to say that there is no foreign artery more important to the U.S. than the U.S.-Europe commercial axis. Hence the adverse impact the Eurozone recession has had on U.S. exports and foreign affiliate sales, with both metrics declining over the past few years due to weak activity across Europe.

Second, note the difference between transatlantic affiliate sales and transatlantic trade—the former was more than four times larger than the latter in 2011, based on our estimates. Third, Asia is another critical artery of corporate America, with transpacific foreign affiliate sales totaling an estimated $2.6 trillion in 2011. What U.S. affiliates sold in Asia in 2011 was nearly three times larger than total U.S. exports to the region. Fourth, and finally, America’s NAFTA partners—Canada and Mexico—are a significant source of foreign affiliate sales ($800 billion), as well as U.S. exports ($566 billion).

**America’s Major Commercial Arteries,* 2011**

*U.S. Trust Market Strategy Team estimates for affiliate data.
Source: Bureau of Economic Analysis.
Data as of August 2013.

**Investment Summary**

U.S. global engagement is far more complex and intricate than traditional trade figures suggest. U.S. and leading foreign multinationals compete more through foreign direct investment than through trade. The most important commercial artery in the world is the one that connects America with Europe.
FOR LONG-TERM INVESTMENTS, FOCUS ON U.S. FIRMS ENGAGED BEYOND U.S. SHORES

The past few decades have been relatively rewarding for U.S. firms with global scale, with many American firms adding to their earnings potential by reaching overseas and accessing new markets and leveraging the resources of other countries. As large and as dynamic as the U.S. economy is, U.S.-based firms need to expand and grow overseas; their profitability depends on this dynamic.

The first exhibit takes the long view of U.S. foreign affiliate income, a proxy for U.S. global profits. From 1950 to 1990, profits rose only gradually, ebbing and flowing with global business conditions. Beginning in the 1990s, however, U.S. global profits hooked up, becoming much more dynamic and important to the overall health of many American firms.

Note that from a cyclical low of $50 billion in 1992, U.S. foreign affiliate income climbed to over $450 billion in 2011, a record high.

That marks a ninefold increase in two decades, and reflects all of the following:

- Greater economic integration in the European Union, with the monetary union and EU enlargement notably bullish for U.S. firms with pan-European operations
- The accession of China into the World Trade Organization, which helped open new markets in China to U.S. manufacturing and services firms
- Various multilateral trade agreements that opened new markets in various emerging markets
- Bilateral deals between the U.S. and Africa, as well as between Canada and Mexico
- The emerging wealth and rising incomes of the middle class in the developing nations, boosting the profits of many U.S. companies across multiple sectors

All of the items just mentioned helped drive U.S. foreign direct investment over the past few decades, increasing, in the process, the sales and profits of U.S. affiliates.

In 2012, U.S. foreign affiliate income totaled $449 billion, a slight decline from the year before. Where were profits generated?

**U.S. Affiliate Income Earned Abroad**

Source: Bureau of Economic Analysis.
Data as of May 2013.
Investment Summary

Our long-term investment bias remains tilted toward U.S. firms that are engaged beyond America's shores. We favor U.S. multinationals with deep global breadth and small and medium-sized companies that are increasingly active overseas. Unbeknownst to many on Wall Street, the U.S. is an export giant, looming larger, in some cases, than even China.
Momentum is building for a comprehensive free trade agreement between the United States and the European Union, and between the U.S. and a handful of Asian states. The Transatlantic Trade and Investment Partnership (TTIP) and the Trans-Pacific Partnership (TPP), if successfully negotiated, would not only boost U.S. exports but also provide a competitive boost to the U.S. economy via more cross-border trade and foreign direct investment. These are certainly ambitious deals and potentially very bullish for corporate America.

TPP

The Trans-Pacific Partnership would more closely align U.S. corporate interests with the fastest-growing region of the world. Eleven nations, in addition to the U.S., are presently at the negotiating table, including Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam. This cohort is already very important to the U.S., with U.S. exports of goods and services totaling nearly $1.2 trillion in 2012.

As the accompanying exhibit highlights, TPP members account for roughly 13 percent of the world’s population, 16 percent of global personal consumption, and 23 percent of U.S. foreign affiliate income. The downside: Neither China nor India is at the negotiating table, although perhaps in time the TPP will be extended to include Asia’s twin giants. Until then, the full potential will not be reached. Across the Atlantic, things are different.

TTIP

While a high degree of market integration already exists between the U.S. and Europe, much more can be done to fuse the world’s two largest economies together. A transatlantic trade and investment pact would not only be about reducing tariffs. It would also be about reducing non-tariff barriers and harmonizing the web of regulatory standards that inhibit transatlantic trade and investment flows and add to the cost of doing business on both sides of the ocean.

Comparing Free Trade Agreements

(Billions of $ unless otherwise specified, 2011)

<table>
<thead>
<tr>
<th></th>
<th>Trans-Atlantic FTA</th>
<th>Trans-Pacific FTA</th>
<th>North American FTA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GDP (Purchasing Power Parity)</strong></td>
<td>16,093</td>
<td>10,792</td>
<td>3,247</td>
</tr>
<tr>
<td>% of World Total*</td>
<td>19.4%</td>
<td>13.0%</td>
<td>3.9%</td>
</tr>
<tr>
<td><strong>Population (thousands)</strong></td>
<td>503,179</td>
<td>476,515</td>
<td>150,822</td>
</tr>
<tr>
<td>% of World Total*</td>
<td>7.1%</td>
<td>6.8%</td>
<td>2.1%</td>
</tr>
<tr>
<td><strong>Per Capita Income ($)</strong></td>
<td>35,087</td>
<td>24,918</td>
<td>19,866</td>
</tr>
<tr>
<td>% of World Total</td>
<td>25.0%</td>
<td>16.6%</td>
<td>4.3%</td>
</tr>
<tr>
<td><strong>Exports</strong></td>
<td>5,854</td>
<td>2,801</td>
<td>802</td>
</tr>
<tr>
<td>% of World Total</td>
<td>32.8%</td>
<td>15.7%</td>
<td>4.5%</td>
</tr>
<tr>
<td><strong>Imports</strong></td>
<td>6,063</td>
<td>2,811</td>
<td>882</td>
</tr>
<tr>
<td>% of World Total</td>
<td>33.1%</td>
<td>15.3%</td>
<td>4.8%</td>
</tr>
<tr>
<td>U.S. Outward FDI Stock to...</td>
<td>2,094</td>
<td>843</td>
<td>410</td>
</tr>
<tr>
<td>% of U.S. Total</td>
<td>50.4%</td>
<td>20.3%</td>
<td>9.9%</td>
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<tr>
<td>U.S. Inward FDI Stock from...</td>
<td>1,573</td>
<td>596</td>
<td>225</td>
</tr>
<tr>
<td>% of U.S. Total</td>
<td>61.8%</td>
<td>23.4%</td>
<td>8.8%</td>
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<tr>
<td>U.S. FDI Income Earned Abroad</td>
<td>177</td>
<td>105</td>
<td>53</td>
</tr>
<tr>
<td>% of U.S. Total</td>
<td>38.7%</td>
<td>23.0%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Foreign FDI Income Earning in the U.S.</td>
<td>95</td>
<td>33</td>
<td>13</td>
</tr>
<tr>
<td>% of U.S. Total</td>
<td>62.9%</td>
<td>22.1%</td>
<td>8.5%</td>
</tr>
<tr>
<td>Foreign Affiliate Sales of U.S. MNCs in...</td>
<td>2,107</td>
<td>1,568</td>
<td>761</td>
</tr>
<tr>
<td>% of U.S. Total</td>
<td>40.8%</td>
<td>30.3%</td>
<td>14.7%</td>
</tr>
<tr>
<td>U.S. Affiliate Sales of Foreign MNCs from...</td>
<td>1,609</td>
<td>824</td>
<td>245</td>
</tr>
<tr>
<td>% of U.S. Total</td>
<td>52.1%</td>
<td>26.7%</td>
<td>8.0%</td>
</tr>
</tbody>
</table>

*Data for 2012.
**Data for 2010.
Sources: International Monetary Fund; United Nations, Bureau of Economic Analysis. Data as of June 2013.
An ambitious agreement would include the harmonization of food safety standards, e-commerce protocols, and data privacy issues. It would also encompass the standardization of a myriad of service-related activities in such sectors as aviation, retail trade, architecture, engineering, finance, maritime, procurement rules and regulations, and telecommunications.

The move toward a more barrier-free transatlantic market would also include product standardization so that a car tested for safety in Bonn could be sold without further tests in Boston, or a drug approved by the Federal Drug Administration in Washington would be deemed safe and market-ready in Brussels. Labeling and packaging requirements on both sides of the pond would be standardized, saving companies millions of dollars over the long run.

Technical regulations and safety standards are hardly headline-grabbing topics, but when these hurdles to doing business are stripped away, the end results are lower costs for companies, reduced prices for consumers, and more aggregate demand of goods and services. That in turn spells more transatlantic trade and investment with the EU, among the wealthiest and largest markets in the world.

In addition to trade in goods, there are services, with the transatlantic service economy the sleeping giant of the partnership. Unleashing service activities requires that existing regulatory rules and regulations be eliminated or reduced, which means doing away with "behind-the-border" barriers that include complex domestic regulations, cumbersome licensing and qualification requirements, and duplication of professional credentials, to name just a few barriers.

A free trade and investment deal would help create jobs and income on both sides of the pond and spur more cross-border trade and investment in goods and services. In addition, a free trade agreement could halt the divergence of interests between the U.S. and Europe, and instead spawn a new dawn of cooperation and convergence between the world’s two largest economies. Under this scenario, the transatlantic economy, the largest commercial artery in the world, would be revived. The global clout and credibility of the United States and Europe would be restored. By coming together as opposed to drifting apart, the U.S. and Europe would remain the standard-bearers of the global economic architecture. Whatever the common standards of a free trade and investment agreement, and whatever the harmonization and standardization of industry/sector regulations, a transatlantic deal could become the template by which the United States and Europe negotiate with various emerging market economies, China included.

In the end, if policymakers get it right, a sweeping free trade and investment agreement between the United States and the European Union, as well as with Asia, would further open many markets to U.S. firms, boosting their sales and profits, and global competitiveness, over the long term.

**Investment Summary**

TTIP and TPP are ambitious free trade agreements that could sharply raise the level of U.S. commerce with the largest economic entity in the world (the EU) and the fastest-growing region of the world (Asia). They would be bullish for U.S. firms.
There is more to global commerce than trade—or exports and imports. Foreign direct investment (FDI) and portfolio flows are other forms of cross-border transactions, with the following pages examining these seminal variables.

Like trade, foreign direct investment has soared over the past few decades, underpinned by falling transportation and communication costs, the global diffusion of production and many other factors.

At the forefront of rising FDI outflows and inflows has been none other than the United States—the largest recipient and supplier of foreign direct investment in the world, according to the July 2013 data release from the United Nations (UN). In other words, offshoring in the U.S. has been offset, to a large degree, by rising foreign investment in the U.S. The following pages delve into the specifics and highlight the benefits of both U.S. foreign direct investment outflows and inflows; we also highlight America’s favorite overseas markets and the top foreign investors in the U.S.

The following chapter also examines the critical role of U.S. multinational companies (MNCs) and their foreign affiliates in driving U.S. economic growth. Unbeknownst to many investors, the domestic operations of U.S. multinationals remain substantial—in other words, America’s largest firms have hardly given up on the U.S. Meanwhile, we analyze the strategic role of U.S. foreign affiliates, whose global footprint is second to none. Many U.S. affiliates drive the bottom line of U.S. firms.

We take stock of China’s outward thrust, with China not only one of the largest recipients of FDI in the world, but also one of the largest suppliers. China’s gone global, a new and exciting dynamic of global FDI flows. Related to the above, the emerging markets in general are becoming more substantial players in global mergers and acquisitions (M&A).

This chapter also speaks to the continuing reign of the U.S. dollar as the world’s primary reserve currency. And we highlight the staggering sums of money that are now traded every day on foreign exchange markets—in excess of $5 trillion daily.

Finally, we examine the foreign ownership of U.S. securities, with the foreign presence in the U.S. capital markets at or near all-time highs. Never before has foreign capital, notably from China, been so important to the economic health of the U.S. We end the chapter by reviewing America’s debt servicing obligations, which, to say the least, are substantial following the massive accumulation of debt over the past few decades.

In all, global investment flows of all stripes are very important to the global economy and to the United States.
THE PRIMARY AGENT OF GLOBALIZATION IS FOREIGN DIRECT INVESTMENT

If trade is the glue that binds the world economy together, then foreign direct investment is the cement that solidifies commerce among and between nations. The former—trade—is considered a “shallow” form of global integration, while foreign direct investment is viewed as a “deeper” and “penetrating” form of commercial engagement.

Global trade and foreign investment have soared in tandem over the past few decades, with trade and investment, more often than not, complementary in nature. In other words, cross-border trade begets foreign direct investment, while foreign investment begets more trade. Why? Because multinationals and their foreign affiliates rarely operate in isolation; rather, they typically work and interact closely, “pushing” and “pulling” cross-border trade in goods and services in the process. Hence the steady rise of both global trade and foreign investment over the past few decades, as illustrated in the first exhibit.

As the primary agent of globalization, foreign direct investment inflows rose 10.6 percent on an annual average basis between 1980 and 2000. Global foreign direct investment inflows hit a record $2.0 trillion in 2007, or one year before the global financial crisis-cum-world-recession. While world exports have climbed back to pre-crisis peaks, global investment has not.

The secular rise of global foreign direct investment reflects a number of variables, including falling transportation and communication costs that have made it easier for multinationals to expand overseas; the spread of the internet; the proliferation of global supply chains and networks as multinationals slice up their worldwide production operations; declining political and regulatory barriers to trade and investment in a number of countries and regions of the world; the spread of multilateral free trade agreements that have helped boost both trade and FDI; and China’s accession into the World Trade Organization, a dynamic that has turned China into one of the largest recipients in the world for FDI inflows.

European Union (EU) enlargement, the collapse of communism, and market reforms in such attractive economies as India, Brazil, South Africa and Russia—these market-opening events have also helped boost foreign direct investment flows over the past few decades.

The second exhibit highlights the primary sources of foreign direct investment—or the nations leading the way when it comes to investing overseas. The main metric is FDI outward stock, which refers to the accumulated overseas investment position of any one nation. That said, note that for most of the post-world-war era, the U.S. has led the way when it comes to investing overseas. According to the United Nations, America’s global share of world FDI stock was 22 percent in 2012—a share greater than any other country in the world. However, America’s share was well off the dominant levels of the 1960s, 1970s and 1980s, when U.S. multinationals were easily the most global of all firms in the world.

U.S. firms are still very global—the declining U.S. share reflects the fact that the rest of the world is becoming more global, a positive overarching trend for the global economy.

Many British firms have been global players for decades, if not centuries. Note, however, the fact that the U.K.’s share of world FDI stock was less than half the level in 2012 (7.7 percent) that it was in 1960 (16.2 percent).

Thanks to the aftershocks of Japan’s “lost decades,” and the attendant decline in corporate earnings and outward capital flows, Japan’s share of world FDI stock declined from 9.6 percent in 1990 to just 4.5 percent in 2012. Germany’s share of world FDI outward stock has remained relatively steady at roughly 7 percent for the past few years. In contrast, France’s share of world FDI stock has declined steadily over the past decade.

Finally, take note of the developing nations’ share of outward foreign direct investment stock. At 18.9 percent in 2012, the developing nations’ share was nearly three times larger than its share in 1990 (6.9 percent). This rise mirrors the outward expansion of multinationals from the developing nations, with more and more firms from China, India, Mexico, South Korea and other nations venturing further afield. That said, with a global share of less than one-fifth in 2012, firms from the developing nations are not yet as global as their counterparts from the developed nations. Going global remains a work in progress in many developing nations.

## Global Foreign Direct Investment
(Percent Share in World Outward Stock of FDI)

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</thead>
<tbody>
<tr>
<td>United States</td>
<td>49.2</td>
<td>39.2</td>
<td>43.0</td>
<td>35.0</td>
<td>36.0</td>
<td>33.6</td>
<td>28.9</td>
<td>22.6</td>
<td>22.0</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>16.2</td>
<td>14.7</td>
<td>11.2</td>
<td>11.0</td>
<td>8.0</td>
<td>11.5</td>
<td>9.7</td>
<td>7.7</td>
<td>7.7</td>
</tr>
<tr>
<td>Japan</td>
<td>0.7</td>
<td>3.6</td>
<td>4.9</td>
<td>9.6</td>
<td>6.3</td>
<td>3.5</td>
<td>3.1</td>
<td>3.9</td>
<td>4.5</td>
</tr>
<tr>
<td>Germany</td>
<td>1.2</td>
<td>7.9</td>
<td>6.7</td>
<td>7.2</td>
<td>7.1</td>
<td>6.8</td>
<td>7.4</td>
<td>6.9</td>
<td>6.6</td>
</tr>
<tr>
<td>France</td>
<td>6.1</td>
<td>4.5</td>
<td>4.3</td>
<td>5.4</td>
<td>10.0</td>
<td>11.5</td>
<td>9.8</td>
<td>7.2</td>
<td>6.3</td>
</tr>
<tr>
<td>Netherlands</td>
<td>N/A</td>
<td>7.6</td>
<td>5.3</td>
<td>5.0</td>
<td>4.5</td>
<td>3.8</td>
<td>5.1</td>
<td>4.5</td>
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<td>Switzerland</td>
<td>N/A</td>
<td>4.2</td>
<td>2.8</td>
<td>3.2</td>
<td>3.8</td>
<td>2.9</td>
<td>3.4</td>
<td>4.9</td>
<td>4.8</td>
</tr>
<tr>
<td>Italy</td>
<td>N/A</td>
<td>1.3</td>
<td>1.8</td>
<td>2.9</td>
<td>2.8</td>
<td>2.1</td>
<td>1.9</td>
<td>2.3</td>
<td>2.4</td>
</tr>
<tr>
<td>Developing Nations</td>
<td>N/A</td>
<td>13.1</td>
<td>9.5</td>
<td>6.9</td>
<td>8.7</td>
<td>11.3</td>
<td>11.5</td>
<td>16.5</td>
<td>18.9</td>
</tr>
</tbody>
</table>

N/A = Not available.
Data as of July 2013.

## Investment Summary
Foreign direct investment is the primary agent of globalization, stitching the world ever closer over the past few decades. A “deeper” form of integration, FDI has been a massively positive force for global growth and prosperity.
The United States is unique when it comes to foreign direct investment flows. The U.S. is not only the largest foreign direct investor in the world but also the largest recipient of such investment flows—a dual dynamic often overlooked by the popular narrative that speaks only to U.S. firms decamping the U.S. for lower-cost locales in Asia and Latin America.

FDI outflows are critical to the underlying competitiveness of U.S. firms, with overseas investment key in driving the sales and profits of many American firms. White-knuckled global competition and ever-shifting consumer preferences make it imperative that U.S. firms “build where they sell” and leverage resources all over the world, whether in Boston or Bangalore.

A case in point: When U.S. automobile sales collapsed in 2009 and 2010 following the U.S. financial crisis-cum-recession, U.S. automobile manufacturers were spared some of the pain thanks to soaring auto sales in China; U.S.-owned auto affiliates in China helped offset plunging sales at home, providing a buffer to the profits of the U.S. automobile industry.

U.S. parent companies presently deploy over 26,000 affiliates abroad, giving corporate America a massive global footprint. And contrary to the popular consensus that U.S. outward FDI tends to “hollow out” U.S. operations, the reality is different and more complex.

Empirical evidence strongly shows that U.S. overseas investment creates many positive spillover effects for the U.S. economy, helping to boost, in many cases, U.S. exports, employment, income and profits. This reflects the fact that U.S. outward investment is typically a complement to—not a substitute for—operations in the U.S. More activity and hiring abroad means more hiring in the U.S. Meanwhile, the greater the activities of U.S. foreign affiliates, the greater the scale and scope of activities of U.S. parents and their U.S.-based operations.

Investment from abroad also bestows a number of benefits on the U.S. economy. More U.S. foreign direct investment inflows mean more jobs and incomes for U.S. workers, in addition to more tax revenue for many states and local communities. Foreign firms presently operate over 11,000 foreign affiliates in the U.S., with each affiliate bestowing some type of value on the U.S. economy.

**U.S. Foreign Direct Investment Flows**

![Graph showing U.S. Foreign Direct Investment Flows](image)

Source: Bureau of Economic Analysis. Data as of June 2013.
Foreign firms invest in the U.S. for the same reasons U.S. firms invest abroad — firms need to be close to their U.S. customers and competitors, and must fully leverage the resources of the U.S. in order to be competitive and successful in the world’s largest economy. The size and wealth of the U.S. market make the United States among the most attractive places in the world for foreign investment.

As the first exhibit highlights, U.S. FDI outflows and inflows are highly cyclical in nature, ebbing and flowing based on prevailing global economic conditions. Both U.S. outflows and inflows dropped sharply in the wake of the 2008/2009 global financial crisis, with inflows plunging 53 percent in 2009 from levels a year before. Outflows dropped 7 percent the same year but have since recovered to nearly post-crisis highs. While inflows declined by 28 percent in 2012, falling to $161 billion, the U.S. nevertheless remained the top country in the world for foreign direct investment.

Steep declines in both inflows and outflows occurred in 2001/2002, when the U.S. dot-com implosion battered global growth and global FDI flows.

The second exhibit is a snapshot of cumulative U.S. FDI outflows and inflows since 1980. There is no mistaking the fact that outflows have exceeded inflows over the past three decades, with aggregate outflows of $4.1 trillion roughly 14 percent greater than cumulative inflows of $3.6 trillion.

However, the point of the graphic is this — outflows and inflows of foreign direct investment have remained relatively strong over the past decades. The U.S. is both a key supplier and a key recipient of foreign direct investment, with both metrics, and their effects on the real economy, helping to boost the competitiveness of the U.S. economy.

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**U.S. Foreign Direct Investment Flows, Cumulative 1980–2012**

Source: Bureau of Economic Analysis. Data as of June 2013.

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**Investment Summary**

The common narrative is that U.S. firms are decamping the U.S. for lower-cost destinations, leaving U.S. workers high and dry. Reality is far different: The U.S. is a robust supplier and receiver of foreign direct investment. That the U.S. is a magnet for FDI is rarely discussed in the media but should not be forgotten by investors.
OFFSHORING MAKES THE U.S. ECONOMY STRONGER, NOT WEAKER

Bringing the jobs home and encouraging American firms to stay local rather than venture overseas has become a common narrative in the United States, notably among legislators in Washington. Many lawmakers would love nothing more than to shower tax breaks and financial incentives on U.S. firms that repatriate jobs and produce at home, while penalizing those companies that invest abroad.

Call it a war on offshoring — and a misguided one at that.

Here are some inconvenient truths about offshoring:

First, offshoring — or assembling/manufacturing/selling directly in a foreign country — is the most cost-effective and competitive means by which U.S. firms deliver goods and services to their foreign customers.

Lost on many folks is this: White-knuckled global competition dictates that U.S. companies operate locally and be close to their foreign customers. "Build where you sell" has long been a key global competitive advantage of many U.S. firms. Exporting is for farmers — not for U.S. multinationals that compete head to head in such highly competitive markets as China, Germany and Japan, where stiff competition and shifting consumer demands and preferences mandate a local presence.

Second, offshoring allows U.S. firms to access resources — labor and natural resources — not otherwise available in the United States. America does not have a monopoly on the global best and brightest — notwithstanding this nation’s staggering ability to attract global talent.

Bright young entrepreneurs in China and India are being encouraged and incentivized to stay home, with the global dispersion of research and development (R&D) making it possible to invent and innovate any place in the world. This trend, along with tough U.S. immigration laws and America’s dwindling/aging skilled labor pool, dictates that American firms draw from the global labor force. Failing to do so threatens their very survival.

Intra-MNC Trade in Exports

![Bar chart showing Intra-MNC Trade in Exports from 1982 to 2010.](source: Bureau of Economic Analysis. Data as of June 2013.)
As a footnote, the common refrain that U.S. firms offshore primarily to leverage cheap, unskilled labor is patently false. Presently, foreign employment of U.S. multinationals is almost evenly split between developed and developing nations. Why the nearly equal distribution? Because U.S. firms that offshore activities are more in need of skilled labor (usually found in the developed nations) than unskilled labor (a developing nation attribute).

Third, by offshoring various activities and functions to foreign locations, U.S. firms are in effect creating new consumers and markets for U.S. goods and services.

In most cases, the 13 million foreign workers employed by U.S. foreign affiliates enjoy above-average wages and want to spend some of their hard-earned income on U.S. goods and services. The more beverages, hamburgers, coffee, iPods and American cars these workers buy, the fatter the bottom line of many U.S. firms, and the more jobs and income for U.S. workers in meeting this new demand.

In general, U.S. FDI and foreign affiliate activities tend to complement—not substitute for—key parent activities in the U.S. The more American cars sold in China, the more the demand for U.S. high-end parts and components, the more capital available for R&D in the states, and the more demand for other services, like advertising, logistics and related functions.

As the accompanying exhibit highlights, U.S. trade in goods associated with U.S. multinationals and their foreign affiliates is hardly insignificant, totaling roughly $230 billion in 2010, the last year of available data. In general, U.S. multinationals account for a large share of U.S. goods exports (roughly 48 percent of the total), with exports from U.S. parents to their foreign affiliates accounting for nearly 20 percent of the total.

Offshoring, in other words, is trade-creating.

Finally, discouraging and penalizing U.S. firms from investing overseas could invite retaliatory measures from other nations that could ultimately hurt the U.S. economy. If the United Kingdom, Germany, Japan and others followed the same strategy as Washington—strongly encouraging their firms to stay home and not venture overseas—the biggest loser would be none other than the United States, the largest recipient in the world of foreign direct investment.

**Investment Summary**

Offshoring makes the U.S. economy stronger, not weaker. The net benefits are positive for U.S. firms and workers. Conversely, any measures to discourage U.S. firms from venturing overseas could undermine their global competitiveness and profitability.
WHERE DO U.S. FIRMS INVEST OVERSEAS? IT’S NOT WHERE YOU THINK

One great misconception about U.S. overseas foreign direct investment is that the primary reason U.S. firms invest abroad is to leverage low-skilled labor, leaving higher-paid U.S. workers high and dry, or unemployed or working at much lower salaries.

In general, this refrain is wrong.

The facts speak for themselves: As of the end of 2012, the developed nations accounted for a commanding 67.4 percent of total U.S. FDI stock; the latter metric, FDI stock, is the cumulative book value of U.S. investment overseas.

That the developed nations are the primary recipients of U.S. investment should not be surprising since, as we have highlighted throughout this chapter, U.S. multinationals, first and foremost, are market-seeking entities. They crave access to wealth, consumers and skilled labor, which more often than not leads them to Europe, Canada, Japan or Australia.

As both exhibits illustrate, U.S. multinationals have a strong preference for Europe, given that the European Union is the largest and wealthiest market in the world. In 2012, Europe accounted for roughly 56 percent of U.S. FDI outward stock; this figure includes both developed and developing Europe, but the bulk of U.S. investment in Europe is sunk in “old” or Western Europe.

The Netherlands is the top nation in the world when it comes to hosting U.S. overseas investment. U.S. FDI stock in the Netherlands totaled $645 billion in 2012, a figure on par with total U.S. investment in all of Asia ($651 billion).

Why the Netherlands? The tiny, trade-oriented state on the western edge of Europe acts as a bridge for U.S. firms to the greater European Union market, and has long been a European conduit for such U.S. affiliate activities as logistics, distribution and finance and insurance, to name a few.

The United Kingdom has long played a similar role, with the U.K. the second-most popular host for U.S. foreign direct investment. U.S. FDI stock in the U.K. was valued at $597 billion in 2012, greater than the combined U.S. investment stock in South America, Central America, Africa and the Middle East ($389 billion).

### U.S. FDI Outward Stock, by Region, 2012

(\% of total)

<table>
<thead>
<tr>
<th>Region</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>55.6</td>
</tr>
<tr>
<td>Asia</td>
<td>14.6</td>
</tr>
<tr>
<td>NAFTA</td>
<td>10.2</td>
</tr>
<tr>
<td>S. America</td>
<td>3.8</td>
</tr>
<tr>
<td>Africa</td>
<td>1.4</td>
</tr>
<tr>
<td>Middle East</td>
<td>1.0</td>
</tr>
<tr>
<td>Other</td>
<td>13.4</td>
</tr>
</tbody>
</table>

Source: Bureau of Economic Analysis.

Data as of June 2013.
America’s overseas investment stakes in China have grown considerably over the years, although U.S. FDI stock in the Middle Kingdom totaled only $51 billion in 2010. That is below America’s investment position in tiny Belgium ($53 billion) and a fraction of U.S. investment in Ireland ($203 billion). U.S. firms have invested more in Norway ($38 billion) and Spain ($31 billion) than India ($28 billion).

Note from the first exhibit that on a relative basis, corporate America’s investment stakes in South America, Africa and the Middle East are rather small. South America accounts for less than 4 percent of total U.S. FDI outward stock, while Africa and the Middle East account for 1.4 percent and 1 percent, respectively. The “Other” category is rather large because it includes the offshore money centers of the Caribbean.

The key takeaway from all of the above is this: America’s foreign stakes are deepest in the developed nations, a fact counter to the common consensus that it’s the developing nations that attract the most U.S. investment. That is not true. Since 2000, of cumulative U.S. FDI outflows of $2.9 trillion, the developed nations accounted for 73 percent of the total.

The second exhibit highlights the starring role Europe plays in hosting U.S. foreign direct investment. The variables listed are affiliate activities. Whatever the metric—number of affiliates, number of employees, total sales or R&D expenditures—Europe ranks number one in a number of critical categories.

Against this backdrop, it is little wonder the Eurozone crisis of the past few years has had a negative effect on the profits of U.S. firms. The crisis engulfed the primary overseas market for U.S. foreign investment, the region of the world where the presence of U.S. foreign affiliates is greatest and most prevalent. What’s bad for Europe, in other words, is bad for corporate America.

**Europe is Number One for U.S. Foreign Affiliates** (2010)

<table>
<thead>
<tr>
<th>Country of Origin</th>
<th>Value</th>
<th>% of Total</th>
<th>Global Rank**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Affiliates</td>
<td>13,159</td>
<td>52.2%</td>
<td>1</td>
</tr>
<tr>
<td>Thousands of Employees</td>
<td>4,079</td>
<td>36.8%</td>
<td>1</td>
</tr>
<tr>
<td>Manufacturing Employment (Thousands)</td>
<td>1,740</td>
<td>37.6%</td>
<td>1</td>
</tr>
<tr>
<td>Total Assets (Bil. U.S. $)</td>
<td>11,396</td>
<td>58.1%</td>
<td>1</td>
</tr>
<tr>
<td>Net Property Plant &amp; Equipment (Bil. U.S. $)</td>
<td>432</td>
<td>38.4%</td>
<td>1</td>
</tr>
<tr>
<td>Total Sales (Bil. U.S. $)</td>
<td>2,506</td>
<td>48.5%</td>
<td>1</td>
</tr>
<tr>
<td>Sales of Goods (Bil. U.S. $)</td>
<td>1,783</td>
<td>48.0%</td>
<td>1</td>
</tr>
<tr>
<td>Sales of Services (Bil. U.S. $)</td>
<td>636</td>
<td>51.6%</td>
<td>1</td>
</tr>
<tr>
<td>Net Income (Bil. U.S. $)</td>
<td>599</td>
<td>58.7%</td>
<td>1</td>
</tr>
<tr>
<td>Capital Expenditures (Bil. U.S. $)</td>
<td>58</td>
<td>34.6%</td>
<td>1</td>
</tr>
<tr>
<td>R&amp;D Expenditures (Bil. U.S. $)</td>
<td>24</td>
<td>61.8%</td>
<td>1</td>
</tr>
<tr>
<td>Gross Product (“Value Added”, Bil. U.S. $)</td>
<td>598</td>
<td>48.1%</td>
<td>1</td>
</tr>
<tr>
<td>Compensation of Employees (Bil. U.S. $)</td>
<td>261</td>
<td>53.6%</td>
<td>1</td>
</tr>
</tbody>
</table>

The following data are for 2012

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>% of Total</th>
<th>Global Rank**</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Foreign Direct Investment Outflows (Bil. U.S. $)</td>
<td>189</td>
<td>51.4%</td>
<td>1</td>
</tr>
<tr>
<td>Affiliate Income (Bil. U.S. $)</td>
<td>226</td>
<td>50.4%</td>
<td>1</td>
</tr>
<tr>
<td>Direct Investment Position on a Historical-Cost Basis (Bil. U.S. $)</td>
<td>2,477</td>
<td>55.6%</td>
<td>1</td>
</tr>
</tbody>
</table>

*Majority-owned affiliates. **Ranked against Canada, Latin America, ex. Other Western Hemisphere, Africa, Middle East and Asia & Pacific.
Source: Bureau of Economic Analysis. Data as of June 2013.

**Investment Summary**

The global focus of U.S. multinationals has long been on the developed markets, notably Europe and Canada. U.S. firms are primarily market-seeking, which has led many U.S. companies to the wealthy markets of Europe; less appealing have been the large yet poor emerging markets like China and India.
Many U.S. multinationals have come under attack over the past years for offshoring U.S. jobs to low-cost locations like China and Mexico, an unpatriotic act, according to some critics who would rather see U.S. firms stay at home and invest and hire at home.

The common narrative is that U.S. multinationals are exiting the U.S. to the detriment of the broader U.S. economy. Reality is far different, however.

Yes, U.S. multinationals have a global footprint second to none. That said, the domestic or U.S.-based operations of U.S. multinationals remain substantial. Indeed, above all else, U.S. multinational companies are American companies — the bulk of their activities are anchored in the United States.

Think of U.S. multinationals as having two parts — a U.S. parent, whose activities are U.S.-based, and U.S. foreign affiliates, whose activities take place outside the country. The equation goes like this: U.S. parent + foreign affiliates = U.S. multinational.

With that framework in mind, take a look at the first exhibit, which highlights the simple yet little-understood fact that U.S. parents account for the majority of worldwide activity of U.S. multinationals; by several metrics, U.S. parent activities remain large relative to their foreign affiliates.

In fact, in 2010, the last year of available data, U.S. parents accounted for more than two-thirds of U.S. multinationals’ total output, employment, capital investment and research and development.

So the common refrain — that U.S. multinationals are exporting U.S. jobs — doesn’t hold much water. Not when the aggregate labor force of U.S. multinationals is overwhelmingly biased toward U.S. parents or those operations in the U.S. Rarely is this talked about, and rarely is it acknowledged that when it comes to investment and high-end R&D, the emphasis of U.S. multinationals is on the U.S., not the rest of the world.

In 2010, U.S. parents accounted for 70 percent of worldwide output of U.S. multinationals, 67 percent of worldwide employment, nearly 73 percent of total capital investment, and roughly 85 percent of worldwide R&D.

### U.S. Parents Account for the Large Majority of Worldwide Activity of U.S. Multinationals

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percent of worldwide activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
<td>67.3</td>
</tr>
<tr>
<td>Output</td>
<td>70.0</td>
</tr>
<tr>
<td>Capital Investment</td>
<td>72.5</td>
</tr>
<tr>
<td>Research and Development</td>
<td>84.4</td>
</tr>
</tbody>
</table>

Source: Bureau of Economic Analysis. Data as of November 2012.
The bottom line: U.S. multinationals perform a large majority of their activities in the U.S., not overseas or in low-cost places like China, India and Brazil.

That said, with their extensive operations in the United States, U.S. multinationals, via their U.S. parents, account for a large share of overall activity in the U.S. The second exhibit highlights the share of U.S. private-sector activities accounted for by U.S. parents. In a nutshell, these activities are substantial.

- Parent companies accounted for 23 percent of all U.S. private-sector output, which totaled nearly $3 trillion in 2010.
- As a significant source of capital investment, U.S. parents purchased $438 billion in new property, plant and equipment in 2010, or roughly 43 percent of the total for the year.
- In terms of exports, parent firms exported $615 billion of goods to the rest of the world in 2010; this represented nearly half of total U.S. exports.
- Research and development expenditures of parents totaled $212 billion at last count, with U.S.-based R&D accounting for nearly three-fourths of the total.

And all of the above, incidentally, adds up to sizable paychecks for American workers. In 2010, for instance, total compensation at U.S. parent companies was over $1.6 trillion — a per-worker average of over $70,000, well above the private-sector average. All of the above helps refute the common narrative that U.S. multinationals are eager to abandon the U.S. That is hardly the case — parent activities remain the core focus of U.S. multinationals, notwithstanding the growing importance of U.S. foreign affiliates.

What is more important is that U.S. multinationals remain a key pillar of strength to the U.S. economy and continue to make substantial contributions to growth via employment, investment, exports, wages and R&D. The key for investors is to remember the following: U.S. multinationals are American companies.

**U.S. Parent Companies Account for Large Shares of the Overall U.S. Economy**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percent of Private-Sector Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
<td>20.5</td>
</tr>
<tr>
<td>Output</td>
<td>23.0</td>
</tr>
<tr>
<td>Capital Investment</td>
<td>42.3</td>
</tr>
<tr>
<td>Exports</td>
<td>48.1</td>
</tr>
<tr>
<td>Research and Development</td>
<td>73.4</td>
</tr>
</tbody>
</table>

Source: Bureau of Economic Analysis. Data as of November 2012.

**Investment Summary**

An underlying strength of the U.S. economy lies with the competitiveness of U.S. multinationals. By being both global (affiliates) and local (U.S. parents), U.S. multinationals are elite performers across many industries. That said, the role of U.S. parents remains paramount to foreign affiliates. The more successful U.S. multinationals are in general, the better the prospects are for the U.S. economy.
U.S. FOREIGN AFFILIATES ARE CRITICAL TO THE SUCCESS OF U.S. MULTINATIONALS

As the previous entry highlighted, U.S. parents play a key role in the success of U.S. multinationals. But so do U.S. foreign affiliates. Remember, there are two key components to a U.S. multinational: U.S. parents and their foreign affiliates. The latter rarely get much attention but are quietly among the most powerful economic entities in the world.

Think of U.S. foreign affiliates as the global foot soldiers of corporate America, dispersed and strategically located all over the world, and tasked with leveraging local resources and serving the needs and wants of local customers. Their success has a direct bearing on the bottom line of many blue-chip U.S. multinationals, since affiliates, in many cases, are the primary source of profits for firms.

U.S. foreign affiliate activities are also very important to the economies of the host countries they operate in. Take Ireland, for instance, where U.S. foreign affiliates account for a staggering 25 percent of that country’s gross domestic product and a significant share of its total exports. Accordingly, as U.S. affiliates go in Ireland, so goes Ireland to a large degree.

The collective economic might of U.S. affiliates is very impressive. Indeed, as the first exhibit underscores, on a stand-alone basis, U.S. foreign affiliates rank among the world’s largest economic producers. The collective gross product of U.S. affiliates topped $1.2 trillion in 2010, the last year of available data. That makes U.S. affiliates the 14th-largest economic producer in the world, outproducing such nations as Mexico, Sweden, Poland and South Korea, along with many others. On a regional basis, the bulk of production of U.S. affiliates is concentrated in Canada and Europe, or in the nations and the region of the world where U.S. foreign direct investment roots are deepest. Canada accounted for just over 10 percent of total affiliate gross product in 2010, while Europe, led by the United Kingdom, represented nearly half, or 48 percent, of the total.

In order to be successful, U.S. affiliates are tasked with hiring the best and brightest in various markets of the world, in addition to leveraging lower-cost labor in many unskilled economies. That said, the global workforce of U.S. foreign affiliates — just over 11 million strong in 2010 — is greater than or equivalent to the total workforce of many nations.

The World's Largest Economic Producers
(Nominal GDP, 2010)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>U.S. $ Billions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>United States</td>
<td>14,499</td>
</tr>
<tr>
<td>2</td>
<td>China</td>
<td>5,930</td>
</tr>
<tr>
<td>3</td>
<td>Japan</td>
<td>5,495</td>
</tr>
<tr>
<td>4</td>
<td>Germany</td>
<td>3,312</td>
</tr>
<tr>
<td>5</td>
<td>France</td>
<td>2,571</td>
</tr>
<tr>
<td>6</td>
<td>United Kingdom</td>
<td>2,267</td>
</tr>
<tr>
<td>7</td>
<td>Brazil</td>
<td>2,143</td>
</tr>
<tr>
<td>8</td>
<td>Italy</td>
<td>2,059</td>
</tr>
<tr>
<td>9</td>
<td>Canada</td>
<td>1,616</td>
</tr>
<tr>
<td>10</td>
<td>India</td>
<td>1,615</td>
</tr>
<tr>
<td>11</td>
<td>Russia</td>
<td>1,525</td>
</tr>
<tr>
<td>12</td>
<td>Spain</td>
<td>1,392</td>
</tr>
<tr>
<td>13</td>
<td>Australia</td>
<td>1,247</td>
</tr>
<tr>
<td>14</td>
<td>U.S. Foreign Affiliates*</td>
<td>1,241</td>
</tr>
<tr>
<td>15</td>
<td>Mexico</td>
<td>1,034</td>
</tr>
</tbody>
</table>

*Majority-owned foreign affiliates.
Sources: Bureau of Economic Analysis; International Monetary Fund.
Data as of November 2012.
Interestingly, and counter to the common narrative, the workforce of U.S. foreign affiliates is concentrated in high-wage developed nations. In Europe alone, U.S. affiliates employed 4.1 million workers in 2010, roughly 20 percent more than the U.S. affiliate workforce in Asia, China included. The number of Chinese workers working for U.S. affiliates topped 1 million in 2010, a steady rise from the previous decade. That said, U.S. firms still employed more workers in the U.K. in 2010 (1.2 million) than in China. Meanwhile, U.S. affiliate employment in Germany (roughly 600,000 workers) was greater than in India (586,000). Among America’s NAFTA (North American Free Trade Agreement) partners, U.S. affiliates employed 1 million workers each in Canada and Mexico, underscoring how U.S. firms have leveraged the labor pool of our neighbors to their competitive advantage. In many cases, growth in affiliate employment in the developed nations has been led largely by service activities, while more manufacturing activities/employment growth has occurred in the developing nations like Mexico, Poland and China.

Finally, while the primary objective of most U.S. foreign affiliates is to serve the local market in which they operate, affiliates are also significant traders, or exporters and importers of goods and services. The second exhibit underscores this dynamic. Figures reflect trade in goods, with U.S. affiliates exporting more goods in 2010 than either the U.S. or China, for that matter. Cross-border affiliate trade has soared over the past few decades as the value-added functions of affiliates have increased, and as production within firms has become more specialized and fragmented across the world, promoting more trade between and among affiliates.

That said, two points need to be highlighted: First, the bulk of foreign affiliate exports is not bound for the U.S., refuting the frequent claim that U.S. affiliate production is often bound for the United States to the detriment of U.S. workers. Only 25 percent of total affiliate exports were sent to the U.S. in 2010; three-fourths were destined for third markets. Second, the bulk of affiliate exports emanate from the developed nations — think Canada and Europe — not low-wage nations like India and China. Most of what affiliates produce in China and India stays in China and India. A large share of U.S. affiliate trade takes place among affiliates within the European Union.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>U.S. $ Billions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>U.S. Foreign Affiliates*</td>
<td>1,944</td>
</tr>
<tr>
<td>2</td>
<td>United States</td>
<td>1,818</td>
</tr>
<tr>
<td>3</td>
<td>China</td>
<td>1,739</td>
</tr>
<tr>
<td>4</td>
<td>Germany</td>
<td>1,498</td>
</tr>
<tr>
<td>5</td>
<td>Japan</td>
<td>909</td>
</tr>
<tr>
<td>6</td>
<td>France</td>
<td>715</td>
</tr>
<tr>
<td>7</td>
<td>Netherlands</td>
<td>690</td>
</tr>
<tr>
<td>8</td>
<td>United Kingdom</td>
<td>680</td>
</tr>
<tr>
<td>9</td>
<td>Italy</td>
<td>544</td>
</tr>
<tr>
<td>10</td>
<td>Canada</td>
<td>459</td>
</tr>
</tbody>
</table>

*Majority-owned foreign affiliates.
Sources: Bureau of Economic Analysis; World Trade Organization.
Data as of November 2012.

Investment Summary

Foreign affiliates are hugely important to the success of U.S. multinationals. They drive the bottom line of many firms and the long-term strategic success of companies. Their competencies and global reach are key ingredients to the success of corporate America.
THE U.S. IS A MAGNET FOR FOREIGN DIRECT INVESTMENT

While much angst and handwringing have accompanied the debate about U.S. firms offshoring or investing overseas at the expense, allegedly, of U.S. workers, far too little attention has been paid to this simple truth: When it comes to attracting the capital of the world’s top global companies, no one does it better than the United States.

The following should not be lost on investors: While U.S. firms continue to invest overseas, foreign firms are sinking more and more capital into the U.S., creating jobs, tax revenues and productive capacity across the 50 states. There are investment outflows (all the rage) and then there are investment inflows (all but forgotten by many).

The U.S. is not only the largest supplier of foreign direct investment but also the world’s leading recipient. In 2012 alone, foreign firms invested nearly 40 percent more capital in the United States than in China. Only once—in 2003—have annual FDI inflows to China been even remotely close to those of the U.S. When it comes to attracting foreign capital, the U.S. is in a class all of its own.

A large and wealthy population, top-notch universities, a transparent rule of law, an ease of doing business that compares favorably with other nations, world-class innovative capabilities, a relatively young population, deep capital markets—all of these attributes, and more, attract foreign companies to invest in the United States.

To this point, between 1970 and 2012, cumulative U.S. foreign investment inflows totaled $3.6 trillion, or 16.9 percent of the total. No other country came close, with America’s share of global FDI inflows from 1970 to 2012 greater than the next two top nations—the U.K. and China—combined. America’s share of the global total was nearly 17 percent versus the U.K.’s (7.6 percent) and China’s (6.3 percent).

Other key takeaways from the chart below:

First, note that of the top 10 nations ranked on the chart, eight are developed nations, underscoring the point that foreign direct investment is typically market-seeking, and drawn to high-skilled, wealthy economies.
Second, since 1970, for every one dollar China has attracted from foreign firms, the U.S. has attracted roughly $2.65 dollars, a staggering differential but one widely unrecognized among the mainstream. Notwithstanding the fact that China was relatively closed to foreign investment over the 1970s, the U.S. has easily attracted more foreign investment than China since 1980. Despite the common narrative that companies are heading for the Middle Kingdom, the figures highlight a different reality.

Third, and finally, the United Kingdom outranks China in terms of inflows, with the nation’s English-speaking skilled labor pool and access to the large EU market as key attractions. Given all of the above, when it comes to investment inflows, the U.S. does quite well, thank you. And there is nothing novel about the concept — the U.S. has been attracting FDI quite successfully for decades.

And the future looks just as bright. The second exhibit highlights the recent rankings of executives asked to rate the most favorable places for foreign direct investment over the next three years. The rankings come from A.T. Kearney’s annual survey.

And the winner in the latest rankings: the U.S., which surpassed China for the first time since 2001. Note that the U.S. jumped from fourth to first place in 2013. Canada also posted an impressive rise in the poll, rising from 20th to fourth. Casting a favorable light on both the U.S. and Canada has been the North American energy revolution, which has 1) attracted rising sums of energy-related foreign investment from the rest of the world, and 2) lowered U.S. energy costs, making the U.S. among the most attractive places in the world to manufacture goods. America’s economic resiliency following the financial crisis of 2008/2009 has been another key variable attracting foreign capital.

### U.S. Ranks First in Survey on Foreign-Investment Climate

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Score</th>
<th>2012 Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>U.S.</td>
<td>2.09</td>
<td>(1)</td>
</tr>
<tr>
<td>2</td>
<td>China</td>
<td>2.02</td>
<td>(1)</td>
</tr>
<tr>
<td>3</td>
<td>Brazil</td>
<td>1.86</td>
<td>(3)</td>
</tr>
<tr>
<td>4</td>
<td>Canada</td>
<td>1.85</td>
<td>(2)</td>
</tr>
<tr>
<td>5</td>
<td>India</td>
<td>1.83</td>
<td>(5)</td>
</tr>
<tr>
<td>6</td>
<td>Australia</td>
<td>1.83</td>
<td>(6)</td>
</tr>
<tr>
<td>7</td>
<td>Germany</td>
<td>1.81</td>
<td>(8)</td>
</tr>
<tr>
<td>8</td>
<td>U.K.</td>
<td>1.77</td>
<td>(7)</td>
</tr>
<tr>
<td>9</td>
<td>Mexico</td>
<td>1.77</td>
<td>(1)</td>
</tr>
<tr>
<td>10</td>
<td>Singapore</td>
<td>1.77</td>
<td>(7)</td>
</tr>
</tbody>
</table>


### Investment Summary

America’s ability to attract foreign investment remains robust and is one of the many reasons the U.S. economy and U.S. firms are among the most competitive in the world. Foreign investment inflows are a catalyst to growth, innovation and prosperity, and they are, therefore, a key ingredient to the long-term success of the U.S.
KEY FOREIGN INVESTORS IN THE UNITED STATES, AND THE MANY BENEFITS

The previous entries underscore the fact that the United States has long been a magnet for foreign direct investment. So that said, just who is investing this capital in the U.S., and what benefits flow to the U.S. economy as a result?

The answer to the first part of the question: European firms. They have long been investment leaders in the U.S., accounting for roughly 71 percent of all foreign investment stock in the U.S. in 2012. Then, Europe’s FDI stock was worth $1.9 trillion. The bulk of the capital was sunk by British firms (with total U.K. stock in the U.S. amounting to $487 billion), the Netherlands ($275 billion), France ($209 billion), Switzerland ($204 billion) and Germany ($199 billion). Japan also has a significant investment stake in the U.S., totaling $308 billion in 2012.

There are a number of reasons the U.S. remains a magnet for foreign investment, with main attractions including a large, wealthy consumer market; a flexible, highly skilled labor force; a world-class university system; a risk-taking, entrepreneurial culture; deep, sophisticated capital markets; and favorable demographics relative to those of many other nations.

The more foreign investors take up shop in the U.S. and build out their U.S. presence, the closer these companies are to their U.S. customers and the greater their access to the many attributes of the United States.

That said, the benefits of inward foreign direct investment flow both ways. Just as foreign firms gain from a presence in the U.S., so the U.S. economy and U.S. workers benefit from the in-country operations of foreign-owned U.S. affiliates.

The second exhibit highlights some of these specific macro benefits.

**Key takeaways:**

First, foreign affiliates operating in the U.S. are significant contributors to economic output. In 2010, the last year of available data, the added value (or output) of U.S. affiliates of foreign firms totaled $650 billion, a significant sum of economic activity. European firms accounted for roughly two-thirds of the total. In the aggregate, U.S. affiliates of foreign companies account for around 6 percent of U.S. private-sector economic output.

Second, the total assets of foreign-owned U.S. affiliates are also quite significant, totaling nearly $12 trillion in 2010.
Third, foreign-owned affiliates operating in the U.S. are critical sources of jobs in the United States, with affiliates employing over 5.2 million American workers in 2010. British-owned affiliates accounted for the largest share of total U.S. affiliate employment, having some 880,000 U.S. workers on their payrolls in 2010. Key sectors of employment include finance, chemicals, transportation and information technology. Japanese affiliates rank as the second-largest employer in the U.S., with Japanese firms significant employers in the auto sector. In total, foreign affiliates account for around 5 percent of U.S. private-sector employment.

Fourth, foreign-owned U.S. affiliates are also significant traders—or sources of U.S. exports and imports. U.S. exports of goods shipped by affiliates totaled roughly $230 billion in 2010, or roughly 18 percent of total U.S. exports of goods. Imports of affiliates totaled even more—$518 billion—representing 27 percent of total U.S. imports of goods. Japanese, British and German affiliates account for the bulk of these exports and imports. Netherlands-owned affiliates (chemicals) and South Korean-owned affiliates (autos) are also significant importers of U.S. goods.

Finally, U.S. affiliates of foreign companies are key sources of research and development, with affiliate R&D topping $41 billion in 2010. The bulk of the R&D emanated from European affiliates, accounting for around three-fourths of the total. The largest share of affiliate R&D (22 percent) was accounted for by Swiss-owned affiliates, followed by British-owned affiliates (14.5 percent). A large share of this R&D was in the pharmaceutical sector. In total, foreign affiliates accounted for roughly 15 percent of total U.S. R&D in 2010, a healthy sum that results in new jobs and strong incomes for U.S. workers.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>All Countries</td>
<td>11,829,706</td>
<td>3,085,949</td>
<td>649,337</td>
<td>5,270</td>
<td>229,251</td>
<td>518,023</td>
<td>41,272</td>
</tr>
<tr>
<td>Canada</td>
<td>1,322,041</td>
<td>222,770</td>
<td>59,096</td>
<td>537</td>
<td>9,997</td>
<td>26,988</td>
<td>575</td>
</tr>
<tr>
<td>Europe</td>
<td>8,410,708</td>
<td>1,866,954</td>
<td>425,159</td>
<td>3,445</td>
<td>127,974</td>
<td>227,118</td>
<td>31,282</td>
</tr>
<tr>
<td>France</td>
<td>1,332,604</td>
<td>247,102</td>
<td>58,730</td>
<td>499</td>
<td>17,207</td>
<td>19,784</td>
<td>5,248</td>
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<tr>
<td>Germany</td>
<td>1,472,304</td>
<td>371,758</td>
<td>77,099</td>
<td>570</td>
<td>32,847</td>
<td>64,029</td>
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<tr>
<td>Netherlands</td>
<td>922,517</td>
<td>293,516</td>
<td>40,257</td>
<td>343</td>
<td>19,611</td>
<td>40,232</td>
<td>1,910</td>
</tr>
<tr>
<td>Switzerland</td>
<td>1,350,383</td>
<td>230,843</td>
<td>57,261</td>
<td>408</td>
<td>11,031</td>
<td>17,733</td>
<td>9,086</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2,253,900</td>
<td>428,608</td>
<td>116,013</td>
<td>879</td>
<td>27,564</td>
<td>52,845</td>
<td>5,975</td>
</tr>
<tr>
<td>South and Central America</td>
<td>134,854</td>
<td>96,134</td>
<td>15,066</td>
<td>146</td>
<td>6,650</td>
<td>27,878</td>
<td>73</td>
</tr>
<tr>
<td>Africa</td>
<td>5,617</td>
<td>5,933</td>
<td>1,196</td>
<td>6</td>
<td>920</td>
<td>240</td>
<td>(D)</td>
</tr>
<tr>
<td>Middle East</td>
<td>128,864</td>
<td>83,015</td>
<td>12,540</td>
<td>50</td>
<td>2,500</td>
<td>12,182</td>
<td>524</td>
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<tr>
<td>Asia and Pacific</td>
<td>1,530,409</td>
<td>705,192</td>
<td>105,870</td>
<td>890</td>
<td>67,161</td>
<td>212,409</td>
<td>6,183</td>
</tr>
</tbody>
</table>

*Majority-owned foreign affiliates.
(D) = Suppressed to avoid disclosure of data of individual companies.
Source: Bureau of Economic Analysis.
Data as of November 2012.
In terms of foreign direct investment, China is very much like the United States—the nation is both a large recipient and supplier of foreign capital. It is the latter that is new and that has significantly changed global foreign direct investment flows over the past decade.

Up until the early part of this century, China’s FDI flows were basically one-way—inbound—as multinationals from around the world leveraged China’s low-cost labor and built out productive capacity to service/exploit China’s expanding consumer class. After the United States, no other nation in the world has captured as much inward FDI as China over the past few decades.

In contrast, FDI outflows from China remained relatively muted over most of the 1990s and early in the 21st century. Capital controls, the lack of experience, fears of investment protectionism, tight credit conditions—these variables, and others, inhibited or discouraged Chinese firms from venturing overseas.

Yet the tide turned around 2004, when the Chinese government began to actively encourage Chinese firms to embark overseas; it has been onward and upward ever since.

To wit, while annual FDI outflows averaged $2.8 billion between 1990 and 2004, FDI outward flows from China were in excess of $50 billion in 2008 and topped a record $84.2 billion in 2012 (see first exhibit).

In 2012, only firms from the United States and Japan invested more overseas than China Inc., underscoring just how important and prevalent Chinese firms have become on the global stage. For the year, Chinese outflows were roughly 19 percent larger than FDI outflows from the United Kingdom and one-quarter larger than German FDI outflows.

Today, many Chinese firms are heading overseas for the same reasons U.S. firms have long ventured abroad—they desire access to natural resources, skilled labor and wealthy and expanding consumer markets. Other factors at work include rising wages in China and the prospects of a stronger currency, two key trends that threaten to undermine the competitiveness of China and have since compelled Chinese firms to shift low value-added manufacturing production to Vietnam, Cambodia and Myanmar. In other words, it’s not just U.S. firms and Western multinationals that offshore to remain globally competitive. Chinese firms confront the same cost pressures.

**China Goes Global**

(FDI outflows)

Data as of July 2013.
Another key variable behind China’s outward investment push: the search and need for natural resources. The early stages/phases of China FDI outflows have been resource-intensive, or directed toward gaining access to critical resources needed to fuel China’s economic growth and development. Think oil, iron ore, soybeans and wheat, among others.

Because of China’s resource-related FDI, many of the world’s top oil and mining countries have been at the top of the list in terms of attracting Chinese FDI. As the second exhibit outlines, Australia, South Africa, Russia, Canada and Kazakhstan all rank as among the favorite destinations of Chinese firms. As a footnote, a great deal of this resource-related investment has been led by large state-owned Chinese firms, which, not surprisingly, has created a backlash in some recipient countries.

Indeed, due to the explosion in Chinese FDI over the past few years, many in Europe, the United States and other parts of the world are increasingly concerned about China’s global ambitions and financial wherewithal to accumulate foreign assets. Not unlike Japan in the 1980s and early 1990s, China’s recent overseas thrust has triggered xenophobic concerns about the prospects of China Inc. buying anything that moves.

In the U.S.—a top foreign market for China’s outward investment—there are incessant fears of Chinese firms gaining control of U.S. technology or defense-related capabilities, hampering more FDI inflows from China. Investment protectionism is a growing issue between the U.S. and China. A little perspective is in order, however. Yes, Chinese firms are becoming more globally minded and are on the hunt for foreign assets. But based on capital stock, or accumulated foreign investment, China’s global presence is still quite small. At the end of 2012, for instance, China’s outward investment stock was valued at $509 billion (or just 2 percent of the global total) versus $5.2 trillion in U.S. overseas investment stock (22 percent of global stock).

The spread is not surprising—U.S. firms have been investing overseas for decades, as have major firms from Europe. Chinese firms, meanwhile, are relatively new to this business; they are playing catch-up with their global counterparts. China Inc. is just following in the path of the U.S., Europe and Japan.

**China’s Top Destinations for FDI Stock, 2011**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Millions of $</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hong Kong</td>
<td>261,519</td>
</tr>
<tr>
<td>2</td>
<td>Australia</td>
<td>11,041</td>
</tr>
<tr>
<td>3</td>
<td>Singapore</td>
<td>10,603</td>
</tr>
<tr>
<td>4</td>
<td>U.S.</td>
<td>8,993</td>
</tr>
<tr>
<td>5</td>
<td>South Africa</td>
<td>4,060</td>
</tr>
<tr>
<td>6</td>
<td>Russia</td>
<td>3,764</td>
</tr>
<tr>
<td>7</td>
<td>Canada</td>
<td>3,728</td>
</tr>
<tr>
<td>8</td>
<td>France</td>
<td>3,724</td>
</tr>
<tr>
<td>9</td>
<td>Kazakhstan</td>
<td>2,858</td>
</tr>
<tr>
<td>10</td>
<td>Macao</td>
<td>2,676</td>
</tr>
<tr>
<td></td>
<td><strong>Total FDI</strong></td>
<td><strong>366,745</strong></td>
</tr>
</tbody>
</table>

*Excluding Cayman Islands, Virgin Islands and Luxembourg.
Source: CEIC.
Data as of July 2013.

**Investment Summary**

China is going global, adding a new and positive dynamic to global capital flows in particular and globalization in general. The more China goes global, the more the Middle Kingdom and its companies become responsible stakeholders in the global economy. We see this as a positive trend, not something to fear.
Since the rough-and-tumble days of the East India Trading Company, global mergers and acquisitions have been the domain of multinationals from the developed nations. Well endowed with capital and possessing superior brands and extensive logistics networks, Western multinationals have long been the global hunters, or the commercial entities with the wherewithal to pick off foreign assets/companies via cross-border mergers and acquisitions.

One favorite hunting ground has been the developing nations, with popular targets including companies in possession of copious amounts of natural resources or a large, inexpensive labor force. For decades, the hunted (firms from the developing nations) have been no match for the hunters since they lacked the capital, the management expertise, the brands and other core competencies to effectively compete beyond their home market.

Given this dynamic, global M&A flows have traditionally been a developed to developing story. Times, however, are changing. A new world order is in the making when it comes to global deal making. Notably, aspiring multinationals in the developing nations have not only become more aggressive bidders for assets in other emerging markets but have also stepped up their acquisitions in the developed world.

In the past few years, Chinese banks have bought large stakes in British banks. Russian energy companies have snapped up strategic assets in Europe and Australia, while firms from the Middle East have taken control of companies in the U.K. and the United States. Indian companies, among the most acquisition-minded among the developing nations, have also been on a global shopping spree.

Add it all up, and global deal making has taken a new and interesting turn. New players have emerged on the scene, as the first exhibit highlights.

### Developing Nations’ Share of Global M&A

<table>
<thead>
<tr>
<th>Year</th>
<th>% of world total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>6.2</td>
</tr>
<tr>
<td>2001</td>
<td>9.7</td>
</tr>
<tr>
<td>2002</td>
<td>12.1</td>
</tr>
<tr>
<td>2003</td>
<td>11.0</td>
</tr>
<tr>
<td>2004</td>
<td>9.9</td>
</tr>
<tr>
<td>2005</td>
<td>11.4</td>
</tr>
<tr>
<td>2006</td>
<td>15.7</td>
</tr>
<tr>
<td>2007</td>
<td>16.4</td>
</tr>
<tr>
<td>2008</td>
<td>23.9</td>
</tr>
<tr>
<td>2009</td>
<td>25.2</td>
</tr>
<tr>
<td>2010</td>
<td>31.0</td>
</tr>
<tr>
<td>2011</td>
<td>23.7</td>
</tr>
<tr>
<td>2012</td>
<td>27.8</td>
</tr>
<tr>
<td>2013*</td>
<td>25.9</td>
</tr>
</tbody>
</table>

Sources: Bloomberg; U.S. Trust Market Strategy Team.

* Year-to-date data through August 12, 2013.
Also behind this trend: more M&A deals with sovereign wealth funds and state-owned companies, flush with cash, hungry for world-class assets, and on the prowl for companies not only in other developing markets but also in the United States and Europe. Mining and energy have been favored sectors over the past few years.

Note in the second exhibit the rebalancing of M&A deals between the U.S. and developing nations. M&A deals between the two parties used to be lopsided— or primarily about U.S. firms acquiring assets in the developing nations. Between 2000–2006, M&A deals were more about U.S. purchases in the developing nations as opposed to the other way around.

However, in the past few years, the playing field has shifted. M&A deals in the U.S. led by a firm from the developing nations is not all that unusual now, representing an entirely new dynamic for U.S. firms and U.S. investors. M&A deals of the developing nations in the U.S. peaked at $67 billion in 2007 before falling sharply the following three years. Between 2010 and 2011, however, M&A deals roughly doubled, from $22 billion in 2010 to $39 billion in 2011.

In the first eight months of 2013, M&A deals of the developing nations in the U.S. were running slightly ahead of U.S. M&A deals in the developing nations.

In the end, it is firms domiciled in the developed nations that are increasingly in the cross hairs of corporate entities from South Korea, Mexico, China and others.

In a significant change from the past, the hunters are now the hunted, and the hunted increasingly are the hunters. Put another way, everyone is fair game when it comes to global M&A.

**Cross-Border M&A: The U.S. & Developing Nations**

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S. M&amp;A of Developing</th>
<th>Developing M&amp;A of U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>24</td>
<td>11</td>
</tr>
<tr>
<td>2001</td>
<td>30</td>
<td>12</td>
</tr>
<tr>
<td>2002</td>
<td>27</td>
<td>14</td>
</tr>
<tr>
<td>2003</td>
<td>27</td>
<td>14</td>
</tr>
<tr>
<td>2004</td>
<td>24</td>
<td>12</td>
</tr>
<tr>
<td>2005</td>
<td>65</td>
<td>24</td>
</tr>
<tr>
<td>2006</td>
<td>66.87</td>
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<td>2007</td>
<td>53</td>
<td>25</td>
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<td>2008</td>
<td>42</td>
<td>20</td>
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<td>2009</td>
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<td>2010</td>
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<td>2012</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td>2013*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: Bloomberg; U.S. Trust Market Strategy Team.
*Year-to-date data through August 12, 2013.

**Investment Summary**

Global M&A is no longer a monopoly for firms from the developed nations. Large enterprises from the developing nations are now getting into the act, actively shopping for assets around the world. This is a bullish indicator for global growth and globalization.
THE U.S. DOLLAR’S REIGN WILL CONTINUE — AT LEAST FOR NOW

It is commonplace to speak of the U.S. dollar’s demise as the world’s reserve currency. Along these lines, the U.S.-led financial crisis of 2008 is widely considered a tipping point and the death knell of the greenback’s global supremacy. The crisis severely damaged the economic credibility of the United States, notably the reputation of the U.S. capital markets. The financial carnage spawned on Wall Street also shattered the confidence in the dollar-centric global economy, notably among key developing nations. In the years since the crisis, an open debate has ensued about the need for a new international monetary system, one not resting squarely on the shoulders of the U.S. dollar.

Notwithstanding all of the above, however, the greenback, by design and by default, is expected to remain the world’s reserve currency over the medium term.

A number of factors structurally underpin the dollar — notably America’s capital markets, which are among the deepest, widest and most innovative in the world. The fact that a significant amount of the world’s trade in goods and commodities (oil) is invoiced in dollars is another key variable supporting the dollar’s reign. Institutional inertia is yet another variable — despite all the talk about diversifying out of dollars, the greenback’s circulation remains at the core of the global financial system. America’s military might, its favorable demographics, and the economy’s record of flexibility and resiliency are other key dynamics supportive of the dollar.

Given all of the above, in times of trouble, investors usually flock to the greenback.

Meanwhile, in terms of alternatives, let’s just say there is a shortage of candidates to unseat the U.S. dollar. Indeed, the euro crisis has undermined faith and trust in Europe’s single currency. So has the fact that while Europe has a single currency, it lacks the pan-European capital markets needed to pool and allocate capital more efficiently and effectively. Europe’s declining economic power in relation to the U.S. and Asia is another variable that should continue to undermine and diminish the global status of the euro. Key to this assumption is that Europe’s aging population, coupled with a high-tax welfare state, will result in slower growth versus the U.S. and Asia.

King Dollar: The Greenback’s Share of World Central Bank Reserves

*Data through Q1 2013
Source: International Monetary Fund
Data as of June 2013.
As for the pound and the yen, the sun has already set on these two currencies. Japan has neither the interest nor the economic means to nurture a true global currency. With a sense of nostalgia, the United Kingdom pines for a strong pound, although the country lacks the attributes to rewind the clock. As a world reserve currency, sterling is an obvious has-been. Switzerland, meanwhile, likes flying below the financial radar screen of the world and has little interest in seeing the Swiss franc become a world reserve currency.

What about the renminbi — or the prospect of China emerging with the world’s number-one currency? Our take: Don’t hold your breath; it’s going to be some time before the Middle Kingdom’s currency challenges the dollar, despite the fact that the renminbi has become more tradable.

In order for China’s currency to be remotely competitive against the dollar, China has to modernize and open its financial sector, allowing for the build-out of efficient money and capital markets. Presently, China’s currency is not convertible, or free to trade in the global capital markets, although more renminbi-denominated assets and investment vehicles are emerging from Hong Kong, the first baby steps toward a more globalized Chinese currency. That said, not until the mainland fortifies and opens its capital account and strengthens its financial sector will the renminbi remotely challenge the dollar.

As for the latest numbers, of the allocated global reserve holdings of central banks in the first quarter of 2013 (roughly $6 trillion), 62.2 percent were held in dollars. That is down significantly from the start of this century but on par with the levels of the mid-1990s, as highlighted in the accompanying chart.

In the first quarter of 2013, while the dollar’s share of central bank holdings was nearly two-thirds, the euro’s share was 23.7 percent, and the yen’s share was 3.9 percent. Such is the gulf between the U.S. dollar and the rest of the world.

The dollar’s reign is set to continue over the next decade, although beyond the medium term, we expect a move towards a multilateral currency system, with the dollar at the head of the pack. The euro and renminbi will follow, while hard assets like gold, timber and oil are expected to remain viable alternatives to the dollar as a store of value. A more multipolar world entails a more multilateral currency regime, a scenario that will gradually erode the dollar’s global monopoly. This process will take decades, not years.
MONEY MAKES THE WORLD GO ROUND: FX TRADING IS EXPLODING

Never before has the world economy been so integrated and intertwined, with only a few nations — such as North Korea — opting out of the global economy. Most nations have opted in or found it more advantageous to be a part of a world economy increasingly woven together by rising volumes of cross-border trade and investment.

Making this all possible has been soaring activity in the global foreign exchange markets. Money makes the world go round, and by the looks of the explosion in foreign exchange (FX) trading over the past decade, there is a lot of money circulating the globe.

How much? Well, according to the latest Bank for International Settlements (BIS) Central Bank Survey, daily trading in foreign exchange markets averaged $5.3 trillion in April 2013, up nearly 35 percent from 2010 and a staggering 331 percent from the levels of 2001 (see first exhibit). Based on BIS data, foreign exchange swaps were the most actively traded instruments in April 2013, at some $2.2 trillion per day, followed by spot trading at $2 trillion. As noted by the BIS:

"The growth of foreign exchange trading was driven by financial institutions other than reporting dealers. The 2013 survey collected a finer sectoral breakdown of these other institutions for the first time. Smaller banks...accounted for 24 percent of turnover, institutional investors such as pension funds and insurance companies 11 percent, hedge funds and proprietary trading firms another 11 percent. Trading with non-financial customers, mainly corporations, contracted between the 2010 and 2013 surveys, reducing their share of global turnover to only 9 percent."

And the leading currency behind all this activity: the U.S. dollar, which was on one side of 87 percent of all trades in April 2013. That was up from 2010, when the dollar was used nearly 85 percent of the time (see second exhibit). The euro was the second-most-traded currency, although its share fell to 33 percent in April 2013 from 39 percent in April 2010. The turnover of the yen rose from 19 percent in 2010 to 23 percent in 2013.

After the U.S. dollar, euro and yen, the British pound, Australian dollar, Swiss franc and Canadian dollar were the most popular currencies.

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Global Foreign Exchange Market Turnover
(Net-net basis,* Daily averages in April)

<table>
<thead>
<tr>
<th>Year</th>
<th>Billions of $</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>1,527</td>
</tr>
<tr>
<td>2001</td>
<td>1,239</td>
</tr>
<tr>
<td>2004</td>
<td>1,934</td>
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<tr>
<td>2007</td>
<td>3,324</td>
</tr>
<tr>
<td>2010</td>
<td>3,971</td>
</tr>
<tr>
<td>2013</td>
<td>5,345</td>
</tr>
</tbody>
</table>

*Adjusted for local and cross-border inter-dealer double-counting.

2 Ibid, page 3.
While the shares of Australian and New Zealand dollars rose in the latest survey, the sterling, the Canadian dollar, the Swedish krona and the Swiss franc all lost ground in global FX trading. That said, it is clear that developed nations’ currencies are driving global FX trading.

However, the latest survey also underscores the fact that the currencies of the developing nations are becoming more tradable and used in daily cross-border transactions. In particular, as the second exhibit depicts, the Mexican peso and Chinese renminbi now rank among the top 10 most traded currencies. According to the BIS, turnover in the peso reached $135 billion in 2013, boosting its share of global FX to 2.5 percent. Meanwhile, renminbi turnover soared from $34 billion to $120 billion between 2010 and 2013, boosting the renminbi’s share of global FX from 0.9 percent to 2.2 percent. The Russian ruble’s share rose from 0.9 percent to 1.6 percent, making it the 12th-most-actively traded currency worldwide. In addition, turnover in the Hong Kong dollar declined between 2010 and 2013, with greater use of the renminbi most likely underpinning this dynamic. Turnover of the Singapore dollar remained the same, while turnover of the Turkish lira rose.

Finally, as the BIS notes, global foreign exchange trading has become increasingly concentrated among the Big Five. To this point, the vast majority of global FX trading occurred via the intermediation of dealers’ sales desks in five locations: the U.K. (41 percent), the U.S. (19 percent), Singapore (5.7 percent), Japan (5.6 percent) and Hong Kong (4.1 percent). While the top five financial centers in 2010 accounted for roughly 71 percent of global FX trading, the share of the Big Five jumped 4 percentage points, to 75 percent, in 2013. Between 2010 and 2013, the U.K., the U.S. and Singapore expanded their share, while trading activity in Switzerland and Australia declined.

**Foreign Exchange Market Turnover, by Currency**
(Net-net basis,** Daily averages in April, Percent)

*Turnover for 2010 may be underestimated owing to incomplete reporting of offshore trading. Methodological changes in the 2013 survey ensured a more complete coverage of the indicated currencies.** Adjusted for local and cross-border inter-dealer double-counting.


**Investment Summary**
Emblematic of a world more bound together, the volume and velocity of global foreign exchange trading have never been higher. While the U.S. dollar remains the dominant vehicle currency, a few notable developing economy currencies — the Mexican peso and renminbi — are becoming more tradable.
FOREIGN OWNERSHIP OF U.S. SECURITIES IS SUBSTANTIAL

Sometime in the late 1980s, the United States became a net debtor nation. This turn — from a creditor to a debtor nation — has turned Washington into one massive borrowing machine, with foreign investors, luckily, all too willing to oblige Uncle Sam. Indeed, for years, foreign investors have had few qualms about sending money to the United States given America’s pecking order in the global economy. As the largest and most powerful economy in the world (International Monetary Fund, October 2013), the U.S. has long been a magnet for other people’s money, whether this capital took the form of FDI inflows (from foreign multinationals) or money from sovereign wealth funds, central banks and private foreign investors (commonly referred to as portfolio flows).

The more the U.S. has borrowed overseas, the greater the foreign ownership of U.S. securities, with the first exhibit highlighting the foreign ownership of U.S. Treasuries, U.S. agency debt and mortgage-backed securities, U.S. corporate bonds and U.S. equities. The key takeaway: Foreigners have a significant presence in the U.S. capital markets.

And the key risk to this backdrop: global fears/doubts over America’s financial health that trigger a loss of confidence among foreign investors and result in significant capital outflows, a scenario that would unmoor the U.S. credit markets, undermine the U.S. dollar and throttle U.S. economic growth. Such is the influence of foreign capital in the U.S. capital markets.

The following briefly summarizes the foreign ownership of various U.S. assets:

**U.S. Treasuries** — Notwithstanding fears surrounding the massive funding needs of the U.S. government, foreign demand for U.S. Treasuries has remained relatively robust over the past decade. Indeed, foreigners held a record $5.7 trillion in U.S. Treasuries at the end of the first quarter of 2013, up from $1.1 trillion at the start of the century. Foreign investors owned 47.9 percent of outstanding U.S. Treasuries at the end of March 2013, up from a share of 29.2 percent in the first quarter of 2000. Against this backdrop, make no mistake about it — when it comes to borrowing capital to offset its deficits, Uncle Sam is significantly dependent on foreign sources.

---

**U.S. Securities Remain Relatively Attractive to Foreign Investors**
*Foreign ownership of U.S. financial securities*

<table>
<thead>
<tr>
<th>Asset Type</th>
<th>Q1 2000</th>
<th>Q1 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Treasuries</td>
<td>29.2%</td>
<td>47.9%</td>
</tr>
<tr>
<td>U.S. Agency &amp; GSE Bonds</td>
<td>6.6%</td>
<td>14.3%</td>
</tr>
<tr>
<td>U.S. Corporate Bonds</td>
<td>17.4%</td>
<td>24.1%</td>
</tr>
<tr>
<td>U.S. Equities</td>
<td>8.3%</td>
<td>14.8%</td>
</tr>
</tbody>
</table>

GSE = Government-sponsored enterprise.
Source: Federal Reserve Board.
Data as of June 2013.
Investment Summary

Substantial and quite visible is the best way to describe the presence of foreign investors in the U.S. credit markets. America’s financial well-being is increasingly tied to other peoples’ money and the willingness of foreign investors to lend to the U.S. The good news: U.S. assets remain relatively attractive to foreign investors; portfolio inflows have remained healthy in the post-crisis years. The bad news: This benign state of affairs could change quickly if Washington fails to put its financial house in order.

U.S. government agency bonds — Given all the financial turmoil surrounding U.S. government agency bonds, there is little wonder foreign appetite for these assets has waned over the past few years. That said, foreigners still held some $1.1 trillion in government agency bonds in the first quarter of 2013; however, the share of foreign ownership of agency securities has declined steadily over the past few years, falling to 14.3 percent at the end of the first quarter of 2013 from a peak of 21.7 percent in the first quarter of 2008. Not surprisingly, the U.S.-led financial crisis, notably the boom and bust of the U.S. housing market, has tapered demand for U.S. agency bonds.

U.S. corporate bonds — Foreigners have grown more enamored with U.S. corporate bonds over the past decade, with foreign ownership totaling $2.6 trillion in the first quarter of 2013 versus $713 billion at the start of 2000. Foreign investors, in other words, remain important buyers of U.S. corporate bonds, owning roughly 24 percent of total outstanding U.S. corporate bonds in the first quarter of 2013 versus a share of 17.4 percent in 2000.

U.S. equities — Foreign ownership of U.S. stocks has never been higher than today, with foreign investors owning some $3.4 trillion in U.S. equities in the first quarter of 2013. As the second exhibit highlights, foreign ownership has rebounded sharply from the depressed levels of 2008, with the outperformance of U.S. equities over the past few years attracting even more foreign participation. Foreign ownership of U.S. equities is running at all-time highs — at roughly 15 percent in the first quarter of 2013 versus 8.3 percent in 2000. This suggests more upside in terms of foreign ownership in the years ahead.

Foreign Ownership of U.S. Equities

*Data through Q1 2013.
Source: Federal Reserve Board.
Data as of June 2013.
CHINA IS AMERICA’S FINANCIAL SUGAR DADDY

Ask any American what the country’s number-one import from China is and the response is likely to be furniture, toys, clothing, footwear, consumer electronics and similar consumer-related goods. This response would hardly be surprising since the “Made in China” stamp seems to be ubiquitous in American shopping malls.

But while the U.S. does import a great deal of goods from China, trade is not the largest or most important tie binding the two countries together. It is capital. Unbeknownst to many Americans, including many legislators in Washington, America’s top import from China is neither Barbie dolls nor iPods. Rather, it is China’s savings or cash. Over the past decade, the mainland has emerged as America’s top trading partner and America’s chief loan officer or banker.

Capital flows from China to the United States were negligible up until 2001. Over the 1990s, the capital sent from China to the U.S. averaged less than $7 billion per year, and at the start of this century, China’s holdings of U.S. Treasuries totaled just $57 billion. Since that time, however, as China’s savings rate and international reserves have soared over the past decade, so too has the mainland’s holdings of U.S. Treasuries.

China eclipsed Japan as the largest holder of U.S. Treasuries for the first time in 2007, and has never looked back. As the first exhibit depicts, China’s appetite for U.S. Treasuries has been nothing short of staggering over the past decade, with China’s holdings reaching nearly $1.3 trillion in July 2013, slightly ahead of Japan’s holdings (see second exhibit).

Like it or not — and many folks in Washington do not — China has become America’s financial sugar daddy. The same is true for Japan, but at least U.S.-Japanese relations are on a more cordial footing. Note from the second exhibit that foreign holdings of U.S. Treasuries totaled $5.6 trillion in July 2013, with China and Japan — combined — owning over 40 percent of the total.

The fact that one of the poorest nations in the world, with a per capita gross domestic product (GDP) a fraction of the United States’ — 300 million of its people live on less than $1 a day — exports its savings to one of the richest nations on earth has to rank as one of the greatest economic anomalies of all time.

---

**China Holdings of U.S. Treasury Securities**

<table>
<thead>
<tr>
<th>Year</th>
<th>Billions of $</th>
</tr>
</thead>
<tbody>
<tr>
<td>95</td>
<td>200</td>
</tr>
<tr>
<td>96</td>
<td>300</td>
</tr>
<tr>
<td>97</td>
<td>400</td>
</tr>
<tr>
<td>98</td>
<td>500</td>
</tr>
<tr>
<td>99</td>
<td>600</td>
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<td>700</td>
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<td>800</td>
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<td>02</td>
<td>900</td>
</tr>
<tr>
<td>03</td>
<td>1,000</td>
</tr>
<tr>
<td>04</td>
<td>1,100</td>
</tr>
<tr>
<td>05</td>
<td>1,200</td>
</tr>
<tr>
<td>06</td>
<td>1,300</td>
</tr>
<tr>
<td>07</td>
<td>1,400</td>
</tr>
<tr>
<td>08</td>
<td>1,500</td>
</tr>
<tr>
<td>09</td>
<td>1,600</td>
</tr>
<tr>
<td>10</td>
<td>1,700</td>
</tr>
<tr>
<td>11</td>
<td>1,800</td>
</tr>
<tr>
<td>12</td>
<td>1,900</td>
</tr>
<tr>
<td>13</td>
<td>2,000</td>
</tr>
</tbody>
</table>

Today, the U.S. and China have never been more joined at the financial hip, an entanglement that has created unease on both sides of the Pacific. This arrangement weakens America’s hand when trying to coax China into following America’s strategic goals or tactics in such geographic hotspots as Iran, North Korea and Africa. America’s growing financial dependence also inhibits its leverage in negotiations over trade and investment. Increasingly, the world’s largest debtor nation has less clout when dealing with the world’s largest creditor nation.

At the same time, the stakes for China in America’s financial future, after pouring billions into U.S. securities, have never been greater. Not surprisingly, as America’s mountain of debt has increased over the past decade, China has become increasingly concerned about massive U.S. deficit spending and its ultimate impact on the U.S. dollar and U.S. securities.

That said, as America’s chief financial officer, Beijing is not about to pull the financial plug on the United States anytime soon. If it did, China would likely sustain substantial losses on its massive dollar reserves, embarrassing many Chinese leaders and key policymakers in the process. Second, the best way to bring China’s export machine to a grinding halt is by triggering a U.S. recession or economic slowdown, a likely outcome if China opts not to send capital to the United States. Finally, China is not about to dramatically staunch the flow of capital to the U.S., because, in doing so, China runs the risk of seeing its own large capital inflows of foreign direct investment dry up or become a great deal less relative to other years. In the end, both parties need each other. China needs access to the U.S. market, and the United States needs Chinese capital to help fuel growth at home.

### Major Foreign Holders of Treasury Securities
(Billions of $)

<table>
<thead>
<tr>
<th>Country</th>
<th>Jul-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>1,277.3</td>
</tr>
<tr>
<td>Japan</td>
<td>1,135.4</td>
</tr>
<tr>
<td>Carib Bnkng Ctrs</td>
<td>287.7</td>
</tr>
<tr>
<td>Oil Exporters*</td>
<td>257.7</td>
</tr>
<tr>
<td>Brazil</td>
<td>256.4</td>
</tr>
<tr>
<td>Taiwan</td>
<td>185.8</td>
</tr>
<tr>
<td>Switzerland</td>
<td>178.2</td>
</tr>
<tr>
<td>Belgium</td>
<td>167.7</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>156.9</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>146.8</td>
</tr>
<tr>
<td>Russia</td>
<td>131.6</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>120.0</td>
</tr>
<tr>
<td>Ireland</td>
<td>117.9</td>
</tr>
<tr>
<td>Singapore</td>
<td>81.5</td>
</tr>
<tr>
<td>Norway</td>
<td>74.6</td>
</tr>
<tr>
<td>Canada</td>
<td>65.5</td>
</tr>
<tr>
<td>Mexico</td>
<td>63.3</td>
</tr>
<tr>
<td>India</td>
<td>59.1</td>
</tr>
<tr>
<td>Germany</td>
<td>56.3</td>
</tr>
<tr>
<td>Turkey</td>
<td>55.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5,590.1</strong></td>
</tr>
</tbody>
</table>

*Ecuador, Venezuela, Indonesia, Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, the United Arab Emirates, Algeria, Gabon, Libya and Nigeria.

Source: Department of the Treasury/Federal Reserve Board.
Data as of September 2013.

### Investment Summary

It is capital—not trade—that binds the United States to China. Over the past decade, America’s rising financial dependence on China has become simply staggering. Communist China is now a key banker to capitalist America.
The cost of two wars, the tab associated with one of the largest financial crises in U.S. history, soaring entitlement programs—these financial challenges, individually and collectively, threaten to undermine the long-term health of the United States.

While America has multiple strengths, it also has some glaring and dangerous weaknesses, with the U.S.’ deficit and debt challenges chief among them.

Just between 2009 and 2012 alone, the U.S. federal government recorded the largest budget deficits relative to the size of the U.S. economy since 1946. Since fiscal year 2009, the federal budget deficit has exceeded $1 trillion four years in a row. In fiscal year 2009, the budget deficit as a percentage of GDP topped 10 percent; the deficit as a percentage of GDP has subsequently come down—to roughly 4 percent in FY 2012—although America’s borrowing needs remain substantial.

And since deficits beget debt, federal debt held by the public is now roughly 73 percent of GDP; that figure is higher than at any point in U.S. history except during a brief period around World War II. It is also twice the percentage of 2007 and expected to trend higher if Washington does not get its financial act together (see first exhibit).

That said, there is more to this story. In addition to the cost of wars, mopping up after the financial crisis, and funding future entitlements, another looming cost needs to be examined: net interest payments on America’s ever-expanding mountain of debt. When the U.S. borrows money from lenders, it is rarely free. (During the panic of late 2008, however, the demand for U.S. Treasuries was so intense that yields on the three-month bills turned negative at the low point.)

Selling U.S. securities that pay interest is what America does best, and in a stroke of luck, a large share of America’s current debt has been financed at very low interest rates. Indeed, thanks to strong foreign demand for U.S. Treasuries and other securities, the U.S. government paid less interest on its debt in fiscal year 2009 than in the prior year; on new borrowing, the U.S.’ average interest rate was below 1 percent.

<table>
<thead>
<tr>
<th>Federal Debt Held by the Public*</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of GDP</td>
</tr>
<tr>
<td>120</td>
</tr>
<tr>
<td>100</td>
</tr>
<tr>
<td>80</td>
</tr>
<tr>
<td>60</td>
</tr>
<tr>
<td>40</td>
</tr>
<tr>
<td>20</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

*Projections 2013-2038.  
Source: Congressional Budget Office.  
Data as of September 2013.
However, interest payments on America’s total debt came to a cool $220 billion in 2012, and since the start of this century, America has shelled out a staggering $2.6 trillion to service its debt (see second exhibit).

Presently, servicing America’s debt represents one of the largest line items of the U.S. federal budget. Net interest payments easily exceed outlays on such programs as international affairs, agriculture, education/training, veteran benefits and transportation. Looked at from this perspective, the annual cost associated with servicing America’s debt is greater than the annual budgets of most departments of the U.S. government.

In yet another twist of this story, a larger and larger share of net U.S. interest payments is flowing overseas. This reflects America’s rising addiction to other people’s money. The more the U.S. borrows overseas, the more it ultimately owes its foreign creditors, and America’s interest payments on its foreign debt have soared over the years.

Looking ahead, the cost of servicing America’s debt is expected to top $700 billion a year in 2021, according to current estimates from the U.S. Congressional Budget Office (CBO). The CBO’s projections suggest that between 2014 and 2023, cumulative interest payments will total a staggering $5.2 trillion. Whereas the level of net interest payments as a percentage of GDP was 1.4 percent in 2012, the comparable level is expected to double to 3 percent by 2022.

The above figures are projections and are, of course, subject to change. That said, even current levels of net interest payments are having a significant impact on finances of the U.S. government. Put simply, the higher the level of interest payments, the less money available for other government programs. Hence, America’s debt-servicing obligations represent a clear and present danger to the long-term financial health of the United States.

U.S. Net Interest on Debt*

Investment Summary

America’s massive accumulation of debt comes at a cost — namely, rising net interest payments. As a percentage of GDP, current interest payments remain small; however, the U.S. now spends more on servicing its debt than on many key government programs. Interest payments will only rise in the future if Washington fails to get its financial house in order.
SOVEREIGN WEALTH FUNDS — A GROWING FORCE IN GLOBAL INVESTMENT

Sovereign Wealth Funds (SWFs) are state-owned investment vehicles that are used to invest national savings. SWFs invest globally and tend to have holdings in a wide range of both real and financial asset markets, including stocks, bonds, real estate, precious metals and alternative investments such as private equity and hedge funds. Most SWFs are funded by revenues from trade surpluses, natural resource exports, foreign exchange operations, fiscal surpluses or privatizations of government assets.

In contrast with central bank reserves, SWFs tend to be managed to achieve investment returns rather than for liquidity or currency management purposes. Among the many aims a nation may have for setting up SWFs are: to fund national economic development plans; to grow national savings for future generations; to insulate the national budget from fluctuations in revenues; or even to support domestic corporations that are deemed to be critical to the national interest.

While they have attracted a greater degree of attention in recent years, SWFs have been around for several decades, with Kuwait’s Investment Authority launched as far back as 1953. However, the commodity boom of the 2003–2007 global economic expansion fueled a rapid growth in the number of SWFs in existence around the world. According to the Sovereign Wealth Fund Institute (SWFI), more than 30 SWFs were created between 2005 and 2012.

Today, SWFs are found all over the world, and together they control a total of $5.9 trillion of assets, according to the SWFI. By region, Asia and the Middle East dominate, with a respective 40% and 35% of the global asset total found in these two markets. Europe also has significant SWF assets under management, with 17% of the global total. The majority of this is held by Norway’s Government Pension Fund, the largest SWF in the world. The dominant source of funding for SWFs is natural resource wealth, with some 59% of all SWF assets coming from oil-and-gas-related revenues.

Largest Sovereign Wealth Funds*

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>SWF Name</th>
<th>Assets (Bil. $)</th>
<th>Inception</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Norway</td>
<td>Government Pension Fund – Global</td>
<td>838</td>
<td>1990</td>
</tr>
<tr>
<td>2</td>
<td>UAE – Abu Dhabi</td>
<td>Abu Dhabi Investment Authority</td>
<td>773</td>
<td>1976</td>
</tr>
<tr>
<td>3</td>
<td>Saudi Arabia</td>
<td>SAMA Foreign Holdings</td>
<td>676</td>
<td>n/a</td>
</tr>
<tr>
<td>4</td>
<td>China</td>
<td>China Investment Corporation</td>
<td>575</td>
<td>2007</td>
</tr>
<tr>
<td>5</td>
<td>China</td>
<td>SAFE Investment Company</td>
<td>568</td>
<td>1997</td>
</tr>
<tr>
<td>6</td>
<td>Kuwait</td>
<td>Kuwait Investment Authority</td>
<td>410</td>
<td>1953</td>
</tr>
<tr>
<td>7</td>
<td>Hong Kong</td>
<td>Hong Kong Monetary Authority Investment Portfolio</td>
<td>327</td>
<td>1993</td>
</tr>
<tr>
<td>8</td>
<td>Singapore</td>
<td>Government of Singapore Investment Corporation</td>
<td>320</td>
<td>1981</td>
</tr>
<tr>
<td>9</td>
<td>Singapore</td>
<td>Temasek Holdings</td>
<td>173</td>
<td>1974</td>
</tr>
<tr>
<td>10</td>
<td>Qatar</td>
<td>Qatar Investment Authority</td>
<td>170</td>
<td>2005</td>
</tr>
<tr>
<td>11</td>
<td>China</td>
<td>National Social Security Fund</td>
<td>161</td>
<td>2000</td>
</tr>
<tr>
<td>12</td>
<td>Australia</td>
<td>Australian Future Fund</td>
<td>89</td>
<td>2006</td>
</tr>
<tr>
<td>13</td>
<td>Russia</td>
<td>National Welfare Fund</td>
<td>88</td>
<td>2008</td>
</tr>
<tr>
<td>14</td>
<td>Russia</td>
<td>Reserve Fund</td>
<td>86</td>
<td>2008</td>
</tr>
<tr>
<td>15</td>
<td>Kazakhstan</td>
<td>Samruk-Kazyna JSC</td>
<td>78</td>
<td>2008</td>
</tr>
<tr>
<td>16</td>
<td>Algeria</td>
<td>Revenue Regulation Fund</td>
<td>77</td>
<td>2000</td>
</tr>
<tr>
<td>17</td>
<td>South Korea</td>
<td>Korea Investment Corporation</td>
<td>72</td>
<td>2005</td>
</tr>
<tr>
<td>18</td>
<td>UAE – Dubai</td>
<td>Investment Corporation of Dubai</td>
<td>70</td>
<td>2006</td>
</tr>
<tr>
<td>19</td>
<td>Kazakhstan</td>
<td>Kazakhstan National Fund</td>
<td>69</td>
<td>2000</td>
</tr>
<tr>
<td>20</td>
<td>UAE – Abu Dhabi</td>
<td>International Petroleum Investment Company</td>
<td>65</td>
<td>1984</td>
</tr>
</tbody>
</table>

Source: Sovereign Wealth Fund Institute.
Data as of March 2014.
*Sovereign Wealth Funds are not available for purchase by investors.
SWFs were prominent during the global financial crisis of 2008/2009 as many injected capital into beleaguered Western financial institutions. As an additional source of global liquidity, SWFs may therefore be seen as a stabilizing force for the global economy, providing return-seeking capital when it is most needed.

But the rise of SWFs has also led to growing concern among governments around the world, especially as they are typically far less transparent than other investment funds. In particular, SWFs tend to provide a low level of disclosure around their investment objectives, asset holdings or funding sources. This has brought them under a great deal of suspicion, with one of the biggest fears being that their investments may be politically driven rather than purely commercial in nature. As a result, while some SWFs have made efforts to increase their transparency, such concerns have led countries to block would-be SWF acquisitions for fear of allowing greater foreign control of strategic sectors or to protect domestic technologies from foreign interests.

To address this problem, the International Monetary Fund and the International Working Group of Sovereign Wealth Funds (later superseded by the International Forum of Sovereign Wealth Funds) established the “Santiago principles” in 2008, a set of 24 voluntary guidelines for SWFs in the areas of disclosure, governance, investment policy and risk management. In the same year, the SWFI launched the Linaburg-Maduell Transparency Index, a 10-point scale designed to measure SWF transparency — the SWFI recommends a minimum rating of 8 to claim adequate Fund transparency. The main purpose of these initiatives is essentially to increase the openness of SWFs, remove the pall of secrecy that has tended to hang over their activities, and boost their international legitimacy. Ultimately, the hope is that a set of formalized rules of the road for this important source of capital will encourage more cross-border investment and limit global protectionism.

**Sovereign Wealth Fund Assets, by Region**

<table>
<thead>
<tr>
<th>Region</th>
<th>Share of global total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>40%</td>
</tr>
<tr>
<td>Middle East</td>
<td>35%</td>
</tr>
<tr>
<td>Africa</td>
<td>3%</td>
</tr>
<tr>
<td>Europe</td>
<td>17%</td>
</tr>
<tr>
<td>Americas</td>
<td>3%</td>
</tr>
<tr>
<td>Other</td>
<td>2%</td>
</tr>
</tbody>
</table>


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**Investment Summary**

Sovereign Wealth Funds are a major source of international capital and are generally more return-oriented than other pools of national wealth, such as central bank currency reserves. Opaque investment practices have fueled a great deal of suspicion over the activities of SWFs, but recent measures to increase transparency should see them play an increasing role in cross-border capital investments.
In a world where the race to be first never ends, where disruptive technologies always lurk just beneath the surface, and where new competitors can now emerge from virtually any corner of the world, the premium on being competitive has never been greater. Competitiveness matters, serving as a distinct differentiator between nations or companies that succeed and those that fail. It’s that simple. This chapter sheds light on this marathon—or the quest to be Number One or near the top of the heap.

The Global Competitiveness Index (GCI) produced by the World Economic Forum (WEF) is a good place to start, with the latest rankings showing the U.S. moving up two notches, from seventh place a year ago to fifth today (see exhibit on next page). Switzerland, according to the GCI, is the most competitive economy in the world. The BRICs (Brazil, Russia, India and China), in contrast, did not fare very well in the latest rankings.

Productivity is a key component of competitiveness and is outlined in the pages ahead. Another is quality of infrastructure—an area in which the U.S., unfortunately, does not rank all that well.

We analyze other competitive-related metrics like “ease of doing business,” global savings rates and corporate taxes. All three variables are hugely influential in determining a nation’s underlying competitiveness. Some of the results are surprising.

Immigration is another key factor of competitiveness discussed in this chapter. From boosting tax revenue for investment to adding to final demand, immigration matters. And on this score, the developed nations are winning over the developing nations, with the former experiencing net migration inflows while the latter falls victim to persistent migration outflows.

Innovation, education, wages, healthcare costs, hours worked—these factors are also highlighted in the following pages. The U.S., in general, fares well in some areas (manufacturing costs) but fails in others—think rising healthcare costs. We also assess America’s new cost advantage in energy thanks to the revolution in and around “fracking” (hydraulic fracturing) and horizontal drilling techniques that has shocked the global oil industry. In a nutshell, America is on course to be an energy superpower, a dynamic that has greatly lowered energy costs at home, to the competitive advantage of many U.S. firms.

Finally, we conclude with a look at the new “China price,” a reference to rising wages and other costs in China that threaten to undermine the mainland’s global competitiveness. Not fully recognized by investors is this: China is no longer a low-cost manufacturing behemoth; the country is behind the competitive eight ball, and how it tackles various competitive challenges will determine its future economic path.
GLOBAL COMPETITIVENESS

In an increasingly integrated global economy, how well equipped a country is to compete on the world stage for a bigger slice of the economic pie — in areas such as trade, investment, employment and company market share — has become a critical determinant of success. Competitiveness is a crucial element in determining rates and sustainability of growth, returns on investment, levels of income and standards of living in a country. Those nations that can compete best will be the most likely to prosper.

There is of course no predetermined set of variables that defines national competitiveness, but several organizations and publications produce their own global rankings. Perhaps the most complete is the Global Competitiveness Index (GCI), produced by the Switzerland-based World Economic Forum (WEF). The GCI — a numerical scoring of relative competitiveness levels for 148 countries around the world — has been released on an annual basis since 2005.

The WEF defines competitiveness as “the set of institutions, policies and factors that determine the level of productivity of a country,” and identifies 12 pillars of national competitiveness, which it classifies under three broader groupings. Under basic requirements are: institutions, infrastructure, and macroeconomic environment; the efficiency enhancers are: health and primary education, higher education and training, goods market efficiency, labor market efficiency, financial market development, technological readiness, and market size; and the innovation and sophistication factors are: business sophistication and innovation.

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Data as of September 2013.
Perhaps unsurprisingly, the list’s top 25 is dominated by the developed markets in North America, Western Europe and Asia. For the last five years, Switzerland has been at the top of the list, with the WEF highlighting the country’s most notable strengths as its innovation capability, high level of spending on research and development (R&D), stable macroeconomic environment, and effective public institutions. Europe’s manufacturing powerhouses of Germany and Scandinavia have also consistently ranked in the top 10, as have Asia’s two richest countries (Japan and Singapore), with Canada not far behind (14th).

Having ranked number one in the 2008–2009 report, the U.S. has slipped down the global competitiveness ranking since the financial crisis (to fifth in 2013–2014). While the WEF continues to acknowledge the strength of the U.S. in key areas such as the sophistication of its companies, innovation, the quality of higher education and the flexibility of the labor market, its main weakness resides in the public sector. In particular, the report cites a lack of trust in public officials and government bureaucracy. Despite these shortcomings, the U.S. moved up two spots — from seventh to fifth — in the latest rankings.

A handful of countries in the emerging world also rank highly. In particular, the 2013–2014 report places three countries from emerging Asia in the top 25, including Taiwan (12th), South Korea (25th) and Malaysia (24th). At least three of the Arab monarchies around the Persian Gulf also score well. From no single Gulf country making the top 25 in the 2008–2009, Qatar (which in 2022 will become the first Arab state to host the soccer World Cup) now ranks 13th in the 2013–2014 report, while the United Arab Emirates (19th) and Saudi Arabia (20th) also place in the top 25.

Other emerging and frontier markets, however, do not do quite as well. Though improvements in indebtedness, political stability, conflict, trade and investment have seen Africa’s economies perform better over recent years (after emerging Asia, it is now the second-fastest-growing region in the world according to October 2013 data from the International Monetary Fund), African economies dominate the tail end of the competitiveness list. Of the bottom 25 nations, 19 are African, with the remainder spread across the developing world: Pakistan, Venezuela, Timor-Leste, Myanmar, Haiti and Yemen.

With the exception perhaps of China (29th), the BRIC economies also score fairly poorly, with Brazil coming in 56th, India 60th and Russia 64th. Though some emerging economies have made progress over recent years (Brazil, for example, was 64th in the 2008–2009 report), others such as Russia have fallen back. Structural improvements in the areas of infrastructure investment, education, healthcare, deregulation and a host of others will be critical to narrowing the gap with the developed markets in the future.

In the end, competitiveness matters and is the key metric that differentiates the productive capabilities of one nation from those of another. Despite all the discussion around China’s rapid rise to being the world’s second largest economy, America’s overall competitiveness ranking (fifth) versus China’s (29th) therefore speaks volumes about America’s underlying strengths juxtaposed with the structural weaknesses of China.

**Investment Summary**

There is no objective measure of national competitiveness, but several of the important elements that make nations competitive globally are captured in the World Economic Forum’s annual index ranking. Among other factors, their stronger institutions, more innovative companies, higher education, infrastructure and healthcare standards place the world’s developed economies at the top of the competitiveness pile. While some emerging economies have improved over recent years, structural reforms remain critical if they are to make further competitiveness gains in the years ahead.
ADVANCED ECONOMIES AND HIGH PRODUCTIVITY GO HAND IN HAND

The productivity of labor — as defined by the amount of output produced per unit of time worked — is perhaps the most fundamental measure of economic production efficiency, and one of the main drivers of national income. Productivity gains allow companies to grow their profits, increase wages and hire more workers, making for lower unemployment rates and higher standards of living. In the U.S., the Bureau of Labor Statistics releases data on economy-wide productivity on a quarterly basis. Given the difficulties associated with measuring productivity, however, these shorter-term series tend to be volatile and revision-prone. And although underlying changes in an economy’s productive capacity are structural and slow-moving, the higher frequency data can be overly sensitive to the twists and turns of the business cycle. More meaningful for investors is to understand the longer-term productivity trends.

An important distinction to make is between how productive an economy already is (the level of productivity) and how quickly productivity is increasing (the rate of productivity growth), as a higher ranking in one will tend to go with a lower ranking in the other. Almost by definition, richer economies tend to have higher levels of productivity. The more advanced an economy, the more likely it is to have a large available pool of skilled labor, an abundance of capital equipment, and well-run companies with high-quality management and effective corporate governance. These are all factors that determine the amount of output that individual workers within an economy are able to produce in a given period of time.

It should therefore come as no surprise that the richer countries in the Organisation for Economic Co-operation and Development (OECD) top the productivity list, with the top half dominated by countries in Northern Europe (Norway ranks first in the OECD, with Luxembourg, Belgium, the Netherlands, Denmark and Germany also in the top 10) as well as the United States (fifth) and Canada (14th).

OECD Productivity Levels, 2012
(GDP per hour, Current prices, U.S. $)

Source: OECD.
Data as of September 2013.
Meanwhile, the OECD’s emerging and frontier economies languish at the bottom of the productivity rankings. Mexico, Russia, Chile, Estonia and Poland make up the bottom five. And even South Korea (which, despite its well-renowned companies, still has a lower overall gross domestic product (GDP) per capita than the peripheral Eurozone nations of Ireland, Spain, Italy and Cyprus) ranks in the bottom 10 within the OECD.

When it comes to the growth rates of productivity, however, the tables are turned. Countries at lower stages of economic development tend to experience faster rates of productivity growth as they have more room to deepen their capital stock, adopt new technologies and implement more sophisticated management and governance practices. This scope for catch-up means that productivity levels in less-developed economies should converge with (grow faster than) those in the more advanced economies. This is largely borne out in the data. Luxembourg, for example, is second in the OECD on productivity levels, but last in terms of its productivity growth over the past 10 years. Similarly, Russia ranks first on growth, but second from last on productivity levels.

That said, emerging and frontier economies are by no means guaranteed to enjoy faster rates of productivity growth than their more advanced economy counterparts on a sustained basis. Continued investment in structural improvements to areas such as education and infrastructure are a prerequisite for ensuring that workers can continue to increase their levels of productivity. In addition, shifts in the composition of economic activity will also affect productivity. For less-developed economies, the key to higher levels of economy-wide productivity is reducing the share of economic value-added from agriculture and shifting toward manufacturing and higher value-added services.

**Investment Summary**

Productivity is a key driver of corporate profits, national income and standards of living. Over the long term, the level of productivity in the economy is driven by a host of factors including the quality of education, infrastructure and corporate management, and the composition of economic activity. Advanced economies and high levels of productivity tend to go hand in hand. But those emerging economies that make appropriate investments and policy choices should enjoy sustained high rates of productivity growth.
Infrastructure investment is a fundamental ingredient in the productivity and competitiveness of any economy. Whether referring to transportation infrastructure (roads, railways, bridges, tunnels, airports and seaports), energy infrastructure (the electrical grid, oil and gas pipelines and steam distribution systems), infrastructure for communication (wireless and wireline telephone networks, broadband internet, and terrestrial and cable television), or water infrastructure (potable water supply, sewage, irrigation systems, and levees), a modern economy cannot operate without an adequately functioning stock of physical infrastructure. High-quality roads and railway lines are needed to distribute manufactured products around the country quickly and efficiently as well as for workers to get to their places of employment. Modern seaport systems allow for the efficient export and import of goods to and from the rest of the world. The electricity grid is essential for powering businesses and lighting schools, homes and hospitals, and the telecom network ensures that consumers and companies can receive all the information required to make rational and profitable decisions.

By the same token, underinvestment in infrastructure can erode the competitiveness and profitability of industries. Poor-quality rail networks mean that manufacturers and retailers, for example, suffer from a less-reliable supply of components and final goods. As a result, they may be forced to hold more inventories, which raises their cost of doing business. Outdated ports may cause delays and increase shipping costs for mining and materials exporters. As such, they may find it less profitable to supply raw materials to their export markets. Infrastructure underinvestment may also harm the economy via effects on households. According to the Texas A&M Transportation Institute, for example, congestion on U.S. roads and highways was estimated to cost commuters more than $120 billion in wasted gasoline and lost time in 2011.

Indeed, perhaps the most notable feature of the WEF’s global quality of infrastructure rankings is the relatively low position of the U.S. (19th). During the 1950s, the Eisenhower government constructed the Interstate Highway System, one of the most ambitious public works projects in history.

### Global Infrastructure Quality Rankings: The Top 25

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This put the U.S. at the leading edge of global infrastructure quality at the time, paving the way for a period of booming economic activity and rapidly rising standards of living. And it is still, to some extent, true to say that U.S. infrastructure continues to fare well in some areas.

The deregulation of railroads has increased return on investment, improved efficiency and encouraged the inflow of more private capital. Having also doubled its capital investment over the past two decades and shed underused lines, freight rail today is around half as expensive in the U.S. as it is in Germany, France and Japan according to the American Association of Railroads. Similarly, most U.S. airports do well in terms of runway capacity for freight handling, offering markedly lower landing charges than those in Europe and Asia. In telecoms, the large geographic scale and low population density of the U.S. make wireline coverage expensive, but according to the Federal Communications Commission, the U.S. has the second-lowest entry-level pricing for broadband internet in the OECD. Nonetheless, the WEF survey continues to rank the U.S. particularly poorly on electricity supply (30th) and number of mobile subscriptions (95th).

Meanwhile, infrastructure investment has served a number of countries better in other regions of the world. The top 25 on the WEF list contain 13 countries from Western Europe, five from the Far East and four from the Arabian Peninsula. Canada (15th), Barbados (24th) and the U.S. complete the list. Unsurprisingly, the bottom 25 make up a collection of countries from the poorest regions of the world: Africa, emerging Asia, the Middle East, Latin America and the Caribbean, and Eastern Europe.

### Global Infrastructure Quality Rankings: The Bottom 25

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### Investment Summary

Sound physical infrastructure is central to the efficient functioning of any modern economy, and shortcomings in infrastructure investment can lower corporate profitability, hamper trade and reduce potential economic growth. Almost without exception, the world’s richest countries are also those with the best physical infrastructure. For economies at the lower end of the global infrastructure quality rankings to raise their productivity, competitiveness and standards of living, the construction of new infrastructure assets, as well as better maintenance and refurbishment of the existing stock, will be critical.
SERVICES VERSUS MANUFACTURING

Economic activity can typically be classified as agricultural (primary industry), manufacturing (secondary industry) or service (tertiary industry). For most of the major economies in the world today, the primary sector represents a small fraction of the economy, with most activity taking place either in manufacturing or services. Generally speaking, the richer and more developed an economy, the higher its share of GDP from services (which tend to be less productive) and the lower its share of GDP from manufacturing (which tends to be more productive).

Across the largest five developed economies — the U.S., Japan, Germany, France and the U.K. — value-added from the service sector accounts for an average of 76 percent of GDP, while for the largest five emerging economies — China, Brazil, Russia, India and Mexico — the average service sector value-added share of GDP is just 57 percent. In manufacturing, the largest five developed nations have an average GDP share of 15 percent, while for the Big Five emerging economies, the average is 19 percent. There are of course exceptions even within this group of countries. Germany and Japan, for example, have traditionally been big manufacturing economies, and both have manufacturing shares of GDP in line with (in the case of Japan) or above (in the case of Germany) the Big Five emerging market average, and higher than that of other developed economies.

However, for most of the developed world, manufacturing activity has been in decline over recent decades and stands at lower levels, relative to the overall size of the economy, than in the emerging world. This is due in part to the rise of globalization over recent decades. In particular, the fall of the Berlin Wall led to the absorption of a massive new pool of workers from China, the former Soviet Union, and other Warsaw Pact and formerly socialist nations into the global system, effectively doubling the global labor force from around 1.5 billion to around 3 billion people. With this huge labor supply shock came the global supply chain and a shift in the focus of world manufacturing from West to East. Faced with a new, global labor and consumer market, many developed world manufacturers elected to offshore the assembly of final products to take advantage of growing consumer demand and lower-cost workers in the emerging world, contributing to a reduction in manufacturing activity at home and an increase in manufacturing in lower-wage countries like China.

Global Manufacturing Activity, 2012*

*Data for 2012 or latest available.
Sources: World Bank; CEIC.
Data as of August 2013.
But we do not necessarily expect this trend toward Western “deindustrialization” to persist indefinitely. Today, a growing number of U.S. firms in particular are announcing intentions to perform more of their manufacturing activity domestically. An April 2012 survey by the Boston Consulting Group (BCG), for example, found that 37 percent of manufacturers with sales above $1 billion were planning or actively considering shifting production facilities from China to the U.S. For those with sales above $10 billion, the number was 48 percent, with the most commonly cited reason being rising labor costs. And by making labor less of a cost factor, robotics and new manufacturing techniques such as 3D printing are also likely to mean that manufacturing shares of GDP in the developed world will start to stabilize or even climb.

Similarly, service shares of GDP between emerging and developed economies are likely to narrow in the years to come. As has been the international pattern when a country’s per capita income increases, economies across the emerging world are likely to see an increase in their service shares of GDP as demand for higher-end services like education, financial services, healthcare and leisure rises. For China in particular (which currently has the highest manufacturing and lowest service-sector shares of GDP among the big emerging economies), the employment need will be all the greater given the limited ability of increasingly capital-intensive coastal manufacturing centers to absorb large numbers of rural migrant workers.

These internal shifts between manufacturing and services are likely to see the gap in growth rates between emerging and developed economies narrow over the coming years. Emerging economies should continue to mature and exhaust the gains from inexpensive labor and capital deepening, while developed markets will potentially see their growth boosted by the “re-shoring” of higher-productivity manufacturing functions that had previously migrated abroad.

### Global Services Activity, 2012*

<table>
<thead>
<tr>
<th>Country</th>
<th>Services value-added (Share of GDP %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>78.6</td>
</tr>
<tr>
<td>U.K.</td>
<td>77.7</td>
</tr>
<tr>
<td>France</td>
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<tr>
<td>Japan</td>
<td>72.7</td>
</tr>
<tr>
<td>Germany</td>
<td>71.2</td>
</tr>
<tr>
<td>Brazil</td>
<td>66.1</td>
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<tr>
<td>Mexico</td>
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</tr>
<tr>
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<td>58.7</td>
</tr>
<tr>
<td>India</td>
<td>56.9</td>
</tr>
<tr>
<td>China</td>
<td>43.4</td>
</tr>
</tbody>
</table>

*Data for 2012 or latest available. Sources: World Bank, CEIC. Data as of August 2013.

### Investment Summary

Developed and emerging economies tend, respectively, to have higher and lower levels of service activity as a share of their economies. Recent trends toward offshoring of manufacturing functions from advanced economies to lower-cost markets have helped to reinforce this pattern, but rising costs in the emerging world and the increasing uptake of labor-saving technology may see more manufacturing activity take place in the developed nations over the coming years. Similarly, service-sector activity is likely to increase in emerging economies as their income levels rise.
Small- and medium-sized enterprises (SMEs) play a crucial role in most advanced economies today. They are typically found at the heart of innovation and new production techniques, create the most new jobs, and employ the bulk of the workforce. In so doing, they may act as component suppliers, as providers of technical expertise or manufacturers for big companies, or as purveyors of final products in their own right. Though they may not be as well known or as profitable as their larger counterparts, SMEs are in many ways the lifeblood of many economies today.

Since 2003, the World Bank has measured how well different countries cater to SMEs. Using input from government officials, lawyers, business consultants, accountants and other professionals, the World Bank’s Ease of Doing Business Index ranks economies (as well as some selected cities) according to the conduciveness of their regulatory environment to starting and operating a local small- or medium-sized company. The countries are graded in 10 separate areas: starting a business, dealing with construction permits, getting electricity, getting credit, registering property, protecting investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency.

Each area consists of a variety of indicators, and the country scores for each of the 10 are averaged to come up with the final country ranking. While fewer and simpler regulations often imply higher rankings, this is not always the case. For example, protecting the rights of creditors and investors, as well as establishing or upgrading property and credit registries, may mean that more regulation is preferable in certain instances.

The 2014 index places Singapore at the top of the pile for the eighth consecutive year, with top-five rankings in seven of the 10 main subindexes. Indeed, with Hong Kong and New Zealand ranking second and third, Malaysia sixth, and South Korea seventh, the Asia-Pacific region dominates the top-10 list. Scandinavia heads the rankings for Western Europe with Denmark, Norway and Finland placing fifth, ninth and 12th, respectively.

### Global Ease of Doing Business Rankings:
The Top 25

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Singapore</td>
</tr>
<tr>
<td>2</td>
<td>Hong Kong</td>
</tr>
<tr>
<td>3</td>
<td>New Zealand</td>
</tr>
<tr>
<td>4</td>
<td>United States</td>
</tr>
<tr>
<td>5</td>
<td>Denmark</td>
</tr>
<tr>
<td>6</td>
<td>Malaysia</td>
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<td>S. Korea</td>
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<td>Georgia</td>
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<td>Norway</td>
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<td>United Kingdom</td>
</tr>
<tr>
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<td>Australia</td>
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<td>Finland</td>
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<td>18</td>
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<td>19</td>
<td>Canada</td>
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<td>20</td>
<td>Mauritius</td>
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<td>Germany</td>
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<td>Estonia</td>
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<td>United Arab Emirates</td>
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<tr>
<td>24</td>
<td>Latvia</td>
</tr>
<tr>
<td>25</td>
<td>Macedonia</td>
</tr>
</tbody>
</table>

Data as of October 2013.
The U.S. ranks fourth on the list. The bottom end of the rankings is dominated by African nations, with a total of 20 (generally smaller) African countries in the bottom 25.

Interestingly, the BRIC economies — the largest and among the fastest-growing in the emerging world over the past decade — rank poorly when it comes to the ease of starting or operating a new business. China (96th), Brazil (116th) and India (134th) all fall in the lower half of the global rankings, while Russia (92nd) barely makes the top half of the table. The subindex highlights for the BRICs are Russia, which ranks 10th on enforcing contracts, China, which places 19th on the same measure, and India which comes in 28th on getting credit.

However, even within their own regions the BRICs lag. China ranks 12th out of 25 in East Asia-Pacific; Brazil places 22nd out of 32 in Latin America and the Caribbean; India comes in sixth out of eight in South Asia; and Russia ranks 21st out of the 26 countries in Eastern Europe and Central Asia. This hints at the future regulatory reform challenges that these and other emerging countries face if they are to continue to raise income and living standards.

### Global Ease of Doing Business Rankings: The Bottom 25

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Chad</td>
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<tr>
<td>188</td>
<td>Central African Republic</td>
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<td>187</td>
<td>Libya</td>
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<td>186</td>
<td>South Sudan</td>
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<td>185</td>
<td>Congo, Rep.</td>
</tr>
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<td>184</td>
<td>Eritrea</td>
</tr>
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<td>182</td>
<td>Myanmar</td>
</tr>
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<td>181</td>
<td>Venezuela</td>
</tr>
<tr>
<td>180</td>
<td>Guinea-Bissau</td>
</tr>
<tr>
<td>179</td>
<td>Angola</td>
</tr>
<tr>
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<td>Senegal</td>
</tr>
<tr>
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<td>Niger</td>
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<td>Guinea</td>
</tr>
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<td>Benin</td>
</tr>
<tr>
<td>173</td>
<td>Mauritania</td>
</tr>
<tr>
<td>172</td>
<td>Timor-Leste</td>
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<tr>
<td>171</td>
<td>Malawi</td>
</tr>
<tr>
<td>170</td>
<td>Zimbabwe</td>
</tr>
<tr>
<td>169</td>
<td>São Tomé and Príncipe</td>
</tr>
<tr>
<td>168</td>
<td>Cameroon</td>
</tr>
<tr>
<td>167</td>
<td>Côte d’Ivoire</td>
</tr>
<tr>
<td>166</td>
<td>Equatorial Guinea</td>
</tr>
<tr>
<td>165</td>
<td>Syrian Arab Republic</td>
</tr>
</tbody>
</table>

Data as of October 2013.

### Investment Summary

Small- and medium-sized businesses play a pivotal role in most advanced economies today in terms of innovation, employment and support for larger firms. As such, countries that create the right conditions under which to start and operate such businesses are likely to prove more competitive in the global economy and enjoy more sustainable growth in the future. By and large, the major industrialized economies have done just this, but many emerging economies will need to streamline regulations and reduce bureaucracy if they are to continue closing the income gap with the developed world.
GLOBAL SAVINGS RATES: A CRITICAL FACTOR FOR SUSTAINABLE GROWTH AND HIGHER LIVING STANDARDS

Relative to other economic variables such as GDP growth, inflation and unemployment, national savings rates tend to get little attention. But they are arguably just as important to the long-run health of economies. Just as individuals do not spend their entire paychecks, all nations must save a portion of what they produce via either the household sector (personal savings), the corporate sector (profits) or the government sector (budget surpluses).

Without national savings, countries cannot invest in the education, infrastructure and research and development that are critical to sustaining growth and improving living standards for future generations. In the absence of adequate national savings, countries become reliant on external borrowing from international capital markets to fund their expenditures. This can allow nations to “live beyond their means” if the global economy is strong, liquidity is plentiful and lenders are confident. But any deterioration in global financing conditions puts countries with low savings rates at risk — they may face a sudden spike in borrowing costs and be forced to aggressively cut spending, most likely resulting in recession.

Given their investment needs, emerging countries are generally the largest global savers, with only one developed country (Singapore) ranking in the top 10. In particular, the commodity-rich nations of the Arabian Peninsula have the highest savings rates of all: four of the six countries in the Gulf Cooperation Council — Kuwait, Qatar, Saudi Arabia and Oman — are among the top 10 global savers, with savings rates between 45 percent and 62 percent.

The top-ranking commodity-importing country is China, with the fifth-highest national savings rate in the world, at close to 50 percent. That China’s savings rate has remained between 35 percent and its current level over the past three decades is largely the product of the ruling Communist Party’s growth strategy. Large-scale investment in residential real estate and physical infrastructure, the promotion of exports, and the indirect suppression of household consumption through artificially depressed interest rates all contribute to China’s high rate of savings. The lack of a welfare state and a meager public pension system that — according to the Human Resources and Social Security Ministry — only covers around 30 percent of the population are other likely contributors. In addition to China, a number of other emerging Asian nations are also top global savers. Indonesia, Malaysia and South Korea all rank in the top 25, with Thailand (26th) and Taiwan (27th) not far behind.

### National Savers: The Top 10 (2012)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>National Savings Rate (% of GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kuwait</td>
<td>62.2</td>
</tr>
<tr>
<td>2</td>
<td>Qatar</td>
<td>55.4</td>
</tr>
<tr>
<td>3</td>
<td>Libya</td>
<td>52.4</td>
</tr>
<tr>
<td>4</td>
<td>Saudi Arabia</td>
<td>51.0</td>
</tr>
<tr>
<td>5</td>
<td>China</td>
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</tr>
<tr>
<td>6</td>
<td>Singapore</td>
<td>45.6</td>
</tr>
<tr>
<td>7</td>
<td>Oman</td>
<td>44.6</td>
</tr>
<tr>
<td>8</td>
<td>Gabon</td>
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</tr>
<tr>
<td>9</td>
<td>Azerbaijan</td>
<td>43.2</td>
</tr>
<tr>
<td>10</td>
<td>Algeria</td>
<td>42.4</td>
</tr>
</tbody>
</table>

Source: International Monetary Fund
Data as of April 2013.
Several major Western countries populate the other end of the spectrum. The U.S. and U.K., respectively, have the 123rd- and 137th-highest national savings rates in the world, while a number of the peripheral Eurozone countries, including Italy, Ireland and Portugal, also have low rates of national savings. Within the developed world, Germany and Scandinavia rank relatively high on the list of global savers and have seen some of the strongest national savings trends in the world over recent decades— their rates have risen while those of most other (particularly advanced) economies have fallen.

It is no coincidence that the countries with the lowest savings rates are generally those that have had to make the largest fiscal adjustments in the wake of the global financial crisis. The clearest case of this has of course been the Eurozone periphery, but the fears around deficits in the U.S. and U.K. are also symptomatic of their low savings rates. As the issuer of the world’s reserve currency, the U.S. will always be better able to secure financing from foreign lenders than other nations, but this is not a license for complacency. Ultimately, national savings allow countries to keep their financing costs contained and control their investment destinies.

### Gross National Savings of Selected Countries (% of GDP)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
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<td>5</td>
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<td>44.0</td>
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<tr>
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<td>21</td>
<td>23.5</td>
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<td>Russia</td>
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<td>10.8</td>
</tr>
</tbody>
</table>

Source: International Monetary Fund.
Data as of April 2013.

### Investment Summary

The biggest global savers are found in the emerging world, but a number of countries in Northern Europe also have relatively high savings rates and have seen them rise in recent decades. This contrasts with the savings-deficient U.S., U.K. and Southern Europe. Deploying national savings is the only alternative that nations have to borrowing in international markets in order to invest in future prosperity. As such, maintaining an adequate rate of national savings is critical to ensuring sustainable growth and higher living standards.
Corporate tax rates are one instrument of government policy that can have a major influence on national competitiveness. The volume of global outward foreign direct investment has grown almost 30 times since 1980, massively outpacing both global output and global exports. And a big factor in determining where global corporations choose to direct these flows is the host nation’s corporate tax rate. Governments that impose higher corporate tax rates may deter foreign investors, forgoing new employment and innovation opportunities and damaging economic growth and national competitiveness.

Since Japan lowered its corporate tax rate from 41 percent to 38 percent in 2012, the U.S. has had the highest rate in the world at 40 percent. However, this does not necessarily mean that all U.S. corporations pay that rate. Over recent decades, the share of U.S. corporate profits going to taxes has actually declined even as official corporate tax rates have remained largely unchanged. In practice, the corporate income tax burden may be reduced by various provisions that allow companies to write off capital investments quickly. Furthermore, the share of U.S. corporate profits coming from overseas has risen steadily, from around 8 percent in 1970 to over 30 percent at the pre-crisis peak, also contributing to lower tax outlays.

However, it is not only the absolute rate of taxation that matters for competitiveness. Other factors, such as the complexity of the tax code, the number of hours taken to prepare and pay taxes and the number of tax payments required per year, can also influence corporate decision making. For U.S. filers in particular, an additional burden is the taxation of foreign-source income. Most countries today operate on a territorial tax system, where an individual or corporation just pays taxes on the income earned within that country. Companies based in the U.S., however, must pay tax on their global income once the profits earned overseas are brought back home. This in part explains the large amounts of cash that U.S. corporations hold abroad today. This is money that could potentially be deployed in the U.S. in the form of new hiring, capital investment, dividend payouts or share buybacks.

Average corporate tax rates globally have trended downward over recent years in the world’s major economic regions, with Asia recording the steepest percentage-point drop (from 29 percent to 22.4 percent) in headline rates since 2006.
With an average rate of 33 percent, North America has the highest corporate tax rate of any region in the world, followed by Africa, Latin America and Oceania (all three of which are within 1.6 points), then Asia and Europe. While the difference between the highest rate region (North America) and the lowest (Europe) remains relatively wide at 12.4 percentage points, it has narrowed from 14.4 points since 2006.

On a country basis, European tax rates are broadly bifurcated between Western and Central/Eastern Europe. Western Europe tends to have higher tax rates, and the major Western European economies such as Germany, France, Italy and Spain all have headline corporate tax rates of close to 30 percent or more. The big exception is the U.K., which, with a rate of 23 percent, is closer to countries in Central and Eastern Europe such as the Czech Republic, Hungary, Poland and Slovakia. Ireland has maintained the lowest corporate tax rate of any major economy at just 12.5 percent. This has been instrumental in securing foreign investment from a range of global companies looking for a location for their European headquarters (including many in the technology sector). Among the BRIC countries, Brazil and India (each at 34 percent) have among the highest tax rates in the world, while Russia’s (20 percent) is comparable with other countries in Central and Eastern Europe. China’s (25 percent) is somewhere in between.

The overall tax burden in an economy is of course also dependent on individual tax rates for income, capital gains, dividends, sales and imports, among other things. But with today’s global companies able to set up offices and factories worldwide, depending in part on individual country tax regimes, the rate of taxation for corporations arguably has the biggest impact on competitiveness.

Investment Summary

The corporate tax rate can have a major effect on competitiveness by attracting or deterring foreign direct investment. With companies today able to shift production locations easily around the world, governments that offer the most attractive corporate tax rates, as well as the simplest and least burdensome filing rules, can therefore do much to improve overall employment, income and economic growth.
IMMIGRATION: ATTRACTING THE BEST AND BRIGHTEST IS KEY TO COMPETITIVENESS

As birth rates decline around the world, immigration policies are likely to become increasingly important for national competitiveness. Inflows of new workers can help countries generate economic growth, meet government pension obligations and create tax revenue for investment. And immigrants do not just help the supply side of the economy; they are consumers too. Increasing immigration can add to domestic demand, helping to boost consumption of housing, autos and retail goods.

Over recent decades, the advanced economies — particularly in North America and Europe — have tended to see the biggest immigrant inflows. During the 2000s, for example, net migration inflows as a share of the population were 3.6 percent in the U.S., 4.2 percent in the Eurozone, 3.0 percent in the U.K. and 7.1 percent in Canada. In all but the U.S., these numbers represented increases on the previous decade, the 1990s.

By contrast, most emerging economies have seen more people leaving their shores for other countries than new immigrants coming in. The emerging world as a whole experienced net migration outflows of 0.6 percent of the population during the last decade, up slightly from outflows of 0.5 percent in the 1990s, thus continuing the trend of workers leaving their home countries for better opportunities in the developed world. Estimates by the United Nations (UN), World Bank and Citigroup suggest that over the past 50 years, the number of foreign-born individuals in the advanced economies has risen from 34 million to 111 million. Of this 77 million increase, roughly 67 million (just over 85 percent) came from the emerging world. The exception among emerging economies has been Russia, which has seen migration inflows pick up since the fall of the Berlin Wall and the collapse of the Soviet Union.

With global projections for population growth the most dire in the developed world, it will be important for policymakers and investors to keep a close track of future migration flows. Among the major developed economies, the United Nations projects that migration flows will have varying impacts on population changes over the next couple of decades.

<table>
<thead>
<tr>
<th>Economy</th>
<th>1960s</th>
<th>1970s</th>
<th>1980s</th>
<th>1990s</th>
<th>2000s</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Developed Economies</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S.</td>
<td>1.2</td>
<td>3.1</td>
<td>3.1</td>
<td>4.8</td>
<td>3.6</td>
</tr>
<tr>
<td>Eurozone</td>
<td>0.6</td>
<td>1.3</td>
<td>1.1</td>
<td>2.5</td>
<td>4.2</td>
</tr>
<tr>
<td>Japan</td>
<td>1.1</td>
<td>0.5</td>
<td>-0.3</td>
<td>0.4</td>
<td>0.8</td>
</tr>
<tr>
<td>U.K.</td>
<td>0.1</td>
<td>0.3</td>
<td>0.0</td>
<td>1.2</td>
<td>3.0</td>
</tr>
<tr>
<td>Canada</td>
<td>4.0</td>
<td>5.3</td>
<td>4.9</td>
<td>5.0</td>
<td>7.1</td>
</tr>
<tr>
<td><strong>Emerging Economies</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Africa</td>
<td>-0.6</td>
<td>-1.2</td>
<td>-0.9</td>
<td>-0.6</td>
<td>-0.4</td>
</tr>
<tr>
<td>Emerging Asia</td>
<td>-0.2</td>
<td>-0.2</td>
<td>0.0</td>
<td>-0.2</td>
<td>-0.4</td>
</tr>
<tr>
<td>China</td>
<td>-0.2</td>
<td>-0.2</td>
<td>0.0</td>
<td>-0.1</td>
<td>-0.3</td>
</tr>
<tr>
<td>India</td>
<td>-0.1</td>
<td>0.5</td>
<td>0.1</td>
<td>-0.1</td>
<td>-0.4</td>
</tr>
<tr>
<td>Latin America</td>
<td>-1.3</td>
<td>-1.4</td>
<td>-1.8</td>
<td>-1.5</td>
<td>-2.1</td>
</tr>
<tr>
<td>Mexico</td>
<td>-1.9</td>
<td>-2.9</td>
<td>-4.2</td>
<td>-2.8</td>
<td>-4.8</td>
</tr>
<tr>
<td>Russia</td>
<td>-1.5</td>
<td>0.3</td>
<td>1.4</td>
<td>3.1</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Between 2010 and 2030, immigrants are expected to account for 36 percent of the population increase in the U.S. and 48 percent of the population increase in the U.K. In the Eurozone, however, a modest overall population increase will be entirely driven by immigration, with the native-born population declining. Japan’s overall population decline will be only slightly cushioned by a small increase in the immigrant population, according to UN forecasts.

The U.S. in particular has of course historically been a nation of immigrants, and immigrant populations have made a strong contribution to the economy. While first-generation immigrants have tended to underperform the general population in areas such as college graduation, homeownership and incidence of poverty, the second generation has tended to close the gap or even outperform. According to the Partnership for a New American Economy, for example, immigrants started 28 percent of all new businesses in 2011 while only accounting for 13 percent of the population. However, though the U.S. remains an attractive immigrant destination, people, just like corporations, have a choice over where they migrate, and there is strong demand globally for immigrant workers to fill jobs in both higher-skilled areas such as technology and engineering, and lower-skilled areas such as construction and retail.

As such, the U.S. and other countries could greatly improve their productivity by attracting greater inflows of immigrants to their shores. For the U.S. government, this may mean policies such as increasing the number of visas made available, streamlining the visa application process, or prioritizing applicants who are best able to fill the skill gaps in the economy.

### U.S. Immigrant Achievement

<table>
<thead>
<tr>
<th></th>
<th>1st generation</th>
<th>2nd generation</th>
<th>All U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>College graduates</td>
<td>29%</td>
<td>36%</td>
<td>33%</td>
</tr>
<tr>
<td>In poverty</td>
<td>18%</td>
<td>11%</td>
<td>13%</td>
</tr>
<tr>
<td>Homeownership rate</td>
<td>51%</td>
<td>64%</td>
<td>65%</td>
</tr>
</tbody>
</table>


### Investment Summary

From boosting tax revenue for investment to meeting government liabilities to adding to aggregate consumption, immigration can help improve national competitiveness in several ways. Developed economies in North America and Europe are the world’s biggest recipients of net migration inflows, while emerging economies have generally seen persistent migration outflows in recent decades. As nations seek to fill skill gaps at home, more may look to attract immigrant workers from abroad.
In order to thrive in an increasingly competitive marketplace, global organizations must constantly innovate, reviewing and improving upon their product or service offerings, or finding ways to operate more efficiently and reduce costs. There is no set formula for what makes one country more innovative than another, but factors such as education levels, productivity, industrial concentration of high-tech firms, availability of funding for R&D, IT/telecoms infrastructure, protections for intellectual property, and a risk-taking culture are all important in driving innovation.

Relative to the size of their economies, developed countries spend the most on R&D, with Scandinavia, South Korea, Japan and the U.S. (among others) spending around 3 percent or more of GDP on R&D every year. Israel, however, leads the pack, spending 4.25 percent of its GDP on R&D, more than any other country in the world. The small Levantine nation has historically been a center of excellence in technology and innovation, boasting the highest number of scientists, technicians and engineers per capita in the world as well as major inventions including the unmanned aerial vehicle, the USB flash drive, the world’s smallest video camera and the world’s first endoscopic capsule.

The U.S., however, remains the world’s biggest spender on R&D in absolute terms. As a share of its GDP, the U.S. spends the eighth-most in the world on R&D (2.8 percent), but given its sheer economic size, it far outspends the rest of the world in hard dollars. According to the OECD, the U.S. spent $283.8 billion on R&D in 2011, up from $247.7 billion before the financial crisis in 2006. By way of comparison, the next-biggest spender in absolute terms, China, spent $157.7 billion (Purchasing Power Parity (PPP) dollars). The innovative strength of the U.S. lies in its skilled labor pool, deep and liquid capital markets, strong intellectual property protections and robust institutional and regulatory environment. In addition, the public-sector prioritization of technology development through the Defense Department (via agencies like DARPA, the Defense Advanced Research Projects Agency) contributes to America’s innovative prowess.

Global R&D Spending, 2011
(Gross domestic expenditure on R&D, % of GDP)

Source: OECD.
Data as of March 2013.
When it comes to innovative capacity, we therefore think that reports of U.S. decline are greatly exaggerated. Indeed, America continues to lead published lists of the most innovative nations in the world, while its companies dominate the top positions of similar rankings for global companies, particularly firms in the technology sector. And as emerging market labor costs rise and labor-saving technologies such as robotics and 3D printing become more economically viable, we would expect the “re-shoring” of U.S. manufacturing to serve as a further boost. Housing manufacturing alongside core activities such as design, marketing and product development should help to spur new ideas and techniques, helping to boost profitability in the process. More manufacturing at home should also complement other domestic industries, especially in engineering and information technology. Clusters of activity that include research universities and venture capital are likely to emerge, encouraging more innovation and further boosting competitiveness.

China too is making a concerted effort to build a more innovative economy as the country invests heavily in education and R&D. According to the OECD, China has 34 percent of the world’s undergraduate degrees in engineering (around double the number for the entire European Union), while an increasing number of foreign companies have been opening research centers in the country. Indeed, the Boston Consulting Group placed one Chinese firm in the top 25 of its 2013 list of the world’s most innovative companies. As their incomes and institutional quality converge with the developed world, emerging economies are likely to see their innovation performance continue to improve, and the number of emerging market companies on the list is likely to grow.

**Top 10 Innovative Countries and Companies**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Company</th>
<th>Industry</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>U.S.</td>
<td>Apple</td>
<td>Technology/Electronics</td>
<td>U.S.</td>
</tr>
<tr>
<td>2</td>
<td>S. Korea</td>
<td>Samsung</td>
<td>Technology/Electronics</td>
<td>S. Korea</td>
</tr>
<tr>
<td>3</td>
<td>Germany</td>
<td>Google</td>
<td>Technology/Electronics</td>
<td>U.S.</td>
</tr>
<tr>
<td>4</td>
<td>Finland</td>
<td>Microsoft</td>
<td>Technology/Electronics</td>
<td>U.S.</td>
</tr>
<tr>
<td>5</td>
<td>Sweden</td>
<td>Toyota</td>
<td>Automotive</td>
<td>Japan</td>
</tr>
<tr>
<td>6</td>
<td>Japan</td>
<td>IBM</td>
<td>Technology/Electronics</td>
<td>U.S.</td>
</tr>
<tr>
<td>7</td>
<td>Singapore</td>
<td>Amazon</td>
<td>Consumer and Retail</td>
<td>U.S.</td>
</tr>
<tr>
<td>8</td>
<td>Austria</td>
<td>Ford</td>
<td>Automotive</td>
<td>U.S.</td>
</tr>
<tr>
<td>9</td>
<td>Denmark</td>
<td>BMW</td>
<td>Automotive</td>
<td>Germany</td>
</tr>
<tr>
<td>10</td>
<td>France</td>
<td>General Electric</td>
<td>Technology/Industrial</td>
<td>U.S.</td>
</tr>
</tbody>
</table>

Data as of August 2013 for Bloomberg.

**Investment Summary**

As the global business environment becomes increasingly competitive, the need for nations and companies to innovate will become ever more acute. Due to its sheer economic size and wealth of internal strengths, the U.S. is likely to remain at the forefront of global innovation for the foreseeable future, with other advanced economies also leading the way. But improvements in institutional quality and ongoing growth in productivity should see emerging market economies gradually narrow the gap.
The quality of a nation’s human capital is ultimately the basis of its productive and innovative capacity. As such, education and skills are the common thread that runs through all the other competitiveness drivers of countries around the world. As U.S. President Barack Obama put it in a 2011 address, “It is an undeniable fact that countries which out-educate us today are going to out-compete us tomorrow.”

For all countries, primary and secondary school education provides the essential foundation for learning the skills that will be required in higher education and ultimately in the workplace. Revealing of international trends in this area is the OECD’s Program for International Student Assessment (PISA), which tests 15-year-olds in reading, math and science and is a widely used global benchmark. The PISA results released at the end of 2010 show that Northeast Asia and Singapore lead the world in primary and secondary education. Shanghai tops the list in each of the three areas tested, while South Korea, Hong Kong, Singapore and Japan appear in the top 10 across the board. Finland and Canada also rank in the top 10 across each of the three disciplines. Meanwhile, the U.S. places 17th in reading, 32nd in math and 23rd in science.

The U.S. has of course traditionally been a world leader in higher education, but here too the achievement advantage today is increasingly with other countries. According to the OECD, the share of 55-to-64-year-olds in America with a tertiary degree in 2009 was 41 percent, well above the numbers in Japan (27 percent), Norway (27 percent) and Australia (29 percent). For 25-to-34-year-olds in the U.S., the share is also 41 percent, but increasing graduation rates in other nations have seen them surpass America within this younger cohort. In Japan, 56 percent of 25-to-34-year-olds had a tertiary degree in 2009, while the numbers for Norway and Australia were 47 percent and 45 percent, respectively.

### 15-year-olds’ Average Test Scores in PISA,* 2009

<table>
<thead>
<tr>
<th>Rank</th>
<th>Reading Score</th>
<th>Math Score</th>
<th>Science Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shanghai-China 556</td>
<td>Shanghai-China 600</td>
<td>Shanghai-China 575</td>
</tr>
<tr>
<td>2</td>
<td>S. Korea 539</td>
<td>Singapore 562</td>
<td>Finland 554</td>
</tr>
<tr>
<td>3</td>
<td>Finland 536</td>
<td>Hong Kong 555</td>
<td>Hong Kong 549</td>
</tr>
<tr>
<td>4</td>
<td>Hong Kong 533</td>
<td>S. Korea 546</td>
<td>Singapore 542</td>
</tr>
<tr>
<td>5</td>
<td>Singapore 526</td>
<td>Taipei 543</td>
<td>Japan 539</td>
</tr>
<tr>
<td>6</td>
<td>Canada 524</td>
<td>Finland 541</td>
<td>S. Korea 538</td>
</tr>
<tr>
<td>7</td>
<td>New Zealand 521</td>
<td>Liechtenstein 536</td>
<td>New Zealand 532</td>
</tr>
<tr>
<td>8</td>
<td>Japan 520</td>
<td>Switzerland 534</td>
<td>Canada 529</td>
</tr>
<tr>
<td>9</td>
<td>Australia 515</td>
<td>Japan 529</td>
<td>Estonia 528</td>
</tr>
<tr>
<td>10</td>
<td>Norway 510</td>
<td>Canada 527</td>
<td>Australia 527</td>
</tr>
<tr>
<td>11</td>
<td>Belgium 506</td>
<td>Netherlands 526</td>
<td>Netherlands 522</td>
</tr>
<tr>
<td>12</td>
<td>Norway 503</td>
<td>Macao-China 525</td>
<td>Liechtenstein 520</td>
</tr>
<tr>
<td>13</td>
<td>Estonia 501</td>
<td>New Zealand 519</td>
<td>Germany 520</td>
</tr>
<tr>
<td>14</td>
<td>Switzerland 501</td>
<td>Belgium 515</td>
<td>Taipei 520</td>
</tr>
<tr>
<td>15</td>
<td>Poland 500</td>
<td>Austria 514</td>
<td>Switzerland 517</td>
</tr>
<tr>
<td>16</td>
<td>Iceland 500</td>
<td>Germany 513</td>
<td>United Kingdom 514</td>
</tr>
<tr>
<td>17</td>
<td>United States 500</td>
<td>Estonia 512</td>
<td>Slovenia 512</td>
</tr>
<tr>
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<td>Iceland 507</td>
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</tr>
<tr>
<td>19</td>
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<td>Denmark 503</td>
<td>Poland 508</td>
</tr>
<tr>
<td>20</td>
<td>Germany 497</td>
<td>Slovenia 501</td>
<td>Ireland 508</td>
</tr>
<tr>
<td>21</td>
<td>Ireland 496</td>
<td>Norway 498</td>
<td>Belgium 507</td>
</tr>
<tr>
<td>22</td>
<td>France 496</td>
<td>France 497</td>
<td>Hungary 503</td>
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<td>23</td>
<td>Taipei 495</td>
<td>Slovak Republic 497</td>
<td>United States 502</td>
</tr>
<tr>
<td>24</td>
<td>Denmark 495</td>
<td>OECD average 496</td>
<td>OECD average 501</td>
</tr>
<tr>
<td>25</td>
<td>United Kingdom 494</td>
<td>Austria 496</td>
<td>Norway 500</td>
</tr>
<tr>
<td>26</td>
<td>Hungary 494</td>
<td>Poland 495</td>
<td>Czech Republic 500</td>
</tr>
<tr>
<td>27</td>
<td>OECD average 493</td>
<td>Sweden 494</td>
<td>Denmark 499</td>
</tr>
<tr>
<td>28</td>
<td>Portugal 489</td>
<td>Czech Republic 493</td>
<td>France 498</td>
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<tr>
<td>29</td>
<td>Macao-China 487</td>
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<td>Iceland 496</td>
</tr>
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<td>30</td>
<td>Italy 486</td>
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<td>Sweden 495</td>
</tr>
<tr>
<td>31</td>
<td>Latvia 484</td>
<td>Luxembourg 489</td>
<td>Latvia 494</td>
</tr>
<tr>
<td>32</td>
<td>Slovenia 483</td>
<td>United States 487</td>
<td>Austria 494</td>
</tr>
<tr>
<td>33</td>
<td>Greece 483</td>
<td>Ireland 487</td>
<td>Portugal 493</td>
</tr>
<tr>
<td>34</td>
<td>Spain 481</td>
<td>Portugal 487</td>
<td>Lithuania 491</td>
</tr>
<tr>
<td>35</td>
<td>Czech Republic 478</td>
<td>Italy 483</td>
<td>Slovak Republic 490</td>
</tr>
</tbody>
</table>

*PISA is an international study that was launched by the OECD in 1997. It aims to evaluate education systems worldwide every three years by assessing 15-year-olds’ competencies in the key subjects: reading, mathematics and science. To date, over 70 countries and economies have participated in PISA. Source: OECD. Data as of July 2010 (latest available).
Investment Summary

Education and skills are perhaps the most fundamental elements of any country’s competitiveness. From primary and secondary education to tertiary degrees, post-secondary non-degree training and skilled-worker immigration, how well a country develops its human capital will play a key role in determining its competitive ability for generations to come.
THE U.S. ENERGY ADVANTAGE SHOULD PERSIST

The recent surge in unconventional gas production has given the U.S. a significant cost advantage over other major developed countries. New hydraulic fracturing and horizontal drilling technologies have made the extraction of oil and natural gas from deep underground shale formations economically viable, dramatically increasing estimates of U.S. recoverable reserves. According to British Petroleum’s *Statistical Review of World Energy*, America is now the world’s largest natural gas producer, having overtaken Russia in 2009. While natural gas prices around the world have generally moved together in the past, this new production capacity has led to a substantial drop in U.S. prices over recent years. According to British Petroleum, natural gas traded at an average price of $2.76/mmBtu (per million British Thermal Units) in 2012, significantly lower than the $9.46/mmBtu in the U.K., $11.03/mmBtu in Germany and $16.75/mmBtu in Japan. This gives the U.S. a major competitive advantage in electricity pricing and manufacturing costs.

In addition to America’s production increases, these global price discrepancies are also a function of the structure of the natural gas market. Unlike oil, natural gas is not traded under a global market pricing system. As a result, individual market prices are more dependent on local suppliers and pipeline systems.

While crude oil can be transported relatively easily and efficiently by ocean tankers (making global price discrepancies largely dependent on the quality of the oil itself), global gas producers find local price discrepancies more difficult to exploit. Before it can be transported long distances, the hydrocarbon must first be liquefied and then re-gasified on arrival at its end-user destination. This is a very costly process. As a result, gas prices can remain geographically diverse for long periods of time.

In North America, natural gas mostly trades at a price linked to the benchmark set at the Henry Hub, a pipeline meeting point in Louisiana. In other countries, suppliers often index prices to oil products that might act as substitutes for gas, a system that was developed in the 1960s.

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**Global Natural Gas Prices**

![Graph showing global natural gas prices](chart.png)

Annual prices are given for benchmark natural gas hubs together with contracted pipeline and LNG imports. The benchmark hub prices incorporate the U.S. (Henry Hub) and the U.K. (NBP). Contract prices are represented by LNG imports into Japan and Average German Import Prices.

However, today’s significant price discrepancies are likely to prove unsustainable over time. Falling profitability for U.S. natural gas suppliers may deter investment or prevent producers from developing the reserves on their books, causing production to fall and prices to rise. In addition, exports to other higher-priced markets, particularly those looking to switch away from nuclear power, may increase.

This would also likely raise the U.S. price somewhat. Moreover, Russia (Europe’s main natural gas supplier) is seeing increased competition for its state-owned monopoly supplier Gazprom from other local producers Novatek and Rosneft.

And while there may not yet be enough competition to significantly reduce regional disparities in gas prices, non-U.S. pricing may be easing at the margin. In Britain, the most liquid of the European markets, prices already trade at a discount to continental Europe. And globally, gas producers are slowly beginning to adjust prices away from traditional oil-link contacts toward Henry Hub market prices as the use of liquid natural gas (LNG) increases — even before the U.S. exports any lower-priced gas. The U.S. price advantage in natural gas is therefore unlikely to remain as significant as it is today on a permanent basis.

However, these adjustments to global natural gas market pricing will nonetheless take time to play out, meaning that the U.S. should enjoy a significant cost advantage over other markets for some time to come. This will likely be the case for demand as well as supply reasons. Residential and commercial demand (around 28 percent of total U.S. demand) should continue to trend downward as home and office heating systems become more efficient and more emphasis is put on insulation and other conservation measures.

Lower gas prices should thus continue to ensure cheaper electricity prices, lower input costs and a competitive advantage for a range of U.S. manufacturers including chemical producers, fertilizer companies and plastic makers.

### U.S. Natural Gas Consumption, by Sector, 2012

<table>
<thead>
<tr>
<th>Use</th>
<th>Cubic Feet (Billion)</th>
<th>Share of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric Power</td>
<td>9,137</td>
<td>35.8%</td>
</tr>
<tr>
<td>Industrial</td>
<td>8,531</td>
<td>33.5%</td>
</tr>
<tr>
<td>Residential</td>
<td>4,180</td>
<td>16.4%</td>
</tr>
<tr>
<td>Commercial</td>
<td>2,907</td>
<td>11.4%</td>
</tr>
<tr>
<td>Transportation</td>
<td>748</td>
<td>2.9%</td>
</tr>
<tr>
<td>Total</td>
<td>25,503</td>
<td>100%</td>
</tr>
</tbody>
</table>


### Investment Summary

Over recent years, new drilling and production techniques have allowed U.S. gas producers to ramp up domestic supply, significantly lowering U.S. gas prices relative to the rest of the world. While increasing competition abroad and the likelihood of increased gas exports should erode these price differentials over time, the U.S. is likely to enjoy a competitive advantage from lower gas prices for some time to come.
WAGES ARE A KEY DETERMINANT OF INVESTMENT, CONSUMPTION AND TRADE PATTERNS

As capital has become more mobile around the world, companies have been better able to manage their wage costs by setting up operations in different parts of the world to take advantage of more attractively priced labor. National differences in the cost of hiring a new worker to operate machinery in a manufacturing plant or to assemble prefabricated components on a production line have therefore become increasingly important for relative competitiveness between countries.

Significant wage disparities exist between countries today, and the big divide is between advanced and emerging nations. According to data from the U.S. Bureau of Labor Statistics, for example, a manufacturing employee in Mexico can expect to make $6.36 per hour, while the average manufacturing worker in the Philippines makes just $2.10 per hour. By contrast, the typical manufacturing worker in Sweden commands $49.80 per hour. Different levels of productivity (as a result of disparities in education, training and capital availability) clearly play a major role. However, a whole range of factors including urbanization rates, the share of part-time workers, the size of the informal sector and the industry composition of the economy may also drive geographical wage disparities.

The degree of collective bargaining in the labor market is also a key driver of international wage differentials. Nominal manufacturing wages tend to be highest among the countries of northern Europe, such as Norway, Belgium, Denmark and Germany. While high productivity is also important here, European wages are supported by high rates of unionization, which give workers greater bargaining power. This is particularly true for Scandinavia—Finland and Denmark, for example, have sizable unionization rates of 68.3 percent and 83.3 percent, respectively.

When thinking about wage competitiveness, international currency exchange rates should also be taken into account as these represent an additional “cost” to any would-be foreign direct investor.

### Global Manufacturing Wages, 2012
(Hourly compensation costs in manufacturing, U.S.$)

<table>
<thead>
<tr>
<th>Country</th>
<th>Compensation Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>44.8</td>
</tr>
<tr>
<td>Austria</td>
<td>41.5</td>
</tr>
<tr>
<td>Belgium</td>
<td>49.8</td>
</tr>
<tr>
<td>Canada</td>
<td>38.2</td>
</tr>
<tr>
<td>Chile</td>
<td>22.5</td>
</tr>
<tr>
<td>China</td>
<td>12.2</td>
</tr>
<tr>
<td>Colombia</td>
<td>18.9</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>19.4</td>
</tr>
<tr>
<td>Denmark</td>
<td>35.7</td>
</tr>
<tr>
<td>Denmark</td>
<td>57.8</td>
</tr>
<tr>
<td>Estonia</td>
<td>17.5</td>
</tr>
<tr>
<td>Finland</td>
<td>31.2</td>
</tr>
<tr>
<td>France</td>
<td>40.6</td>
</tr>
<tr>
<td>Germany</td>
<td>55.3</td>
</tr>
<tr>
<td>Greece</td>
<td>44.2</td>
</tr>
<tr>
<td>Hungary</td>
<td>8.9</td>
</tr>
<tr>
<td>Iceland</td>
<td>64.0</td>
</tr>
<tr>
<td>India</td>
<td>2.1</td>
</tr>
<tr>
<td>Israel</td>
<td>23.2</td>
</tr>
<tr>
<td>Italy</td>
<td>24.8</td>
</tr>
<tr>
<td>Japan</td>
<td>35.3</td>
</tr>
<tr>
<td>Japan</td>
<td>31.2</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>10.4</td>
</tr>
<tr>
<td>Korea</td>
<td>19.1</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>33.3</td>
</tr>
<tr>
<td>Malaysia</td>
<td>6.4</td>
</tr>
<tr>
<td>Mexico</td>
<td>11.9</td>
</tr>
<tr>
<td>Netherlands</td>
<td>11.1</td>
</tr>
<tr>
<td>New Zealand</td>
<td>11.2</td>
</tr>
<tr>
<td>Norway</td>
<td>62.2</td>
</tr>
<tr>
<td>Poland</td>
<td>41.5</td>
</tr>
<tr>
<td>Portugal</td>
<td>12.1</td>
</tr>
<tr>
<td>Singapore</td>
<td>19.1</td>
</tr>
<tr>
<td>Slovakia</td>
<td>20.1</td>
</tr>
<tr>
<td>South Africa</td>
<td>20.1</td>
</tr>
<tr>
<td>Spain</td>
<td>26.1</td>
</tr>
<tr>
<td>Sweden</td>
<td>45.8</td>
</tr>
<tr>
<td>Switzerland</td>
<td>36.6</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>39.6</td>
</tr>
<tr>
<td>United States</td>
<td>47.7</td>
</tr>
<tr>
<td>United States</td>
<td>63.4</td>
</tr>
</tbody>
</table>

Data as of August, 2013.
In late 2008/early 2009, for example, the collapse in the Australian dollar to just over U.S. $0.60 made Australian workers look substantially cheaper to potential American investors than they did just two years later when the currency had rebounded back to parity.

Similarly, changes in productivity levels may also have an impact on wage competitiveness. Indeed, unit labor costs (productivity-adjusted wages) are ultimately what matter most for competitiveness as they measure the cost associated with the production of a given unit of output. Labor that is cheap and unproductive may in fact be more costly than higher-wage but higher-productivity labor. Rising productivity and falling unit labor costs played a major role in increasing U.S. competitiveness in the 1990s, for example, despite the strength of the U.S. dollar relative to other global currencies during that period.

Unit labor cost changes have also been important for Europe over recent decades. Big wage differences exist within the Eurozone, with workers in core economies such as Germany and Austria commanding wages well in excess of those in peripheral countries like Greece and Spain. Nonetheless, after the inception of the euro, unit labor costs in the periphery rose faster than in the core, massively eroding the competitiveness of countries like Portugal, Spain, Ireland and Greece. As a result, relative adjustments to both wages and productivity via increased labor market flexibility, privatizations and other structural reforms are now crucial for future Eurozone cohesion.

Differences in wage rates between developed and emerging countries are likely to narrow over time. Low wages in emerging Asian economies have helped these countries to build up large trade surpluses with the developed world over recent decades, particularly during the last decade as global trade soared. But faster wage growth across the emerging world is now eroding their export competitiveness advantage, which should boost their levels of consumption and help to reduce these “global imbalances.”

In short, wage rates — alongside productivity levels and exchange rates — are a key determinant of investment, consumption and trade patterns around the world and thus should be closely monitored to assess changes in the competitive position of different countries.

### Trade Union Membership, 2010
(Trade union density)

<table>
<thead>
<tr>
<th>Country</th>
<th>Share of total employees (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>83.3</td>
</tr>
<tr>
<td>Finland</td>
<td>68.3</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>40.1</td>
</tr>
<tr>
<td>Austria</td>
<td>34.3</td>
</tr>
<tr>
<td>Ireland</td>
<td>33.3</td>
</tr>
<tr>
<td>Singapore</td>
<td>32.8</td>
</tr>
<tr>
<td>South Africa</td>
<td>29.7</td>
</tr>
<tr>
<td>Australia</td>
<td>29.5</td>
</tr>
<tr>
<td>Canada</td>
<td>20.8</td>
</tr>
<tr>
<td>Japan</td>
<td>18.3</td>
</tr>
<tr>
<td>New Zealand</td>
<td>18.2</td>
</tr>
<tr>
<td>Netherlands</td>
<td>18.1</td>
</tr>
<tr>
<td>Australia</td>
<td>17.9</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>17.1</td>
</tr>
<tr>
<td>Chile</td>
<td>15.2</td>
</tr>
<tr>
<td>Mexico</td>
<td>13.9</td>
</tr>
<tr>
<td>U.S.</td>
<td>11.4</td>
</tr>
<tr>
<td>S. Korea</td>
<td>8.7</td>
</tr>
<tr>
<td>Philippines</td>
<td>4.0</td>
</tr>
<tr>
<td>Peru</td>
<td>3.6</td>
</tr>
<tr>
<td>Thailand</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Source: International Labor Organization.  
Data as of June 2013.
HEALTHCARE: ANOTHER KEY FACTOR IN NATIONAL COMPETITIVENESS

Just as an educated and well-trained workforce is critical to national competitiveness, so is a healthy one. Access to affordable, high-quality healthcare is a key part of ensuring that an economy remains productive and globally competitive. As such, rising healthcare costs are a concern for countries around the world. Over the last four decades, average public healthcare expenditures as a share of GDP across OECD countries have roughly doubled from around 3.5 percent in 1970 to around 7 percent in 2010.

And costs are expected to rise further in future years. According to projections from the OECD, public healthcare spending will almost double again over the next 50 years, reaching approximately 14 percent of GDP by 2060 under a “pessimistic” scenario, and still increasing to approximately 10 percent of GDP under the OECD’s “optimistic” case. Cost containment will therefore be a priority for countries and a key factor in improving their competitive positioning.

Differences in healthcare costs around the world reflect a number of variables including demographic trends (the age structure of the population and its health status), average levels of household income, treatment pricing, technological progress and national health policies. As a general rule, rich countries spend far more on healthcare than do poorer nations.

According to the World Health Organization, the 34 countries in the OECD account for 84 percent of global healthcare spending, despite making up just 18 percent of the world’s population. And even within the OECD, significant disparities exist. At the lower end, for example, Turkey and Mexico respectively spend 6.7 percent and 6.2 percent of their GDP on healthcare, while the Netherlands, France, Canada, Denmark and Germany all spend close to double that amount at over 11 percent of GDP. The U.S. spends by far the most in the world on healthcare at 17.9 percent of GDP, or just under $8,400 per person per year.

As longevity increases, populations age and instances of “rich-world” conditions such as obesity and cancer rise; increasing healthcare expenditures are becoming a particular burden for advanced economy public budgets.

Global Healthcare Spending,* 2012
(Healthcare spending as a % of GDP)

*Includes both public and private healthcare spending.
Data as of August 2013.
This is due to the fact that in addition to competing budgetary pressures from other social spending programs, governments in the developed world typically shoulder a larger part of the overall healthcare cost burden than their emerging market counterparts.

For the U.S. in particular, structural factors further bias costs upward. The for-profit nature of the U.S. healthcare system incentivizes participants (including insurance companies, hospitals, physicians and device makers) to sell their products and services at the highest possible price, while waste, inefficiencies and high administrative costs further inflate the cost of treatment. The absence of government-negotiated prices in the private system represents another driver of higher costs. It remains to be seen whether recent reforms to the U.S. system under President Barack Obama will help to reduce costs, but the high cost of care—as well as the large numbers of uninsured—represents a clear hindrance to U.S. competitiveness.

For countries in the emerging world, rising healthcare costs are a particular burden for household budgets. Healthcare expenses in the rich world are met largely through prepayment schemes such as private insurance or government taxation, allowing individual costs to be subsidized. But consumers of healthcare in the emerging world are forced to pay more on an out-of-pocket basis.

According to the World Health Organization, countries with per capita incomes below around $1,000 rely the most heavily on out-of-pocket healthcare payments, which make up around 50 percent of their total healthcare spending. This contrasts with higher-income countries (with per capita incomes above around $12,000), for which only 13 percent of their total healthcare spending is done on an out-of-pocket basis. This disparity is a clear problem to developing countries—according to healthcare journal Health Affairs, an estimated 100 million people are pushed under the poverty line every year by out-of-pocket health service expenditures. Thus, while much of the focus tends to be put on the growing healthcare burden in rich countries, controlling costs remains a priority worldwide.

<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total global expenditure for health</td>
</tr>
<tr>
<td>Total global expenditure for health per person per year</td>
</tr>
<tr>
<td>Country with highest total spending per person per year on health</td>
</tr>
<tr>
<td>Country with lowest total spending per person per year on health</td>
</tr>
<tr>
<td>Country with highest government spending per person per year on health</td>
</tr>
<tr>
<td>Country with lowest government spending per person per year on health</td>
</tr>
<tr>
<td>Country with highest annual out-of-pocket household spending on health</td>
</tr>
<tr>
<td>Country with lowest annual out-of-pocket household spending on health</td>
</tr>
<tr>
<td>Average amount spent per person per year on health in countries belonging to the OECD</td>
</tr>
<tr>
<td>Percentage of the world's population living in OECD countries</td>
</tr>
<tr>
<td>Percentage of the world's total financial resources devoted to health currently spent in OECD countries</td>
</tr>
</tbody>
</table>


Data as of August 2013.

**Investment Summary**

Providing access to affordable and high-quality healthcare is a key part of developing human capital. As such, rising healthcare costs represent a threat to national competitiveness. While healthcare spending varies considerably around the world, addressing rising costs remains a priority everywhere, both in the developed and the emerging world.
WORK HOURS: WHO ARE THE WORLD’S HARDEST WORKERS?

On a global basis, people in rich countries tend to work fewer hours than people in poorer ones. Mexico, for example, tops the OECD’s list of hours worked, with the typical Mexican employee racking up 2,226 hours per year. This compares with the average Icelandic worker, who posts a far lower 1,706 hours. These emerging versus developed world differences are largely due to lower productivity levels in the emerging world. In advanced economies, workers are able to produce more for each hour they put in due to higher levels of education and training, a richer stock of capital equipment with which to work (such as faster computers or more advanced machine tools), higher-quality management and more effective corporate governance. This means that workers in richer countries can earn more, even by working less. Weaker welfare states in the emerging world may also play a part. In the absence of unemployment benefits or a state pension, individuals in poorer countries are likely to work harder in an effort to save more for retirement or in case of job loss.

But significant differences also exist between countries at similar levels of economic development. Beyond differences in productivity and state benefits, then, there is a range of other factors that are important in explaining why some countries work longer hours than others.

Global Hours Worked, 2012

<table>
<thead>
<tr>
<th>Country</th>
<th>Average Annual Hours Worked per Worker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>2,226</td>
</tr>
<tr>
<td>S. Korea</td>
<td>2,090</td>
</tr>
<tr>
<td>Greece</td>
<td>2,034</td>
</tr>
<tr>
<td>Chile</td>
<td>2,029</td>
</tr>
<tr>
<td>Russia</td>
<td>1,982</td>
</tr>
<tr>
<td>Poland</td>
<td>1,929</td>
</tr>
<tr>
<td>Israel</td>
<td>1,910</td>
</tr>
<tr>
<td>Hungary</td>
<td>1,889</td>
</tr>
<tr>
<td>Estonia</td>
<td>1,889</td>
</tr>
<tr>
<td>Turkey</td>
<td>1,855</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>1,800</td>
</tr>
<tr>
<td>U.S.</td>
<td>1,790</td>
</tr>
<tr>
<td>Slovak Republic</td>
<td>1,785</td>
</tr>
<tr>
<td>Italy</td>
<td>1,752</td>
</tr>
<tr>
<td>Japan</td>
<td>1,745</td>
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<tr>
<td>New Zealand</td>
<td>1,739</td>
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<tr>
<td>Australia</td>
<td>1,728</td>
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<tr>
<td>Canada</td>
<td>1,710</td>
</tr>
<tr>
<td>Iceland</td>
<td>1,706</td>
</tr>
<tr>
<td>Austria</td>
<td>1,699</td>
</tr>
<tr>
<td>Portugal</td>
<td>1,691</td>
</tr>
<tr>
<td>Spain</td>
<td>1,686</td>
</tr>
<tr>
<td>Finland</td>
<td>1,672</td>
</tr>
<tr>
<td>U.K.</td>
<td>1,654</td>
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<tr>
<td>Slovenia</td>
<td>1,640</td>
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<tr>
<td>Sweden</td>
<td>1,621</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>1,609</td>
</tr>
<tr>
<td>Belgium</td>
<td>1,574</td>
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<tr>
<td>Denmark</td>
<td>1,546</td>
</tr>
<tr>
<td>Ireland</td>
<td>1,529</td>
</tr>
<tr>
<td>France</td>
<td>1,479</td>
</tr>
<tr>
<td>Norway</td>
<td>1,420</td>
</tr>
<tr>
<td>Germany</td>
<td>1,397</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1,381</td>
</tr>
</tbody>
</table>

Source: OECD.
Data as of August 2013.
Investment Summary

Work hours vary significantly around the world. Productivity and institutional differences mean that workers in more advanced economies tend to work fewer hours than those in emerging economies, while a host of other factors from vacation days to tax regimes and culture mean that some countries register more work hours than others. However, work hours globally are likely to continue trending lower as productivity around the world increases.
The China Price: Manufacturing Trends Are Changing

One of the defining characteristics of globalization in trade and manufacturing over recent decades has been the global supply chain—the international network of people and activities involved in turning natural resources into final products. The global supply chain marks a significant departure from previous, more localized models of manufacturing production in which materials sourcing, component manufacture and final product assembly were geographically concentrated. Today, manufacturing is far more geographically dispersed. Individual companies spread their operations across borders and rely on a network of international suppliers to provide their inputs.

The significant geographic trend that has run concurrently with this rise of the global supply chain over recent decades has been a shift in global manufacturing from West to East, as manufacturing activity has been offshored to cheaper destinations—most notably to China.

Owing to its abundant supply of low-cost labor and well-developed infrastructure of ports, highways, buildings and telecommunications networks, the cities of China’s southeastern Guangdong province, such as Guangzhou, Shenzhen and Dongguan, have become a hub for U.S. and other international companies looking to manufacture goods cheaply and efficiently for both local and global distribution. As a result, China has overtaken the U.S., Germany and Japan to become both the world’s largest manufacturer and its largest goods exporter over the past decade.

But this trend is now turning. Manufacturing wages in China are growing at a double-digit pace, while wage rates in the U.S. remain stagnant. Indeed, by 2015, the Boston Consulting Group expects average hourly labor costs in China to be 17 percent of those in the U.S. (from just 4 percent a decade prior) and some 25 percent higher than those in Mexico. In short, China is getting more expensive, and this is likely to make for more manufacturing activity migrating away from the southeast to other parts of the country and to lower-cost nations around the world, as well as being “re-shored” back to the developed world itself.

China Has Risen to Become the World’s Largest Manufacturer

Investment Summary

Over recent decades, cost and other incentives have seen U.S. and other Western manufacturers shift parts of their operations to southeastern China. However, rising labor and other costs are now eroding China’s manufacturing competitiveness advantage. Production operations should increasingly move to other parts of the country, as well as to other low-wage nations and back to the developed world itself.
In this chapter we analyze various asset classes and their absolute and relative performance over the past few decades. For starters, we assess the relative performance of equities versus bonds versus cash, with equities, not surprisingly, the clear winner when it comes to producing long-term returns.

We are huge proponents of dividends and dividend-paying strategies, and we outline in the following pages the fact that dividends have made up the overwhelming majority of stock market total returns over the long run. We also examine bear markets and recessions, including their frequency and market returns, as well as Fed tightening cycles and their overall market effect.

We take a look as well at the S&P 500’s sector performance of the past few decades and conclude that over time, cyclical sectors like information technology, energy, consumer discretionary, financials and industrials typically outperform (in price terms) more defensive sectors like healthcare, consumer staples, telecommunication services (telecoms) and utilities. The performance gap narrows, however, when dividends are added to the mix.

Investing and asset allocation are also about non-U.S. equities and other asset classes. The U.S. hardly has a lock on the best asset classes in the world. The developed nations offer plenty of opportunities for U.S. investors, as discussed below. While over the long term U.S. equities have outperformed Europe in price returns, higher dividend yields place Europe slightly ahead of the U.S. when considering total returns.

Since 2009, U.S. equity returns — based on price and total returns — have handily beat those in Europe and Japan. However, as discussed in this chapter, equity returns in the emerging markets (EM) since 2000 have outstripped those of the developed markets. Reflecting the growing importance of emerging market equities, the emerging market’s share of global market capitalization has increased from just 3.8 percent in 2002 to over 13 percent today. We also highlight the frontier markets, which are now more accessible to U.S. investors than ever before, providing plenty of rewards (and risks) for investors.

We examine the returns of various commodities, with precious metals providing larger annualized returns from 1992 to 2012 than energy, base metals and agriculture. Despite the so-called death of the “commodities supercycle,” we remain long-term bulls on agricultural commodities due to the shifting diets of the emerging market middle class.

As for fixed income, we discuss the dearth of AAA-rated sovereign debt, as well as some key trends in emerging market sovereign debt.

Global equity correlations, specialty asset classes like farmland and timberland, and the role of gold in one’s portfolio are also discussed in this chapter. We are not gold bugs but do believe hard assets like farmland and timberland should be carefully assessed by investors looking for stable and healthy long-term returns.
Asset allocation is a constant balancing act between risk and reward, aiming to meet the investment goals and risk tolerance of market participants, be they retirement funds, mutual funds, insurance pools or individuals. Traditionally, institutional and retail investors have allocated either actively or passively among a mix of stocks, bonds and cash, with alternatives such as real estate, commodities, hedge funds and private equity becoming increasingly popular in more recent years. Based on its volatility and liquidity characteristics, each asset class plays a different role in investor portfolios but, over the long term, the overwhelming majority of portfolio returns have come from stocks.

The first chart looks at total returns on U.S. large capitalization equities, Treasury bonds, corporate credit and cash equivalents in the post-war era, as well as a consumer price index measure of inflation. Given the wide dispersion of returns between equities and other asset classes, the logarithmic scale is used to more clearly highlight market volatility and performance differences between periods — straight lines indicate constant value changes in geometric rather than arithmetic terms. As the chart illustrates, stocks have hugely outperformed other traditional asset classes over the long term. In nominal total return terms, one dollar invested in the stock market in 1945 was worth $1,257 by the end of 2012. In the case of Treasuries, credit and cash, the same dollar was worth $46, $59 and $17, respectively. Even in pure price terms, a dollar invested in the stock market in 1945 was worth $111 by the end of 2012, almost double the terminal value of corporate credit. Through recessions, market crashes, economic crises, periods of high inflation and periods of rising interest rates, stocks have outperformed massively. Indeed, even on a rolling 10-year basis, the post-war era has seen stocks beat bonds, credit and cash over 80 percent of the time.

**Stock Versus Bond Versus Cash Returns**

Past performance is no guarantee of future results.

Sources: Standard and Poor’s, Morningstar Ibbotson.

Equities are S&P 500 Total Return Index, bonds are Ibbotson SBBI Intermediate U.S. Treasuries, credit is Ibbotson SBBI Long Corporate, cash is 30-day Treasury Bill, inflation is Ibbotson SBBI U.S. Price Index.

Data as of May 2013.
But of course, over selected periods, relative performance has varied. Large cap U.S. stocks, for example, did extremely well in the two decades following World War II (a period often referred to as “The Golden Age of Capitalism”). Western Europe and Asia were rebuilding from the devastation of the war; productivity growth was booming; inflation was tame; and global trade roughly doubled as a share of gross domestic product (GDP). Between 1945 and 1965, the S&P 500 returned an annualized 15.1 percent, versus just 2.3 percent for bonds, 2.5 percent for credit and 1.8 percent for cash. The 1970s were a more challenging period for equities: Inflation took off after the collapse of the Bretton-Woods system in 1971, staying high as a result of two oil price shocks, a falling U.S. dollar and an upward wage-price spiral. Meanwhile, interest rates rose, with the 10-year Treasury ending the decade at over 10 percent, before peaking at close to 16 percent less than two years later. The performance gap was much narrower in this period, but stocks still outperformed bonds, credit and cash, returning an annualized 7.3 percent for the decade as a whole. The period between the mid-1980s and the global financial crisis (commonly known as “The Great Moderation”) was a benign environment for bond prices. Bonds did better, but stocks still outperformed.

Equities of course have their bouts of shorter-term underperformance and, even on a rolling 10-year horizon, have underperformed these other traditional asset classes just slightly less than 20 percent of the time over the past 70 years. Market returns will vary in different economic environments and at different stages of the business cycle. But the resounding message is that over time, stocks far and away do better than other traditional asset classes. By contrast, cash is almost never king, barely beating inflation. Looking forward, low and rising interest rates are likely to be bad for bonds again, while — after a 10-year flat period by the end of the financial crisis — stocks are poised to benefit from supportive megatrends such as increased innovation and technology, cheap energy and the rise of the emerging market consumer.

<table>
<thead>
<tr>
<th>Asset Class Performance</th>
<th>Equities</th>
<th>Bonds</th>
<th>Credit</th>
<th>Cash</th>
<th>Inflation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1945-1964 (Post-War “Golden Age”)</td>
<td>15.1</td>
<td>2.3</td>
<td>2.5</td>
<td>1.8</td>
<td>2.9</td>
</tr>
<tr>
<td>1970-1979 (Rising inflation and interest rates)</td>
<td>7.3</td>
<td>6.8</td>
<td>5.4</td>
<td>6.3</td>
<td>7.5</td>
</tr>
<tr>
<td>1985-2009 (“The Great Moderation”)</td>
<td>10.1</td>
<td>7.6</td>
<td>9.2</td>
<td>4.4</td>
<td>2.9</td>
</tr>
</tbody>
</table>

Past performance is no guarantee of future results. Sources: Standard and Poor’s; Morningstar; Ibbotson. Equities are S&P 500 Total Return Index, bonds are Ibbotson SBBI Intermediate U.S. Treasuries, credit is Ibbotson SBBI Long Corporate, cash is 30-day Treasury Bill, inflation is Ibbotson SBBI U.S. Price Index. Data as of January 2010 (latest data available).

Investment Summary

Stocks have historically outperformed other traditional asset classes over the long term. However, relative asset class returns can fluctuate over shorter time periods depending on the economic environment and stage of the business cycle. After a 10-year period of flat returns for equities by the end of the financial crisis, stocks look set to significantly outperform bonds again.
DIDIVENDS ARE IMPORTANT FOR LONG-TERM EQUITY RETURNS

Stock market commentators and the popular financial press tend to focus their attention on changes in the price level of the market to determine how well or how badly an investment has performed. While it may be true that price fluctuations are the primary driver of equity returns over the short run, longer-term investors should be more concerned with dividends. The chart below vividly illustrates why. In the post-war era, price returns for the S&P 500 have accounted for only a minor share of the market’s total returns; the overwhelming majority of total returns have been made up by dividends. And the difference is stark. In pure nominal price terms, one dollar invested in 1945 was worth $111 by the end of 2012. However, in total return terms (including the impact of dividends) the same one dollar invested was worth $1,257. In other words, over a nearly 70-year period, dividends accounted for a whopping 91 percent of the total return on the S&P 500.

What makes the dividend portion of the market’s total return so important is reinvestment. Using dividends earned to purchase more stock instead of taking payouts in cash allows the long-term investor to benefit from the compounding effect. Dividend reinvestment accelerates gains and means that any price losses are recovered more quickly, resulting in a better “investment experience” than is suggested by simply looking at the price level of any given stock or index. This all underscores the fact that long-term investors should not be overly concerned about day-to-day, or even year-to-year, stock market price swings. Over time, dividends dominate.

Contrary to popular perception, then, it is clear that quoted market prices do not tell the whole story. For example, following the 2008 – 2009 financial crisis, investors widely recognized March 28, 2013, as the day on which the S&P 500 recovered to its pre-crisis high. But including reinvested dividends, the market had actually reclaimed its peak by April 2, 2012, almost a full year sooner. By the time the index was back to its former price high, the total return index had already surpassed its prior peak by around 13 percent.

Price Returns Versus Total Returns

Past performance is no guarantee of future results.
Sources: Standard and Poor’s, Morningstar Ibbotson.
Data as of May 2013.
It used to be said on Wall Street that “the purpose of a company is to pay dividends,” and dividends have clearly made up the majority of stock market total returns over the long term. But the impact of dividends on total equity returns has varied over time. During the valuation-driven bull market of the 1990s, for example, price increases actually made up the majority of the S&P 500’s total return gains, with the dividend return accounting for just 27 percent. By contrast, dividends accounted for 78 percent of total returns during the inflationary 1970s.

A company’s decision not to pay a dividend might be seen as a signal that its growth prospects are likely to improve, hence the decision by the board of directors to reinvest in the company rather than to pay out. But dividends simply represent that share of corporate earnings that the company decides to pay out directly to investors rather than to use for some other purpose. Reinvestment (which may or may not be done profitably) could be one such purpose, but others may include the paying down of debt or the acquisition of another company. Similarly, companies with a stable and relatively low return on equity (such as utilities) may choose to pay a higher dividend due to the structural growth limits of their industry rather than for any company-specific reason. Thus it is difficult to make a judgment about the future health of a company or index simply by looking at the dividend yield or the payout ratio.

What is clear is that dividends have historically accounted for the overwhelming majority of total returns to equity holders. Over the long term, investors with more exposure to dividend returns are therefore likely to be rewarded.

**Dividend Aristocrats**

*Past performance is no guarantee of future results.*

*S&P 500 Dividend Aristocrats Index measures the performance of S&P 500 companies that have increased their dividends every year for the last 25 consecutive years.*

Source: Bloomberg.

Data as of August 5, 2013.

**Investment Summary**

Over the long term, dividends have made up the overwhelming majority of stock market total returns. Dividend reinvestment accelerates price gains and dampens price losses, resulting in a better investment experience. The dividend contribution to total return may, however, vary in different market environments.
U.S. EQUITY SECTORS — ALL SECTORS ARE NOT CREATED EQUAL

Over the last 20 years, performance within the U.S. equity market has varied considerably on a sector-by-sector basis and according to cyclicality. Of the 10 mega sectors, six—materials, technology, energy, consumer discretionary, financials and industrials—are counted as cyclical, with the remaining four—healthcare, consumer staples, telecoms and utilities—counted as defensive. Cyclicals have historically fared much better in rising markets (which tend to accompany economic recoveries and expansions), while defensives have done better in falling markets (which tend to occur in recessions).

Given the relative infrequency of economic downturns, cyclicals have therefore outperformed over time; since 1992, they have returned 385 percent (or 6.9 percent on an annualized basis) versus 236 percent (5.3 percent annualized) for defensives. And on a three-month rolling basis, cyclicals have outperformed over 60 percent of the time. Of the five top-performing sectors since 1992, four (technology, energy, consumer discretionary and industrials) were cyclical (first exhibit). Meanwhile, the only defensive sector in the top half of the performance rankings was healthcare, which came in fifth place.

The performance picture is, however, somewhat different when looked at in total return terms. When dividends are taken into account, the underperformance of defensives over the past 20 years narrows significantly (second exhibit). On an annualized basis, the performance gap drops from 1.6 percentage points to one percentage point. The high-yielding telecoms and utilities sectors account for most of the difference. As the worst-performing sectors of the past two decades, their annualized performance deficit with the third-weakest sector (financials) falls considerably: from around 2.5 percentage points in both cases, to around one point in the case of telecoms and to less than half a point in the case of utilities. In rank terms, the consumer staples sector makes the biggest jump when dividends are included, moving from sixth place in price terms to third in total return terms.

### S&P 500 Sector Performance
(Annualized %, 1992-2012)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Price</th>
<th>Total Return</th>
<th>Price Rank</th>
<th>Total Return Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Technology</td>
<td>9.5</td>
<td>10.2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Energy</td>
<td>8.7</td>
<td>11.5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Consumer Discretionary</td>
<td>7.4</td>
<td>8.9</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Industrials</td>
<td>6.7</td>
<td>8.9</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Healthcare</td>
<td>6.5</td>
<td>8.4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Consumer Staples</td>
<td>6.5</td>
<td>9.0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Materials</td>
<td>5.2</td>
<td>7.6</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Financials</td>
<td>4.8</td>
<td>7.2</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Telecommunication Services</td>
<td>2.4</td>
<td>6.1</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Utilities</td>
<td>2.2</td>
<td>6.9</td>
<td>10</td>
<td>9</td>
</tr>
</tbody>
</table>

Past performance is no guarantee of future results.
Source: Bloomberg.
Data as of January 2013.
The sectors also differ in terms of their exposure to domestic U.S. demand versus global demand. Sectors with more revenue sourced from abroad such as technology, materials and energy (which receive an average of over 50 percent of their revenues from abroad) should do better when the global economy is strong and be more challenged in weaker global economic environments.

However, foreign demand exposure should also be considered in terms of currency translation effects on earnings. A strengthening dollar represents a greater headwind for sectors with more foreign-sourced revenue as sales from abroad are worth less in dollar terms. The same sectors stand to benefit when the dollar weakens.

Geography matters as well. Europe is the principal overseas market for U.S. multinationals, accounting for over 50 percent of U.S. foreign affiliate income. The latter is a proxy for global earnings. Thus, when Europe sank into recession in 2011, the pain was felt on Wall Street via declining revenue and earnings, notably among firms in such sectors as information technology, materials and industrials. After Europe, Asia-Pacific is the most important region in the world in terms of U.S. global earnings.

**S&P 500 Index Performance — Cyclicals vs. Defensives**

Past performance is no guarantee of future results.

Source: Bloomberg. Data as of July 2013

**Investment Summary**

U.S. equity market performance has historically varied by sector and cyclicality. Over time, cyclical sectors have tended to outperform in price terms, while defensives have lagged. The performance gap narrows when dividends are taken into account, with the high-yielding telecoms and utilities sectors benefiting the most from income returns. Exposure to foreign-sourced revenues can also affect relative sector returns due to both global demand and currency effects.
INTERNATIONAL DEVELOPED MARKET EQUITIES — THE U.S. IN THE DRIVER’S SEAT

Despite the growing importance of the emerging world in the global economy, the big three developed markets: the U.S., Europe and Japan still dominate the equity investment universe, making up around 80 percent of global market capitalization. Since the inception of the Morgan Stanley Capital International (MSCI) price indexes in December 1969, the U.S. has been the strongest performer of the three, delivering an annualized 6.3 percent return between 1970 and 2012 (first exhibit). Developed Europe was slightly behind at 5.8 percent, with Japan trailing at 4.0 percent. The picture is slightly different, however, when the impact of dividends is included. In total return terms, Europe has marginally outperformed the U.S. over the long term owing to its historically higher yield. Within Europe, the Scandinavian markets of Sweden, Denmark and Norway have been the strongest long-run performers.

Over recent decades, all three of the major developed markets have experienced major crises.

Japan’s rapid credit expansion and strong economic growth of the 1980s culminated in an asset price crash and stock market collapse at the end of the decade, with a subsequent descent into flatlining economic growth, consumer price deflation and ballooning government debt. Between 1990 and the middle of 1992, the Japanese stock market fell by over 55 percent, and has struggled to make a sustained break above that level since.

In the years following the dot-com bubble of the late 1990s, the U.S. market (led by the technology sector) fell by close to 50 percent. Though U.S. companies were the focus of the technology speculation, both European and Japanese equity indexes declined by similar magnitudes. European stocks were hit harder than Japanese equities, particularly the telecom sector, which fell by around 85 percent as mobile operators overinvested in next-generation network licenses.

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**International Developed Market Equity Performance**

<table>
<thead>
<tr>
<th>Equity Performance</th>
<th>Annualized % (1970-2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Price Return</td>
</tr>
<tr>
<td>U.S.</td>
<td>6.3</td>
</tr>
<tr>
<td>Europe</td>
<td>5.8</td>
</tr>
<tr>
<td>Japan</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Past performance is no guarantee of future results.

Source: Bloomberg.

Data as of January 2013.
And of course the latest developed market turmoil has been focused on Europe itself, with no clear end in sight for the Eurozone sovereign debt crisis. Since 2009, European equity price returns have lagged well behind the U.S. and even behind Japan (second exhibit). But the impact of the euro crisis has been uneven for individual European markets. The countries at the epicenter, within the Eurozone periphery (Greece, Ireland, Italy, Portugal and Spain) have lagged. Core Europe (including Germany, France and the Netherlands) has been in the middle of the pack, while Scandinavia and (to a lesser extent) other non-Eurozone states such as the U.K. and Switzerland have outperformed.

Through difficulty and crisis, developed equity markets have historically nonetheless delivered stronger returns than other traditional asset classes such as bonds, credit and cash. We expect a prolonged economic expansion and continued monetary policy support in each of the three major markets to make for ongoing equity outperformance.

In particular, the U.S. market appears well positioned to retain its post-crisis leadership. The U.S. is likely to be the first of the major developed markets to emerge strong enough to withstand a normalization of monetary policy. Real GDP growth should continue to outstrip much of the rest of the developed world, supported by fundamental strengths such as strong foreign direct investment (FDI) inflows, high rates of productivity, dominant global brands and technological leadership. Furthermore, rapidly expanding tight oil and shale gas production as well as the capital investment required for its extraction will lend further support to America’s competitive edge.

**Investment Summary**

The U.S., Europe and Japan continue to dominate the global equity investment universe in market capitalization terms. Over the long term, the U.S. has led in price terms, with high dividend yields putting Europe slightly ahead on total returns. However, despite periods of crisis, all three markets have historically performed better than other traditional asset classes and we expect further strength ahead, particularly for U.S. equities.
EMERGING MARKET EQUITIES — LAST DECADES’ STAR PERFORMERS MAY FACE A TOUGHER FUTURE

Following the 1980s debt crises that constituted Latin America’s “lost decade,” major economic and financial crises continued to affect countries in each of the main emerging regions into the 1990s. Principal among them were Mexico’s “Tequila Crisis” in 1994, the Asian financial crisis in 1997 and Russia’s financial crisis and debt default in 1998. As a result, the emerging market equity index was highly volatile over the course of the decade, trailing behind the developed market index for the decade as a whole.

But the tables turned in the 2000s (first exhibit). When MSCI launched the Emerging Markets Equity index in 1988, EM accounted for around 1 percent of the global All-Country World Index (ACWI) market cap. By the end of 2009 it accounted for 12.6 percent, and by the end of 2012, 13.1 percent. The bulk of the increase came between the market bottom associated with the technology bubble and the market top associated with the 2008 financial crisis. At the end of 2002, EM was still just under 4 percent of global market cap, but its share had risen to 11 percent by the end of 2007.

Thus the last decade (and the period between 2003 and 2007 in particular) represented something of a golden age for EM equities. In our view, there were at least three primary reasons for this. First, the absolute pace of global growth was rapid (global GDP grew at an annualized 4.8 percent in real terms and 10.8 percent in nominal terms), while the global recovery itself was unusually synchronous around the world. Typically, around 30 percent of countries (or around 60 individual countries) grow at over 5 percent in any given year; but by 2007 this number was over 60 percent. And similarly, it is typical for around 15 percent of countries (or around 30 countries) to be experiencing negative growth at any point in time. By 2007, just five countries were contracting. This particularly favored Asia (which accounts for around 60 percent of total EM market cap) due to the high degree of openness of the region’s economies.

It was also a period of strong commodity price gains, particularly for base metals and energy — each of which rose by around 200 percent or more, heavily favoring the materials and energy sectors and EM commodity exporters. And finally, as investors would fully discover in 2008, it was also a period of extremely plentiful global credit growth, which was supportive of the financials sector — by far the most heavily weighted of all EM sectors.

Emerging Versus Developed Market Equity Performance: The 1990s Versus the 2000s

Past performance is no guarantee of future results.
Price index shown in USD. Source: Bloomberg. Data as of July 2013.
It was against the backdrop of these very favorable macro conditions that excitement about emerging markets as an asset class began to build, and new groupings like BRIC (Brazil, Russia, India and China) and N11 (“Next 11” includes Bangladesh, Egypt, Indonesia, Iran, South Korea, Mexico, Nigeria, Pakistan, the Philippines, Turkey and Vietnam) came into vogue. Most of the discussion was around the fundamental improvements that had been made by these countries in terms of such things as public debt levels, current account balances and reserve positions, all of which suggested more stability, more market resilience and better returns. Of course, the fundamentals did indeed improve for many countries over this period, as reflected in credit rating upgrades. But in our view, the real catalysts for EM’s outperformance in the last decade were the synchronous global expansion, strength in global trade, boom in commodity prices and easy global credit conditions.

While growth in emerging economies will continue to outpace the developed world for some time to come, this constellation of supports for EM is unlikely to align in the same way that it did in the last decade; performance will almost certainly be more muted. Moreover, structural concerns over the growth models in a number of major emerging economies have begun to rise, with increasing scrutiny being placed on the challenges that emerging countries face as they attempt to bridge the divide with the industrialized nations. The key for sustained outperformance in the current decade will be competitiveness and growth-enhancing reforms, as well as investment in human and physical capital. In the absence of such measures, the 2010s may look more like the 1990s for EM than the 2000s.

**Investment Summary**

After a series of crises in the 1980s and 1990s, emerging market equities performed strongly in the 2000s, outpacing developed market stocks and significantly increasing their share of global market capitalization (second exhibit). More recently, however, the global macroeconomic supports of the past decade have diminished, while structural concerns have grown. Economic reforms will be needed for EM equities to retain their performance leadership over the coming years.
COMMODITY MARKETS — EXPECT LESS CORRELATION AND MORE DIFFERENTIATION

Alongside the traditional stocks, bonds and cash, alternative assets have become an increasingly important part of the portfolio mix for global investors, largely for the diversification benefits that they offer. Commodities represent one such alternative asset class, and a host of funds that invest in either one or a basket of natural resources such as copper, crude oil, gold or corn have been launched over the past 15 years, since the first commodity mutual funds of the late 1990s.

Most natural resource funds do not have direct holdings in the raw commodity, but rather trade in commodity futures, giving investors exposure to price changes without taking physical delivery of the product. As a result, returns on commodity investment funds are affected not just by changes in underlying spot prices but also by the shape of the futures curve. Specifically, when futures prices are above spot prices (a condition known as contango), a negative “roll yield” can result as investors sell maturing contracts at a lower price before buying the next future to maintain their position. Conversely, when futures prices are below spot prices (a condition known as backwardation), positive roll yield can result in positive investment returns, even if the underlying commodity price remains unchanged.

As for the underlying commodities themselves, if we consider the four main groupings within the S&P Goldman Sachs Commodity Index (GSCI) — energy (mainly crude oil and its distillates, but also natural gas); base metals (aluminum, copper, lead, nickel, zinc); precious metals (gold, silver); and agricultural commodities (wheat, corn, soybeans, coffee, sugar, cocoa, cotton) — we see that spot prices have historically varied from group to group. Between 1992 and 2012, precious metals delivered the largest gains, returning an annualized 8.2 percent (first exhibit). This was followed by energy at 7.9 percent, base metals at 4.7 percent and agriculture at 3.7 percent. Over the same period, energy prices were the most volatile, followed by agriculture, base metals and precious metals.

<table>
<thead>
<tr>
<th>Commodity Performance by Group</th>
<th>Energy</th>
<th>Base Metals</th>
<th>Precious Metals</th>
<th>Agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992-2012 (annualized)</td>
<td>7.9</td>
<td>4.7</td>
<td>8.2</td>
<td>3.7</td>
</tr>
<tr>
<td>Volatility (1992-2012 annualized)</td>
<td>29.5</td>
<td>20.3</td>
<td>16.9</td>
<td>20.1</td>
</tr>
<tr>
<td>1991-2001 expansion</td>
<td>42.4</td>
<td>-6.2</td>
<td>-17.4</td>
<td>-12.6</td>
</tr>
<tr>
<td>2001-2007 expansion</td>
<td>350.9</td>
<td>196.6</td>
<td>203.5</td>
<td>144.4</td>
</tr>
</tbody>
</table>

Past performance is no guarantee of future results. Sources: Standard and Poor’s, Goldman Sachs, Bloomberg. Data as of January 2013.
However, the last 20 years have been a tale of two periods. In the expansion that came between the 1990–1991 recession and the bursting of the dot-com bubble in 2001, energy prices rose by 42 percent in absolute terms, while prices for base metals, precious metals and agricultural commodities fell (second exhibit). But the expansion that began in late 2001 and culminated in the global financial crisis of 2008 was a different story: All four groups posted triple-digit percentage gains. This explosion in natural resource prices led to talk of a new “commodity supercycle,” driven by a booming global economy, rampant physical resource demand in China and other emerging economies, low interest rates and possibly even growing investment demand itself. While many commodities are still off their 2007/2008 peaks, prices generally remain elevated relative to the past.

Looking forward, we would expect the most commodity price strength to come from agriculture. Grain demand will increase as global meat production rises to satisfy improving diets in the fast-growing emerging market middle class. Rapid urbanization (particularly in Asia) will put increasing strain on arable land, while water scarcity and changing weather patterns are also likely to constrain supply, keeping upward pressure on prices. The shifting composition of growth in China is, however, likely to mean that base metal prices lag. China alone accounts for roughly 40 percent of global demand for iron ore, copper and aluminum, and these metals are likely to remain under pressure as fixed investment falls as a share of Chinese GDP. Precious metals should also see less of a tailwind than they have in recent years as U.S. monetary policy is normalized and fears over “dollar debasement” retreat. Emerging economies are also expected to dominate liquid fuel (largely petroleum) demand over the coming years, with the U.S. Energy Information Administration (EIA) expecting China alone to account for close to 50 percent of global liquid fuel demand growth between 2012 and 2018. However, non-OPEC (particularly North American) supply is also forecast to grow rapidly. Alongside increases in OPEC capacity, petroleum prices should therefore remain contained, even as transportation demand continues to rise in the emerging world.

**Commodity Prices by Group**

![Commodity Prices by Group](image)

Past performance is no guarantee of future results.

Sources: Standard and Poor’s, Goldman Sachs, Bloomberg.

Data as of June 2013.

**Investment Summary**

As a growing share of global investment portfolios, commodities have attracted increasing attention over the past 15 years. Price performance and volatility have varied from group to group, but the last 10 years have seen significant price gains amid talk of a “commodity supercycle.” We expect future performance to be more differentiated, with agricultural commodities faring particularly well.
SOVEREIGN DEBT I — THE SHRINKING AAA CLUB

Since the global financial crisis, six of the 18 countries that previously had their long-term local currency debt rated AAA by the three main Nationally Recognized Statistical Ratings Organizations (NRSROs) — Standard and Poor’s, Moody’s and Fitch — have been stripped of this designation by at least one of the agencies (accompanying exhibit). As the Eurozone’s crisis continued to rage on, it should come as no surprise that five of these countries are in Western Europe (Austria, the U.K., France, Ireland and Spain), with the U.S. being the sixth. These are, of course, not the only downgrades to have taken place in recent years. Several other countries in both the developed world and the emerging world have also seen their credit ratings slide. However, the AAA category is worthy of particular note given that such securities often are highlighted in investment policy guidelines for minimum holdings.

NRSROs use a variety of measures to determine the sovereign ratings they assign. S&P, for example, uses a scoring method along five dimensions: institutional and governance effectiveness; economic; external; fiscal; and monetary. And similarly, Moody’s looks at four areas: economic strength; institutional strength; fiscal strength; and susceptibility to event risk.

Broadly speaking, these ratings are essentially a reflection of economic and political risk, and the role that each has played in recent downgrades has varied by market. For Europe, the proximate cause of the downgrades has been rising deficits and unsustainable debt-to-GDP ratios. However, these were in most cases worsened by the limited policy flexibility, weak growth and high interest rates imposed by Eurozone membership itself. In the case of S&P’s U.S. downgrade on August 5, 2011, politics were the main driver, as Congress remained locked in an impasse over raising the federal debt limit.

### Sovereign Credit Ratings

<table>
<thead>
<tr>
<th>AAA ratings for long-term, local sovereign debt (Number of agencies)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
</tr>
<tr>
<td>Canada</td>
</tr>
<tr>
<td>Denmark</td>
</tr>
<tr>
<td>Finland</td>
</tr>
<tr>
<td>Germany</td>
</tr>
<tr>
<td>Netherlands</td>
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<tr>
<td>Norway</td>
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<tr>
<td>Sweden</td>
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<tr>
<td>Singapore</td>
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<td>Switzerland</td>
</tr>
<tr>
<td>Luxembourg</td>
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<tr>
<td>Austria</td>
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<tr>
<td>U.S.</td>
</tr>
<tr>
<td>Hong Kong</td>
</tr>
<tr>
<td>New Zealand</td>
</tr>
<tr>
<td>U.K.</td>
</tr>
<tr>
<td>France</td>
</tr>
<tr>
<td>Ireland</td>
</tr>
<tr>
<td>Spain</td>
</tr>
</tbody>
</table>

Sources: Standard and Poor’s; Moody’s; Fitch Ratings; Bloomberg. Data as of July 2013.
In spite of the attention received by the recent actions of rating agencies, the market impact from the AAA downgrades has been limited. For example, in the period following the U.K. downgrade by Moody’s on February 22, 2013, 10-year gilt yields plunged from 2.11 percent to 1.62 percent by May 2. Similarly, after France received its first downgrade from S&P on January 13, 2012, yields fell by a full percentage point over the next 10 months.

This underscores the fact that credit ratings can be easily overwhelmed by other factors and should not be looked at in isolation for an expected market impact. The cost of sovereign borrowing will likely be driven more by other macro factors such as expected growth, inflation and policy rates.

This also applies in the U.S. case. But as the world’s leading economic power and major reserve currency, the U.S. of course also enjoys special status in the minds of investors, as well as in some investment policies, which cite “Treasuries” in their guidelines, and not necessarily “AAA.” Paradoxical as it might seem, then, a shrinking pool of AAA assets globally may make U.S. debt more, not less, attractive, even if the U.S. has itself been one of the downgraded countries.

Credit ratings, while a useful tool, should therefore not be expected to drive sovereign debt markets. They are largely a reflection of information that is already available to the public, not necessarily a predictor of future changes in a country’s fundamental health. At any given time, a serious deterioration in a nation’s budget balance, current account, potential GDP growth rate or political system could do far more to cause a sudden drop in confidence, whether ratings agencies move first or not.

The countries that have lost AAA ratings in recent years will not want to be complacent, but most are very far from reaching this point. That said, many are likely to take the steps necessary to regain their former rating position, and those that can maintain their AAA status are likely to be the more stable investments over time.

**Investment Summary**

One-third of the countries rated AAA prior to the financial crisis have been stripped of the rating by at least one agency. However, we view ratings as a reflection of the past rather than a predictor of the future. What will remain most important for sovereign debt markets are improvements in country fundamentals such as budget balances, potential growth, inflation and political accord.
SOVEREIGN DEBT II — REFORMS ARE KEY TO FURTHER EMERGING MARKET UPGRADES

After consecutive decades of balance of payments and public debt crises in the 1980s and 1990s, emerging economies in Asia, Latin America and Central and Eastern Europe have strengthened their balance sheets and external positions considerably. As a result, these countries have enjoyed greater economic stability and improved market resilience over the past 10 years. During the global financial crisis, for example, the drawdown in emerging market equities was in line with that of developed equity markets, while sovereign wealth funds in Southeast Asia and the Gulf region bought up large portfolio stakes in Western financial institutions—a giant leap forward from the Asian crisis just a decade earlier.

In key fundamental areas such as foreign exchange reserves, levels of public debt and current account balances, emerging economies have taken huge strides in recent years, particularly compared to their developed world counterparts (first exhibit). These improvements have been reflected in better sovereign credit ratings. Of the 21 countries that currently make up the MSCI Emerging Market Index, 12 have had their long-term local sovereign debt rating upgraded by Standard and Poor’s over the past 10 years, with six experiencing downgrades and three seeing their ratings unchanged (second exhibit). The downgrades over the period have generally been for countries that have had to contend with political strife, such as South Africa, Thailand and Egypt. At the same time, emerging market external debt spreads have narrowed significantly. The Emerging Markets Bond Index (EMBI) Global Diversified Index spread was just over 7 percent at the end of 2000, falling to 1.6 percent at its 2007 lows and ending 2012 at 2.6 percent.

More recently, however, concerns over the growth models in many of the larger emerging markets have begun to surface as the post-crisis global economic expansion has disappointed relative to past upturns and structural flaws have been revealed. China, for example, is still in the relatively early stages of a shift away from investment-led growth (which has lowered its trend rate of headline GDP growth), and it faces a raft of medium-term challenges related to its underdeveloped financial system, artificially depressed interest rates and stagnating population growth, among others.

Gross Public Debt: Emerging Versus Developed

Emerging Economies = average of China, India, Brazil, Mexico, Russia.
Developed Economies = average of U.S., Canada, Eurozone, UK, Japan.
Source: International Monetary Fund.
Data as of July 2013.
India’s economy has been dogged by underinvestment in transportation and power infrastructure, while its fragmented, multiparty government remains a check on national reforms.

Brazil’s underinvestment in both physical and human capital has similarly led to slowing productivity growth, in addition to skilled labor shortages and higher inflation.

For Russia, overreliance on the oil and gas sectors in the face of emerging new sources of global supply and slower growth in demand, as well as rigid political conservatism and resistance to reform, has also been an economic headwind.

If emerging economies are to build on the fundamental progress they have made over the past decade-plus and hold onto their improved creditworthiness, the key will be to introduce growth-enhancing reforms in areas such as physical infrastructure, education and training, financial sector liberalization, capital efficiency and competition policy. The reform poster child within the emerging world recently has been Mexico. Since taking office in December 2012, President Enrique Peña Nieto has introduced a spate of new reforms in labor markets, education and the telecom sector, with plans in the works to liberalize the state-controlled energy sector. The sovereign rating upgrade by Fitch on May 8, 2013, was in part a reflection of these new measures, with more likely to follow if the country stays on its reform path. That Mexico has been one of only three countries to have received a rating upgrade since 2012 hints at the challenges that lie ahead for other emerging countries if they are to continue on their path of progress.

### Emerging Market Sovereign Credit Ratings

(S&P ratings for long-term, local sovereign debt)

<table>
<thead>
<tr>
<th>Country</th>
<th>2013 (July)</th>
<th>2009</th>
<th>2004</th>
<th>Last Upgrade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>A-</td>
<td>BBB+</td>
<td>BB</td>
<td>Nov ’11 (S&amp;P)</td>
</tr>
<tr>
<td>Chile</td>
<td>AA+</td>
<td>AA</td>
<td>AA</td>
<td>Dec ’12 (S&amp;P)</td>
</tr>
<tr>
<td>China</td>
<td>AA-</td>
<td>A+</td>
<td>BBB+</td>
<td>Dec ’10 (S&amp;P)</td>
</tr>
<tr>
<td>Colombia</td>
<td>BBB+</td>
<td>BBB+</td>
<td>BBB</td>
<td>Jun ’11 (Fitch)</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>AA</td>
<td>A+</td>
<td>A</td>
<td>Aug ’11 (S&amp;P)</td>
</tr>
<tr>
<td>Egypt</td>
<td>CCC+</td>
<td>BBB-</td>
<td>BBB-</td>
<td>None</td>
</tr>
<tr>
<td>Hungary</td>
<td>BB</td>
<td>BBB-</td>
<td>A+</td>
<td>Dec ’00 (S&amp;P)</td>
</tr>
<tr>
<td>India</td>
<td>BBB-</td>
<td>BBB-</td>
<td>BB+</td>
<td>Dec ’11 (Moody’s)</td>
</tr>
<tr>
<td>Indonesia</td>
<td>BB+</td>
<td>BB+</td>
<td>BB</td>
<td>Jan ’12 (Moody’s)</td>
</tr>
<tr>
<td>S. Korea</td>
<td>AA-</td>
<td>A+</td>
<td>A+</td>
<td>Sep ’12 (S&amp;P)</td>
</tr>
<tr>
<td>Malaysia</td>
<td>A</td>
<td>A+</td>
<td>A+</td>
<td>Aug ’02 (S&amp;P)</td>
</tr>
<tr>
<td>Mexico</td>
<td>A-</td>
<td>A</td>
<td>A-</td>
<td>May ’13 (Fitch)</td>
</tr>
<tr>
<td>Morocco</td>
<td>BBB</td>
<td>BBB</td>
<td>BBB</td>
<td>Mar ’10 (S&amp;P)</td>
</tr>
<tr>
<td>Peru</td>
<td>BBB+</td>
<td>BBB+</td>
<td>BBB</td>
<td>Aug ’12 (Moody’s)</td>
</tr>
<tr>
<td>Philippines</td>
<td>BBB-</td>
<td>BB+</td>
<td>BBB</td>
<td>May ’13 (S&amp;P)</td>
</tr>
<tr>
<td>Poland</td>
<td>A</td>
<td>A</td>
<td>A-</td>
<td>Mar ’07 (S&amp;P)</td>
</tr>
<tr>
<td>Russia</td>
<td>BBB+</td>
<td>BBB+</td>
<td>BBB-</td>
<td>Jul ’08 (Moody’s)</td>
</tr>
<tr>
<td>South Africa</td>
<td>A-</td>
<td>A+</td>
<td>A</td>
<td>Aug ’05 (Fitch)</td>
</tr>
<tr>
<td>Taiwan</td>
<td>AA-</td>
<td>AA-</td>
<td>AA-</td>
<td>None</td>
</tr>
<tr>
<td>Turkey</td>
<td>BBB</td>
<td>BB</td>
<td>BB</td>
<td>May ’13 (Moody’s)</td>
</tr>
</tbody>
</table>

Sources: Standard and Poor’s; Moody’s; Fitch Ratings; Bloomberg.
Data as of July 2013.

### Investment Summary

Emerging economies have seen major fundamental improvements over the past decade, resulting in several upgrades from the credit rating agencies and narrower debt spreads. However, recent structural challenges have begun to surface, meaning that ongoing reforms will be key to sustainable growth and further improvements in creditworthiness.
CHINA VERSUS U.S. EQUITY RETURNS — QUALITY, NOT QUANTITY

The rise of China over recent decades has undoubtedly been one of the most important economic stories of the post-war era (first exhibit). China has been the single fastest-growing economy in the world over the past 30 years, delivering annualized real GDP growth of 10.1 percent between 1980 and 2010, a rate well in excess of the 6.2 percent and 4.9 percent delivered, respectively, by Asia’s other two most populous nations — India and Indonesia. China is estimated to have moved roughly 680 million people out of poverty (as defined by the World Bank income threshold of $1.25 per day) since its economic reforms began in the late 1970s, and still plans to move another 250 million rural residents into cities by 2025. Meanwhile, the country’s fixed investment-heavy growth has been a boon for natural resource exporters around the world, as well as for other neighboring countries within Asia itself. Indeed, since 2000, the number of countries that count China as their single largest export market has risen from five to 32. Moreover, the economy has proved highly resilient in the face of major economic and political shocks. China’s Communist Party managed to retain its tight grip on power as socialist regimes crumbled in Eastern Europe during the late 1980s and early 1990s, while the economy emerged essentially unscathed from both the Asian crisis in 1997 and the global financial crisis in 2008. On a purchasing power parity (PPP) basis, the Chinese economy has gone from being the 12th-largest in the world in 1980, to the 2nd-largest today. And based on projections from the International Monetary Fund, China will come close to overtaking the U.S. as the world’s largest economy in PPP terms in 2018.

But China’s strong economic performance has not at all translated into market returns. Since 1993, MSCI’s China stock market index has returned an annualized -2.3 percent in local price terms, as compared to +6.1 percent for the MSCI U.S. Index (second exhibit). This stands in stark contrast with the countries’ respective annualized nominal GDP growth figures of 15.9 percent and 4.6 percent over the same period. Thus, the Chinese Communist Party has proven that it can deliver economic growth, but the weakness of the stock market also demonstrates that this growth has been highly unprofitable for the corporate sector. China’s growth may excel in its quantity, but it is sorely lacking in quality and these are ultimately two sides of the same coin.

China Versus U.S.: Economic Performance

Past performance is no guarantee of future results.
Source: International Monetary Fund. Data as of July 2013.
China’s state capitalist model is essentially geared toward satisfying social aims such as employment and stability rather than pursuing private returns. Thus China’s dominant state-owned enterprises (which receive the lion’s share of official sector credit, as well as tax breaks, subsidies and government procurement contracts) remain unprofitable and uncompetitive. This is in addition to China’s catalogue of additional challenges: overreliance on investment for growth; artificially depressed interest rates; a still-highly underdeveloped hinterland; a closed capital account; an underdeveloped financial system; lack of protection for intellectual property; lack of a rule of law; high levels of inequality; and poor demographics. Not all of these factors will directly affect the performance of financial markets in the near term, but, left unaddressed, all will inhibit growth over the medium-to-longer term, ultimately deterring investment, undermining profitability and eroding returns.

On current evidence, then, and despite the conventional wisdom to the contrary, the U.S. economy is likely to remain far ahead of China’s in all but the narrowest sense of PPP-adjusted GDP for the foreseeable future. And unless China’s government can deliver sweeping reforms, the country’s absolute rate of GDP growth may continue to outstrip the U.S. and much of the rest of the world, but its equity markets will almost certainly continue to lag behind. In such a scenario, the result will be that citizens of China continue to fare much better than stock market investors in China.

**China Versus U.S.: Market Performance**

Past performance is no guarantee of future results.

Local currency terms.

Sources: MSCI, Bloomberg.

Data as of July 2013.

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**Investment Summary**

China’s growth rate has significantly outstripped that of the U.S. and the rest of the world over recent decades, while the economy has remained resilient to a number of economic and political shocks. A low quality of growth, however, has meant that China’s stock market has lagged considerably. Without a host of reforms to make its economy more competitive and its companies more profitable, Chinese equities should continue to underperform.
FRONTIER MARKETS — GREAT POTENTIAL; POTENTIALLY GREAT RISKS

With emerging market equities becoming increasingly mainstream over the past decade, frontier markets have attracted a growing amount of interest from global investors as another source of return and diversification within their equity allocations. The countries that are classified as frontier markets are a heterogeneous group, linked only by their relatively small economic size and relatively underdeveloped and illiquid capital markets.

Together, these economies account for just over 4 percent of global GDP, making them smaller than the German economy and around half the size of the Japanese economy. However, the frontier countries are larger on a population basis, collectively accounting for close to 850 million people. Moreover, United Nations (UN)-sourced data suggest that frontier economies will experience much more rapid growth in key areas than developed or even emerging markets. Between 2010 and 2030, for example, the urban population in frontier economies is projected to grow by 60 percent, versus 41 percent growth in emerging economies and 15 percent in developed economies.

MSCI launched its Frontier Markets Index in 2007, with back-tested index-level data starting in 2002. The benchmark is composed of 25 countries spanning Asia, the Middle East, Africa, Latin America and Europe (first exhibit). It includes populous countries with large growth potential such as Nigeria, Vietnam and Bangladesh; commodity countries such as Kazakhstan and members of the Gulf Cooperation Council (GCC) (Kuwait, Qatar, United Arab Emirates, Oman and Bahrain); as well as new European Union countries such as Romania, Bulgaria and Croatia, and even Eurozone members such as Estonia and Slovenia. On a regional basis, the index is most highly concentrated in the Middle East and specifically in the Gulf region. The five GCC members in the index (the sixth member, Saudi Arabia, is not included) account for 55 percent of the market capitalization, with Kuwait alone making up over 25 percent.

Frontier Market Weightings and Characteristics

<table>
<thead>
<tr>
<th>Country</th>
<th>MSCI Index Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kuwait</td>
<td>25.6%</td>
</tr>
<tr>
<td>Qatar</td>
<td>15.4%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>13.9%</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>9.5%</td>
</tr>
<tr>
<td>Pakistan</td>
<td>4.2%</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>4.0%</td>
</tr>
<tr>
<td>Oman</td>
<td>3.4%</td>
</tr>
<tr>
<td>Argentina</td>
<td>3.2%</td>
</tr>
<tr>
<td>Kenya</td>
<td>3.1%</td>
</tr>
<tr>
<td>Lebanon</td>
<td>2.4%</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>2.2%</td>
</tr>
<tr>
<td>Vietnam</td>
<td>2.1%</td>
</tr>
<tr>
<td>Croatia</td>
<td>2.0%</td>
</tr>
<tr>
<td>Slovenia</td>
<td>1.9%</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>1.6%</td>
</tr>
<tr>
<td>Romania</td>
<td>1.2%</td>
</tr>
<tr>
<td>Mauritius</td>
<td>0.9%</td>
</tr>
<tr>
<td>Jordan</td>
<td>0.9%</td>
</tr>
<tr>
<td>Tunisia</td>
<td>0.7%</td>
</tr>
<tr>
<td>Bahrain</td>
<td>0.5%</td>
</tr>
<tr>
<td>Estonia</td>
<td>0.5%</td>
</tr>
<tr>
<td>Serbia</td>
<td>0.3%</td>
</tr>
<tr>
<td>Ukraine</td>
<td>0.2%</td>
</tr>
<tr>
<td>Lithuania</td>
<td>0.1%</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

Sources: MSCI, FTSE. Data as of December 2012. Characteristics based on FTSE Indices.

<table>
<thead>
<tr>
<th>Sector</th>
<th>MSCI Index Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financials</td>
<td>51.2%</td>
</tr>
<tr>
<td>Telecommunication Services</td>
<td>14.9%</td>
</tr>
<tr>
<td>Industrials</td>
<td>9.9%</td>
</tr>
<tr>
<td>Consumer Staples</td>
<td>8.9%</td>
</tr>
<tr>
<td>Energy</td>
<td>8.3%</td>
</tr>
<tr>
<td>Materials</td>
<td>3.6%</td>
</tr>
<tr>
<td>Healthcare</td>
<td>2.0%</td>
</tr>
<tr>
<td>Utilities</td>
<td>1.2%</td>
</tr>
<tr>
<td>Consumer Discretionary</td>
<td>0.2%</td>
</tr>
<tr>
<td>Information Technology</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Frontier</th>
<th>Emerging</th>
<th>Developed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of constituents</td>
<td>395</td>
<td>1,629</td>
<td>5,568</td>
</tr>
<tr>
<td>Number of constituents &gt; $1bn</td>
<td>20</td>
<td>684</td>
<td>3,052</td>
</tr>
<tr>
<td>Free float market capitalization</td>
<td>$107bn</td>
<td>$3.9tn</td>
<td>$31tn</td>
</tr>
<tr>
<td>Daily Trading Volume (3m average)</td>
<td>$108bn</td>
<td>$15bn</td>
<td>$181bn</td>
</tr>
<tr>
<td>Weight of top 10 constituents</td>
<td>31.6%</td>
<td>13.5%</td>
<td>8.3%</td>
</tr>
</tbody>
</table>
In terms of sectors, financials dominate the index with over 50 percent of the market cap. But compared with developed and even emerging markets, the frontier index is highly illiquid with a free float market cap (based on FTSE index data) of $107 billion, compared to $3.9 trillion for emerging markets and an average daily trading volume of just over $100 million, compared to $15 billion for EM. This makes frontier markets more costly to trade.

Investors should also remain mindful that the countries represented in the frontier index (not unlike emerging markets) have underdeveloped regulatory, legal and political systems. As such, they are potentially at greater risk of falling prey to corporate malfeasance, government instability, corruption, sudden changes in taxation policy or even central bank mismanagement and hyperinflation. Thus, risk as measured by pure market volatility may be somewhat understated.

In performance terms, frontier markets delivered price gains that were almost as strong as emerging market equities in the last cycle (second exhibit). Between 2003 and 2007, price returns (in dollars) registered an annualized 29.6 percent — just four points behind EM and well ahead of developed markets. However, against the backdrop of tighter financial conditions, performance has been less impressive coming out of the crisis, and frontier markets lagged both emerging and developed markets between 2010 and 2012 in price terms. But frontier markets have delivered their returns with a lower degree of realized volatility than emerging markets over the last 10 years (21.0 percent versus 24.1 percent between 2003 and 2012).

Frontier markets also offer highly attractive dividend yields. As of July 2013, the dividend yield for the MSCI Frontier Markets Index was 4.0 percent, as compared with 2.8 percent for the MSCI Emerging Markets Index, 2.7 percent for the MSCI World Index and 2.0 percent for the S&P 500. As a result, frontier markets may be additive to an investor portfolio as a less correlated source of equity return. For investors wishing to participate in frontier market equities, a host of mutual funds and both index-replicating and country-specific exchange-traded funds (ETFs) exist to gain exposure.

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**Frontier Market Performance**

![MSCI Price Index Performance Level (January 2003=100)](chart)

Past performance is no guarantee of future results.

Price index shown in USD terms.

Source: MSCI.

Data as of July 2013.

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**Investment Summary**

Frontier markets are attracting a growing amount of attention from global investors seeking to add new sources of return and diversification to their portfolios. Frontier economies are highly diverse, but are linked mainly by their small economic size and underdeveloped, illiquid capital markets. Frontier markets have delivered competitive risk-adjusted returns over the past decade, particularly in the last cycle; but investors should be aware of institutional risks given their underdeveloped regulatory, legal and political systems.
GLOBAL EQUITY MARKET CORRELATIONS — ON THE RISE

Over the past several decades, a substantial body of research has been produced that points to the benefits of international market diversification. Academics looking at this topic in the 1960s and 1970s found that industry correlations (the degree to which asset prices move together) within countries outstripped industry correlations across countries, and concluded that investors could achieve a better portfolio risk-return profile by increasing their exposure to foreign markets.

However, more recently, a number of investment analysts have described diversification among equity markets as increasingly ineffective with many markets around the world moving in almost lockstep depending on whether sentiment supports "risk on" or "risk off." An overnight sell-off in Asia can drag down markets in Europe and the U.S. as global investors react to the same news flow. Indeed, correlations between geographically diverse stock markets have been increasing on a trend basis over the past 20 years (first exhibit). This rise in correlations has been variously attributed to the increased integration of the global economy, as well as to new risk management techniques and the globalization of capital markets. The rise of free trade between countries, the absorption of formerly communist states in the emerging world into the global system, the offshoring of corporate operations and the globalization of banks and hedge funds have all contributed. These developments have made for increased interconnectedness and allowed for greater synchronization of investment decisions around the world.

Some assert that the rise of the investment industry itself has been a key factor in the increasing co-movement of markets. Investment managers acting on their clients’ behalf and being judged against the performance of their peers are encouraged into herd-like behavior, with managers disincentivized from deviating significantly from industry norms. In theory, this behavior has been facilitated by the proliferation of exchange-traded funds, index funds and derivatives, which allow for the easier implementation of similar strategies and the trading of aggregations of stocks rather than individual stocks across industries and internationally.

Global Equity Market Correlations with S&P 500, 2012

*Data for 20-year correlation are unavailable.
Source: Bloomberg.
Data as of January 2013.
Rising correlations have also been attributed, paradoxically, to the increased demand for diversification. By investing in markets thought to be uncorrelated, market participants may actually reduce any potential diversification benefits by causing these same assets to become more correlated.

Correlations typically point to a common source of risk for asset prices, and they tend to increase in periods of crisis or financial stress. When uncertainty increases, investors and risk managers look at equities (and other risk assets) as a generic source of portfolio risk. Thus, as this portfolio risk is adjusted, global equity prices and prices of risk assets more broadly will tend to move up or down together, almost irrespective of the specific source of the uncertainty. If we look at global correlations with the S&P 500, however, we do observe higher correlations with countries that have closer trade and investment ties to the U.S. economy. Developed markets, for example, exhibit closer correlations with the S&P 500 than do emerging markets, while emerging markets are more closely tied to the S&P than are the even more economically remote frontier markets. Similarly, within the developed markets, Western European stocks demonstrate closer correlation with the U.S. than do Japanese equities. All correlations have nonetheless increased over the past 20 years.

These trends have also been reflected in rising correlations between equities and other risk markets such as corporate credit and commodities (second exhibit). Though U.S. equity market correlations with other risk asset classes are generally lower than with other global stock indexes, they have nonetheless risen over recent decades.

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**Investment Summary**

Correlations between international stock markets and between stocks and other risk assets have been rising. This increase is likely to have come about as a result of increased integration of the global economy, new risk management techniques and investment products, the globalization of capital markets and herd-like behavior among investment managers. However, while correlations have risen across equity markets, those countries with the closest economic links continue to demonstrate the most co-movement of prices.
Human civilizations have historically placed a high value on gold. Its malleability, resistance to tarnishing, radiant color and virtually pure state of natural occurrence have afforded the metal a special prestige over the centuries, giving it associations with power, beauty and immortality. Gold is also one of the oldest forms of money, having served as a medium of exchange for the ancient Egyptians as far back as the 4th millennium B.C. and being first used in coinage in western Turkey around 700 B.C. The element has more recently been used in international exchange agreements—as the backing for paper money under the international gold standard in the late 1800s, and as a link to the U.S. dollar under the Bretton-Woods system of fixed global exchange rates at the end of World War II. Gold’s official role in the global monetary system ended with the Nixon shock in 1971, when the fixed U.S. dollar-gold exchange rate was abandoned, giving way to today’s fiat money-based regime. Only Switzerland retained a monetary tie to gold later into the century, backing 40 percent of its currency value to the metal until it joined the International Monetary Fund in 1999.

Gold has nonetheless retained its allure as a perceived store of value, and is still seen among investors today as a hedge against the inflationary monetary policies of central banks or instability in the financial system. Indeed, the price of gold has tended to move inversely with the value of the U.S. dollar, particularly in more recent years.

More than other metals, gold production and reserves are relatively well dispersed around the world. The 10 largest gold producers account for around two-thirds of both annual global mining output and global reserves (first exhibit). Moreover, six of the world’s continents are represented by the top six global producers—China, Australia, the U.S., Russia, South Africa and Peru. However, economically recoverable reserves are relatively limited. According to the United States Geological Survey, the average life of global reserves is around 18 years at current mining rates. As has been the case with other commodities, perhaps most notably crude oil, high prices, new discoveries and new technology will still be needed to extend supply beyond this point, while future production is also likely to be constrained by environmental concerns, political instability and rising royalty demands in gold-producing countries.

### Sources of Gold Supply, 2012

<table>
<thead>
<tr>
<th>Country</th>
<th>Mine Production (tons)</th>
<th>Reserves (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>370</td>
<td>1,900</td>
</tr>
<tr>
<td>Australia</td>
<td>250</td>
<td>7,400</td>
</tr>
<tr>
<td>U.S.</td>
<td>230</td>
<td>3,000</td>
</tr>
<tr>
<td>Russia</td>
<td>205</td>
<td>5,000</td>
</tr>
<tr>
<td>South Africa</td>
<td>170</td>
<td>6,000</td>
</tr>
<tr>
<td>Peru</td>
<td>165</td>
<td>2,200</td>
</tr>
<tr>
<td>Canada</td>
<td>102</td>
<td>920</td>
</tr>
<tr>
<td>Indonesia</td>
<td>95</td>
<td>3,000</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>90</td>
<td>1,700</td>
</tr>
<tr>
<td>Ghana</td>
<td>89</td>
<td>1,600</td>
</tr>
<tr>
<td>Mexico</td>
<td>87</td>
<td>1,400</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>60</td>
<td>1,200</td>
</tr>
<tr>
<td>Brazil</td>
<td>56</td>
<td>2,600</td>
</tr>
<tr>
<td>Chile</td>
<td>45</td>
<td>3,900</td>
</tr>
<tr>
<td>Other countries</td>
<td>645</td>
<td>10,000</td>
</tr>
<tr>
<td>World</td>
<td>2,659</td>
<td>51,820</td>
</tr>
</tbody>
</table>

Data as of July 2013.
The demand-side drivers of gold are also relatively broad-based. According to data from the World Gold Council, combined investment demand (from both private and public sources) was the largest source of gold demand in 2012, accounting for 47.2 percent of the global total. Bar and coin demand made up 28.6 percent, with exchange-traded fund and other similar investment product demand making up 6.4 percent. Demand from this source is likely to rise further as world income and wealth increase, particularly in the emerging market middle class. According to the World Gold Council, for example, physical bar investment in China jumped 25 times between 2006 and 2011 and more than quadrupled in India between 2002 and 2011.

Purchases by the official sector accounted for 12.2 percent of total gold demand in 2012. Over the past decade, central banks have increasingly looked to diversify their reserve allocations away from dollars and euros, and gold demand from this source has increased as a result. This is particularly true for central banks in emerging markets such as China, India, Russia, Mexico, Brazil and South Korea, which have typically held only a small proportion of their total reserves in gold.

Jewelry accounted for a total of 43.5 percent of global demand for the metal in 2012 (second exhibit). By far the largest consumers of gold for use in jewelry are India and China, with a combined share of more than 50 percent of the global total. The U.S., Turkey and Russia are, respectively, the third-, fourth- and fifth-largest demanders of gold for jewelry consumption, with a combined total of just over 11 percent.

But beyond its investment and decorative functions, gold also has practical uses with close to 10 percent of global demand coming from industry. The largest industrial application is in electronics, where the metal is used in areas such as semiconductor wiring as well as audio, video and USB cable connectors. Structural demand from this source is also likely to rise with global incomes.

### Sources of Gold Demand, 2012

<table>
<thead>
<tr>
<th>Source</th>
<th>Demand (tons)</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jewelry</td>
<td>1,895</td>
<td>43.5%</td>
</tr>
<tr>
<td>Electronics</td>
<td>285</td>
<td>6.5%</td>
</tr>
<tr>
<td>Other industrial</td>
<td>84</td>
<td>1.9%</td>
</tr>
<tr>
<td>Dentistry</td>
<td>39</td>
<td>0.9%</td>
</tr>
<tr>
<td>Bar and coin demand</td>
<td>1,247</td>
<td>28.6%</td>
</tr>
<tr>
<td>ETFs/inv prods</td>
<td>279</td>
<td>6.4%</td>
</tr>
<tr>
<td>Official sector purchases</td>
<td>533</td>
<td>12.2%</td>
</tr>
</tbody>
</table>

Source: World Gold Council
Data as of July 2013

### Investment Summary

Highly valued by humans for centuries, gold has only recently ceased to play an official role in the global monetary system. The metal is nonetheless likely to see continued strong demand growth from central banks and consumers in the emerging world for many years to come.
Rising correlations between risk assets, low bond yields, inflation concerns and the two major bear markets of the last decade have increasingly led investors to look beyond public equity markets for sources of return in their investment portfolios. Enter real assets. Investments in commercial real estate (CRE), farmland and timberland have all received a growing amount of interest from asset allocators of late, and looking at their performance over the recent past it is easy to see why. Between 1997 and 2012, the S&P 500 equity index returned 4.5 percent on an annualized total return basis. Over the same period, the National Council of Real Estate Investment Fiduciaries (NCREIF) real asset indexes outperformed significantly. CRE delivered 9.2 percent, farmland returned 12.8 percent, and timberland posted an annualized 6.6 percent. Meanwhile, the volatility of U.S. large cap equity returns was 19.2 percent. But for real assets, the numbers were much lower. The figure for CRE was 9.6 percent, for farmland 8.2 percent and for timberland 7.4 percent (according to the latest annual data from NCREIF).  

These figures highlight the particular return-and-risk characteristics of the three asset classes. Each delivers a combination of returns from income and property price appreciation, with the income portion derived from the particular use of the land (first exhibit). In the case of CRE, this is in the form of rent from tenants in the industrial, office, retail, apartment or hotel sector. For farmland investments, incomes are driven in most cases by cash leases on the land (though under some arrangements, investors may also receive a share of the crop actually produced). Timberland incomes are generated from timber harvest revenues as well as from the sale of some non-timber products that forests produce (second exhibit).

In the case of each of these real assets, most of the return and the volatility comes from property price changes, with income as the more stable return source. However, even the price returns alone have historically been less volatile than the stock market. This is largely due to the fact that CRE, farmland and timberland are not publicly traded like stocks and bonds, and values are therefore typically based on appraisals rather than on actual market transactions.

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Fisher, Geltner and Webb (1993) suggest that appraisal-based index values systematically underestimated the volatility of real estate returns. They present a highly influential methodology for “unsmoothing” such indexes by deriving underlying market values.
Nonetheless, investors typically see these asset classes as offering three main benefits: 1) they are a source of relatively high risk-adjusted return; 2) some of their characteristics — such as raw material exposure and indexed leases — make them effective hedges against inflation; and 3) they tend to be uncorrelated with other asset classes.

While all three have a similar return structure, each of course has its own idiosyncratic return drivers. Incomes and appraisal values for CRE are largely dependent on employment and industrial production trends in the economy. Most important for farmland is the interaction of demand for food crops — either for human diets, as animal feedstock or for use in biofuels production — with arable land supply. As a result of a growing global population and increasing incomes, these demands remain in a secular uptrend. However, the supply of arable land is essentially fixed. Farmland is confined to those areas where soil is of the right quality and rainfall is adequate, while according to the United Nations some 75 million acres of arable land are lost every year through desertification, changing weather patterns and urbanization. Timberland income and values meanwhile reflect demand for wood products (around 70 percent of which comes from housing construction and improvements, according to R&A Investment Forestry), pulp and paper (demand for which is declining due to electronic substitution), paper packaging and biomass as fuel.

While both the risk/return and correlation benefits from CRE, farmland and timberland make them attractive to investors and portfolio managers, the big risk they carry over traditional markets is illiquidity. These are assets that investors should be prepared to hold over the long term.

**Farmland and Timberland Returns**

Past performance is no guarantee of future results.

Source: NCREIF. Data as of January 2013.

**Investment Summary**

Investors view commercial real estate, farmland and timberland as a means of achieving a relatively high risk-adjusted return, protection against inflation and portfolio diversification. However, their illiquidity risk means that in order to realize these benefits, investors should be willing to hold them for the long term.
BEAR MARKETS AND RECESSIONS TEND TO GO TOGETHER

While there is no strict definition of what constitutes a bear market, a widely cited condition that signals one is a 20 percent price decline over a period of at least two months. In the post-war era, there have been 12 cases that satisfy these criteria in U.S. markets (based on the S&P 500 price index), along with three other market downturns that accompanied economic recessions — ranging from 13.9 percent to 17.1 percent (first exhibit). The market panic of 1998 that followed the Russian sovereign default and collapse of Long-Term Capital Management resulted in a drop of 19.3 percent in the S&P 500 between mid-July and late August of that year. As such, it just fell short of being considered a bear market — both in terms of magnitude and length — while it was not accompanied by a recession.

The deepest bear market in post-war history was the most recent one that came with the 2008 – 2009 global financial crisis: Over the 17 months between October 9, 2007, and March 9, 2009, the S&P 500 fell by 56.8 percent. However, four other bear markets (the dot-com bust in 2000 – 2002, and those that went with the recessions of 1973 – 1975, 1981 – 1982 and 1969 – 1970), though not as deep, lasted longer. Indeed, while not all post-war recessions have produced a 20 percent market decline, most bear markets over the past 70 years have occurred around recessions.

The mean depth of all 15 bear markets or sell-offs associated with recessions since the war has been -29.1 percent (-32.5 percent, excluding the three smaller sell-offs associated with recessions), with an average length of 12.1 months. For those market downturns that did go alongside economic recessions, the market peaked an average of around six months before the recession started (though the time between the market and economic peak has been highly variable) and troughed an average of around three months before it ended.

### Bear Markets and Recessions
(S&P 500 bear markets and recessions since 1945)

<table>
<thead>
<tr>
<th>Peak</th>
<th>Trough</th>
<th>Length (months)</th>
<th>S&amp;P 500 peak-to-trough</th>
<th>Recession</th>
<th>Length (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/29/1946</td>
<td>5/19/1947</td>
<td>11.8</td>
<td>-28.5%</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>1/8/1953</td>
<td>9/14/1953</td>
<td>8.3</td>
<td>-14.8%</td>
<td>Jul ’53-May ’54</td>
<td>10</td>
</tr>
<tr>
<td>7/15/1957</td>
<td>10/22/1957</td>
<td>3.3</td>
<td>-20.7%</td>
<td>Aug ’57-Apr ’58</td>
<td>8</td>
</tr>
<tr>
<td>8/3/1959</td>
<td>10/25/1960</td>
<td>15.0</td>
<td>-13.9%</td>
<td>Apr ’60-Feb ’61</td>
<td>10</td>
</tr>
<tr>
<td>12/12/1961</td>
<td>6/26/1962</td>
<td>6.5</td>
<td>-27.8%</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>2/9/1966</td>
<td>10/7/1966</td>
<td>8.0</td>
<td>-22.2%</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>11/28/1980</td>
<td>8/12/1982</td>
<td>20.7</td>
<td>-27.1%</td>
<td>Jul ’81-Nov ’82</td>
<td>16</td>
</tr>
<tr>
<td>8/25/1987</td>
<td>12/4/1987</td>
<td>3.4</td>
<td>-33.5%</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>7/16/1990</td>
<td>10/11/1990</td>
<td>2.9</td>
<td>-19.9%</td>
<td>Jul ’90-Mar ’91</td>
<td>8</td>
</tr>
<tr>
<td>3/24/2000</td>
<td>10/9/2002</td>
<td>31.0</td>
<td>-49.1%</td>
<td>Mar ’01-Nov ’01</td>
<td>8</td>
</tr>
<tr>
<td>10/9/2007</td>
<td>3/9/2009</td>
<td>17.2</td>
<td>-56.8%</td>
<td>Jan ’08-Jun ’09</td>
<td>18</td>
</tr>
</tbody>
</table>

Source: Bloomberg
Data as of August 2013.
Thus longer recessions have tended to result in larger peak-to-trough declines — the recent global financial crisis involved both the longest post-war recession and the deepest bear market (second exhibit). The major exception was the dot-com bust. The 2001 recession that accompanied this bear market was itself fairly short at just eight months, and only resulted in a mild decline in real GDP. But the equity market continued to decline until almost a full year after the recession technically ended as valuations corrected further downward.

In terms of recessions themselves, the average length over the post-world-war period has been 11.1 months. The longest lasted 18 months (around the financial crisis), while the shortest lasted just six months — the relatively mild 1980 recession, which preceded a larger downturn the following year. Both the recession of 1980 and the more severe downturn that came the following year took place around the energy crisis and oil price spike that accompanied the Iranian revolution and subsequent Iran-Iraq war, as well as around the newly installed Federal Reserve Chairman Paul Volcker’s aggressive monetary tightening campaign.

<table>
<thead>
<tr>
<th>Bear Markets: Order of Magnitude (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S&amp;P 500 Bear Markets and Recessions Since 1945</td>
</tr>
<tr>
<td>Peak-to-trough (blue bars=no recession)</td>
</tr>
</tbody>
</table>

Source: Bloomberg. Data as of August 2013.

Investment Summary

In the post-world-war era, the S&P 500 index has undergone 12 classic bear markets of magnitude 20 percent or greater, as well as another three sell-offs around economic recessions. Not all bear markets have been accompanied by recessions and not all recessions have produced a 20 percent drawdown, but, generally speaking, longer economic downturns have led to steeper market sell-offs. The 2008–2009 global financial crisis produced both the longest recession and the deepest bear market in post-war history.
FEDERAL RESERVE TIGHTENING CYCLES: GOOD FOR STOCKS; BAD FOR BONDS

Since its creation in 1913, the principal role of the Federal Reserve has been to manage the economic cycle by controlling the price or quantity of money available to commercial banks and other financial institutions. The Fed has three conventional tools at its disposal: discount window loans, changes in reserve requirements and open market operations. The first two of these are rarely used. The discount window allows banks to borrow directly from the Fed, but carries both an interest rate premium and a stigma, given the implication that financing cannot be obtained from other financial institutions. The reserve requirement is the legal amount that banks must hold in reserve at the Fed as a share of their deposit base. An increase in this reserve requirement would therefore connote a monetary tightening as less money would be available for lending into the economy. This tool, however, is also not often used. Most common are open market operations (OMOs). These essentially involve the buying of bonds from or selling of bonds to depository institutions, which increases or decreases the amount of base money (reserves held by banks at the Fed, cash held in vaults or notes and coins) in the system.

Unlike other major central banks, the Federal Reserve does not have an explicit inflation target, but its generally accepted “comfort zone” is 1 percent to 2 percent inflation based on the core personal consumption expenditures index. During the 1980s, the Fed’s focus shifted away from targeting the money supply toward a specific federal funds rate target (the rate that banks charge each other for overnight loans of reserves held at the Fed). OMOs essentially make small changes to the amount of liquidity banks have in terms of reserves at the Fed, which in turn affects the price at which these Fed funds can be lent to other financial institutions. Critically, this rate then influences all other borrowing costs in the economy, from the rate at which the federal government can issue bonds, to municipal bond yields, mortgage rates, student loan rates and auto loan rates. Hence the Federal Reserve is able to pursue its dual macroeconomic mandate of ensuring full employment and price stability.

Fed Tightening Cycles

Source: Bloomberg.
Data as of July 2013.
The conduct of independent monetary policy by the world’s major central banks is, however, still a relatively recent development. Before 1971, the international monetary system operated under the Bretton-Woods framework of fixed global currency exchange rates and a U.S. dollar held at a fixed rate relative to an ounce of gold. This international arrangement broke down in August 1971 amid growing public spending and rising inflation in the U.S. during the Nixon administration.

While Fed policy cycles are not officially designated, we count that there have been eight periods of sustained monetary tightening by the Federal Reserve since 1971 (second exhibit). These tightening cycles have ranged in duration from 10 months to 48 months, with a mean length of 21 months. The average increase in policy rates across the eight episodes was 617 basis points. In each case, the rise in policy rates was accompanied by a rise in intermediate interest rates, though bond yields did not rise to the same degree (the yield curve experienced a “bear flattening”). Stock markets tended to come under pressure as rate increases began, but the S&P 500 posted price gains during most of the periods of tightening. Only two of the eight episodes (during the 1970s and into the early 1980s, when inflation was high and volatile) saw stock prices finish the tightening cycle at a lower level than they started it, and the market has been up 3 percent on average over the course of past tightening cycles (or just over 8 percent if the high inflation periods are excluded).

<table>
<thead>
<tr>
<th>Fed Tightening Cycles</th>
<th>Fed Funds (bps)</th>
<th>10-Year Yield (bps)</th>
<th>S&amp;P 500 Price</th>
<th>Time (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan ’73 - May ’74</td>
<td>750</td>
<td>111</td>
<td>-26.1%</td>
<td>17</td>
</tr>
<tr>
<td>Apr ’76 - Mar ’80</td>
<td>1,525</td>
<td>498</td>
<td>-0.7%</td>
<td>48</td>
</tr>
<tr>
<td>Aug ’80 - May ’81</td>
<td>1,050</td>
<td>274</td>
<td>9.0%</td>
<td>10</td>
</tr>
<tr>
<td>May ’83 - Aug ’84</td>
<td>325</td>
<td>250</td>
<td>1.4%</td>
<td>16</td>
</tr>
<tr>
<td>Dec ’86 - Feb ’89</td>
<td>388</td>
<td>216</td>
<td>15.9%</td>
<td>2</td>
</tr>
<tr>
<td>Feb ’94 - Feb ’95</td>
<td>300</td>
<td>156</td>
<td>1.2%</td>
<td>13</td>
</tr>
<tr>
<td>Jun ’99 - May ’00</td>
<td>175</td>
<td>65</td>
<td>9.1%</td>
<td>12</td>
</tr>
<tr>
<td>Jun ’04 - Jun ’06</td>
<td>425</td>
<td>49</td>
<td>13.3%</td>
<td>25</td>
</tr>
</tbody>
</table>

Source: Bloomberg. Data as of July 2013.

**Investment Summary**

Since its creation 100 years ago, the Federal Reserve has played a key role in managing the economic cycle. Since 1971, we estimate that the Fed has undertaken eight monetary tightening cycles. These periods of rising policy interest rates have been accompanied by rising 10-year yields and, in most cases, a rising stock market.
GO LONG THE WESTERN HEMISPHERE

When the internet craze first swept the world back in the 1990s, many pundits proclaimed the “death of distance” and boldly stated that national boundaries were antiquated concepts in a new world where information, capital and innovation traversed the world at lightning speed.

We disagree. Geography still matters — and now more than ever for investors.

That said, there is a region of the world rarely discussed, debated or even contemplated from a macroinvestment point of view: the Western Hemisphere, or the swath of geography that stretches from the Arctic Ocean to the north (Canada) to Antarctica and to the south (Chile and Argentina).

There are plenty of variables that make the Western Hemisphere unique in the world. First, the region is more or less at peace with itself, with cross-border conflicts and internal dissent at a minimum. Indeed, it has been over 70 years since Latin America has seen an interstate war last more than a month. That stands in stark contrast to tensions in the Middle East, Africa and the Indian subcontinent and across Asia.

A second variable that sets the Western Hemisphere apart from the rest of the world: Religion and race are nonfactors in this part of the globe. The majority of people in the Western Hemisphere are peaceful followers of the Catholic faith. Moreover, there is very little ethnic violence in the region— unlike Africa, for instance, or the Middle East, where the division between Shia and Sunni Muslims has only intensified with the unfolding of the Arab Spring.

### The Natural Endowments of the Western Hemisphere

<table>
<thead>
<tr>
<th>Commodities</th>
<th>(% of Global Production)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AGRICULTURE</strong></td>
<td></td>
</tr>
<tr>
<td>Soybeans</td>
<td>86.3%</td>
</tr>
<tr>
<td>Sugar Cane</td>
<td>51.8%</td>
</tr>
<tr>
<td>Wheat</td>
<td>16.4%</td>
</tr>
<tr>
<td>Cotton</td>
<td>20.4%</td>
</tr>
<tr>
<td>Corn</td>
<td>48.3%</td>
</tr>
<tr>
<td>Meat</td>
<td>48.0%</td>
</tr>
<tr>
<td>Poultry</td>
<td>42.4%</td>
</tr>
<tr>
<td><strong>LAND &amp; WATER</strong></td>
<td></td>
</tr>
<tr>
<td>Arable Land</td>
<td>26.6%</td>
</tr>
<tr>
<td>Water</td>
<td>46.2%</td>
</tr>
<tr>
<td><strong>MINERALS</strong></td>
<td></td>
</tr>
<tr>
<td>Gold</td>
<td>32.5%</td>
</tr>
<tr>
<td>Silver</td>
<td>55.1%</td>
</tr>
<tr>
<td>Copper</td>
<td>55.7%</td>
</tr>
<tr>
<td>Iron Ore</td>
<td>24.3%</td>
</tr>
<tr>
<td>Alumina</td>
<td>21.8%</td>
</tr>
<tr>
<td><strong>ENERGY</strong></td>
<td></td>
</tr>
<tr>
<td>Oil</td>
<td>26.7%</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>32.1%</td>
</tr>
<tr>
<td>Coal</td>
<td>16.1%</td>
</tr>
<tr>
<td>Geothermal Power</td>
<td>45.2%</td>
</tr>
<tr>
<td>Wind Turbine</td>
<td>25.3%</td>
</tr>
<tr>
<td>Ethanol</td>
<td>89.7%</td>
</tr>
<tr>
<td><strong>MACRO</strong></td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td>13.4%</td>
</tr>
<tr>
<td>GDP (Current Prices, U.S. $)</td>
<td>32.5%</td>
</tr>
<tr>
<td>GDP per Capita (Current Prices, U.S. $)</td>
<td>$24,605</td>
</tr>
<tr>
<td>World GDP per Capita (Current Prices, U.S. $)</td>
<td>$10,128</td>
</tr>
</tbody>
</table>

In addition to the above, the greatest endowment of the region is its abundance of natural resources desired but sorely lacking around the world. As the exhibit above highlights, the Western Hemisphere is a leading global producer of many key commodities in short supply. The Western Hemisphere is an agricultural powerhouse, accounting for 86 percent of world soybean production.

The region provides roughly half the world’s production of corn, meat and poultry, with demand for all three products soaring on the back of rising demand in the emerging markets, notably China. The Western Hemisphere is also a significant global producer of sugar cane, wheat and cotton.

Water — the most precious commodity in the world — is in abundance in the Western Hemisphere, a strategic advantage little appreciated by investors but one that definitively sets the region apart from the rest of the world. The region is also the leading global producer of silver (55 percent of the total) and copper (56 percent), critical industrial inputs in demand all over the world, and a significant supplier of iron ore (24 percent) and alumina (22 percent).

In energy, it is a similar story — the nations of the Western Hemisphere are collectively among the most important producers in the world when it comes to the production of ethanol (90 percent), geothermal power (45 percent), natural gas (32 percent), oil (27 percent) and wind (25 percent). Roughly one-sixth of the world’s production of coal emanates from the Western Hemisphere. All in all, the Western Hemisphere is a natural resource superpower, and it is well positioned to supply a world that is rapidly moving up the curve in terms of industrialization and urbanization and is on the cusp of an explosion in new emerging market consumers.

Beyond its natural endowments, other factors favor the Western Hemisphere: greater economic and political stability, with prudent and conservative economic policies resulting in improved government finances, reduced external debt levels, lower inflation, and strengthened financial institutions. A budding middle class in Latin America is another attraction, with nominal personal consumption expenditures totaling roughly $3.4 trillion in 2011, double the level of consumer spending in the Middle East and Africa.

In the end, on an absolute and relative basis, peace, stability, economic strength and natural resource wealth set the Western Hemisphere apart from other regions of the world. Go long the Western Hemisphere.

**Investment Summary**

The Western Hemisphere hardly registers as a unique geographic investment play among investors. It is time, however, to think north-south, not east-west. In particular, we favor Canada’s energy sector, telecom and consumer staples in Mexico, transportation and financials in Brazil and food products in Chile. As for the U.S., our current long-term sector bias includes information technology, materials, industrials and energy.
In this chapter we present a smorgasbord of key trends and dynamics affecting the global economy.

Our lens is quite broad — we begin with the importance of water, the most critical commodity in the world, and end by discussing one of the most important ingredients of economic activity — sleep. Yes, if you want to size up an economy, look no further than how rested the labor force happens to be.

We also touch on womenomics in this chapter, or the expanding role women are assuming in driving economic growth. Notably in the emerging markets, greater participation and integration of girls/women represent an entirely new growth dynamic. Companies that tap this demand are well positioned for future potential growth.

The following chapter also examines global obesity, global brand leaders, and the challenge of feeding 7 billion people. We remain long-term bulls on agricultural commodities. One of the great challenges before the world is providing food for a global population that is expanding and consuming more protein, fruits and vegetables.

We are also bullish on information technology, and we discuss a number of game-changing trends in this space, including 3D printing, the global dispersion of the internet, the emergence of Big Data, and the ubiquitous state of smart connected devices like tablets and smartphones. Never has the world been as connected and mobile as it is today. And the best is yet to come, in our opinion, considering that roughly 60 percent to 65 percent of the world has never logged on to the internet!

Just as the global potential for technology is immense, the same holds true for the most unwieldy of the U.S. economy: the healthcare sector. Entry 91 shines light on this topic.

We also tackle such subjects as China’s exploding penchant for travel; the opening of the last frontier, the Arctic Ocean; and the big business of global remittances and the global drug trade.

We focus on key policy challenges in this chapter as well by examining rising global inequality and the search for political freedom. We highlight the key risk in the Middle East — the growing bloody divide between the two branches of Islam, the Sunnis and the Shia. No investor can begin to understand the Middle East without recognizing this dynamic.

In total, we lay out our final 21 entries that we feel are most important to the global economy and should therefore be recognized by investors.
WATER — THE NEW BLUE GOLD

Viewed from up high — outer space — the world appears to be awash in water, and it is. Over 70 percent of the earth’s surface is covered by water, with most satellite images showing a world wrapped more in deep blue swaths of moisture than brown streaks of land. That is the good news.

The bad news: Roughly 97 percent of mother earth’s water supply is saltwater and therefore not fit for daily use or consumption. Of the remaining 3 percent, 2 percent, while considered fresh water, is locked in or frozen in snow and ice caps. That leaves around 1 percent for human use — or for a global population in excess of 7 billion people headed for at least 8 billion in the next two decades. Without any doubt, water — two atoms of hydrogen joined to one atom of oxygen — is the world’s most precious commodity.

We are bullish on water, with the case for investing in water only becoming more compelling with each passing year. Drought conditions have become more severe in many parts of the world, while the pace of global urbanization has accelerated, straining the water infrastructures of many nations to their breaking points. To this point, population growth and urbanization are expected to drive demand for water up 40 percent within 20 years, according to the World Bank. Transforming demographics will likely require both the government and the private sector to spend billions of dollars on a commodity most of us take for granted.

Presently, nearly one in four human beings lives in an area of physical water scarcity due to inclement weather, water waste and subpar agricultural practices. Water infrastructure in developed and emerging markets is either deteriorating or insufficient, while demand is rising. The United Nations (UN) estimates that two-thirds of the world’s population will face “periodic and severe” water shortages by 2025. Asia’s cities are expanding by an estimated 120,000 people per day — the fastest pace of urbanization the world has ever experienced — placing severe stress on water supply, sanitation, flood control and public transport systems.

<table>
<thead>
<tr>
<th><strong>Virtual Water Use</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Common Goods</strong></td>
</tr>
<tr>
<td>1 pound of chocolate</td>
</tr>
<tr>
<td>1 hamburger</td>
</tr>
<tr>
<td>1 pound of refined sugar</td>
</tr>
<tr>
<td>1 cup of coffee</td>
</tr>
<tr>
<td>1 cup of beer</td>
</tr>
<tr>
<td>1 slice of bread</td>
</tr>
<tr>
<td><strong>Meat</strong></td>
</tr>
<tr>
<td>1 pound of beef</td>
</tr>
<tr>
<td>1 pound of pork</td>
</tr>
<tr>
<td>1 pound of chicken</td>
</tr>
<tr>
<td><strong>Crops</strong></td>
</tr>
<tr>
<td>1 pound of rice</td>
</tr>
<tr>
<td>1 pound of barley</td>
</tr>
<tr>
<td>1 pound of wheat</td>
</tr>
<tr>
<td>1 pound of potato</td>
</tr>
<tr>
<td><strong>Animal Products</strong></td>
</tr>
<tr>
<td>1/2 pound of tanned leather</td>
</tr>
<tr>
<td>1 gallon of milk</td>
</tr>
<tr>
<td>1 pound of cheese</td>
</tr>
<tr>
<td>1 egg</td>
</tr>
</tbody>
</table>

1 Virtual water in cattle, pigs and fowl is the water they drink and water used to grow, feed and clean the waste.
2 Virtual water in crops includes both rainwater and irrigation water.
3 Virtual water totals include water used to raise animals and process the edible or end product.

Source: Water Footprint Network.

Data as of December 2010 (latest available).
According to a 2012 study by the U.S. National Intelligence Council, “During the next 10 years, many countries important to the United States will experience water problems — shortages, poor water quality, or floods — that will risk instability and state failure, increase regional tensions, and distract them from working with the United States on important U.S. policy objectives.”

Then there is soaring demand for “virtual water.” The latter is the amount of water used to create a product — water consumed indirectly when making a pair of jeans or a T-shirt, or the amount of water needed to produce one pound of meat, processed cheese and the like. The first exhibit illustrates the massive use of water in many basic staples, underscoring the critical importance of this commodity.

Against this backdrop, there is a huge need (urgency!) for investment in the global water sector. The World Business Council for Sustainable Development (WBCSD) estimates that the investment required for exchanging the outdated infrastructure in the Organisation for Economic Co-operation and Development (OECD) countries alone will total about $200 billion per year. Furthermore, according to Deutsche Bank Research estimates, global investment requirements in the global water market likely total up to $700 billion per year. Total global investment estimates are high because much work still needs to be done in the emerging markets.

With the existing water infrastructure strained to the point of capacity, and many emerging market governments flush with capital reserves thanks to booming trade surpluses, we suspect that future infrastructure build-outs will rely on the expediency of private-sector expertise and the depth of public-sector capital, as shown in the second exhibit.

We expect infrastructure expenditures to materialize via public/private partnerships, and while these should not be seen as a full remedy to the problem, they are a step in the right direction. The public sector may not be able to raise the resources needed to invest in the water sector single-handedly.

### Cash-Flush China Increasingly Relies on Private Sector to Manage Water Services

(Private water and sewage contracts awarded in China, Millions of persons served, Cumulative total)

<table>
<thead>
<tr>
<th>Year</th>
<th>Persons Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990-94</td>
<td>50</td>
</tr>
<tr>
<td>1995-99</td>
<td>100</td>
</tr>
<tr>
<td>2000-04</td>
<td>150</td>
</tr>
<tr>
<td>2005-09</td>
<td>200</td>
</tr>
<tr>
<td>2010-12</td>
<td>350</td>
</tr>
</tbody>
</table>


### Investment Summary

Virtually every form of economic activity pivots around water—a fact slowly being recognized by governments around the world confronting dwindling water supplies. Over the next decade, billions of dollars will be spent on the world’s water infrastructure, a bullish prospect for companies involved in water filtration, waste water management, desalination, rural water services, water utilities, water utility performance, irrigation systems and a host of related projects.
GLOBAL ODDS AND ENDS

**WOMENOMICS — THE RISING ECONOMIC POWER OF WOMEN**

In Saudi Arabia, one of the world’s most conservative nations, few if any women can vote or drive, and most must cover their heads outside the house. So the addition of female athletes to the Saudi Olympic team, for the very first time, in London last summer, was particularly noteworthy. Now, granted, the two women—an 800-meter sprinter and a judo practitioner—still had to walk behind their male teammates at the opening ceremonies and compete while wearing veils. But even so, their presence at the 30th Olympiad was emblematic of one of the most powerful global forces in play today: the rising role of women.

This shift in status among women is due largely to a confluence of factors including better education, improved access to family planning and lower fertility rates, more economic empowerment, and the shift in work, aided in part by the spread of technology, from brawn to brains. In short, women are gaining greater influence in shaping and directing the world’s economic activity.

Women already represent 40 percent of the global workforce and more than half of university students. In the developing world, girls now outnumber boys in secondary schools in 45 countries, and there are more young women than men in universities in 60 countries.\(^1\) In the United States, meanwhile, women account for 73 percent of all consumer purchases and are estimated to be worth $5 trillion in incremental spending over the next several years, according to the Boston Consulting Group (BCG).

Pick virtually any industry—financial services, luxury brands, basic staples, education, healthcare, cosmetics, technology, media or entertainment—and there is little doubt that the wants, needs and desires of women will increasingly dictate the future. Welcome to the age of womenomics.

Education has long been considered a route to better job opportunities and higher incomes and women continue to take a larger piece of the world’s educational pie.

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**Potential Boost to GDP from Closing the Gap in Female and Male Employment Rates (2012)**


---

Women in Europe are better educated than men, on average, having three more years of education and accounting for 55.4 percent of students enrolled in higher education. Within the European Union in 2011, 24.8 percent of women completed their university studies compared with 22.4 percent of men, according to figures by Eurostat. Moreover, a greater proportion of women are attaining higher educational qualifications than men; and more and more women are working in certain traditionally male-dominated sectors. All of this translates into more spending power and economic decision making and influence among European women.

In the rest of the world, educational gender gaps are closing and have reversed in many countries, especially those in Latin America, the Caribbean and East Asia. In China, despite the traditional bias toward men, women are playing a greater role in the workforce, with a 2011 participation rate of 68 percent compared with 29 percent in India, 49 percent in Japan, and 51 percent in Hong Kong.²

As the gap in education between men and women has narrowed, so also has the gap in earnings power and potential. Granted, women in the U.S. continue to lag men in terms of earnings, but they have nonetheless made significant strides. In 1979 women earned just 62 percent of what men earned. More than three decades later, in 2012, that figure had risen to 81 percent.³

Although it has not always been the case, women now matter a great deal in economics. To this point, according to the OECD, since 1995, the narrowing gap between male and female employment has accounted for a quarter of Europe’s annual gross domestic product (GDP) growth. McKinsey estimates that America’s economy today would be 25 percent smaller without the labor force participation of women. As the accompanying exhibit highlights, closing the gap in male-female employment rates has the potential to boost GDP across the globe, even in those economies considered most developed.

Women are poised to become key economic agents of growth and change. Along these lines, according to BCG estimates, women will control nearly $15 trillion of the world’s annual consumer spending by 2014 and about a third of global wealth. A Harvard Business Review study predicted that private wealth in the U.S. could reach $22 trillion in 2020—with half of it in the hands of women.

The successful companies of the future will almost certainly be those that focus on women’s needs as much as, if not more than, men’s. After all, Sarat Attar and Wodjan Ali Seraj Abdulrahim Shahrkhani, those two veiled Saudi Olympians, were but a tiny expression of the profound global shift that is womenomics.

---

**Investment Summary**

Women across the globe are spending more across many industries, not just on household products and luxury items. Companies have been competing fiercely to capitalize on this opportunity and will continue to do so, especially in developing economies, where there is the most room for improvement in educational attainment, labor force participation, earnings and other socioeconomic factors.

² World Bank, World Development Indicator, April 2013.
GLOBAL OBESITY — SUPERSIZED WORLD

There were times in the premodern era when an extra pound of flesh on the body was a sign of nobility, a show of superiority for the ruling class—a privilege for the wealthy. Eating more was not just a simple luxury but, in fact, a social obligation. Fast-forward to today, and we are dealing with a whole new social and economic dynamic. We are talking about obesity, which in short order has become a serious global epidemic.

The poster child for obesity is the United States. According to the Centers for Disease Control and Prevention (CDC), more than one-third of adults in the United States—or 35.7 percent of adults (aged 20 and older) at last count—were obese.\(^4\) Since 1980, U.S. obesity rates have doubled for adults and tripled for children.

Type-2 diabetes and other obesity-related conditions once seen only in adults have increased among children and adolescents. Elevated cholesterol levels, high blood pressure, abnormal glucose tolerance, and other risk factors for cardiovascular disease have also substantially risen and are boosting demand for healthcare products and solutions in the U.S.

What’s behind the obesity crisis? Think sedentary lifestyles, more sugar-based food intake, and related factors that have literally and figuratively enlarged the United States. Never before has the challenge of obesity in the U.S. been as great. Coupled with a rapidly aging population, the U.S. is staring at a massive healthcare crisis.

But obesity knows no boundaries. Soaring obesity rates are a challenge not only for the United States but also for many parts of the world. Obesity is a global problem.

Over the last three decades, the forces of globalization have transformed the economic landscape and accelerated the “rebalancing” of wealth from developed to developing countries. This dynamic has vastly improved the quality and standards of living for millions of people and given rise to an ever-rising swath of the “global bourgeoisie.”

---

Overweight and Obese Population Aged 15+
(% of total population)

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>65</td>
</tr>
<tr>
<td>United States</td>
<td>65</td>
</tr>
<tr>
<td>New Zealand</td>
<td>60</td>
</tr>
<tr>
<td>Chile</td>
<td>55</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>55</td>
</tr>
<tr>
<td>Hungary</td>
<td>55</td>
</tr>
<tr>
<td>Slovenia</td>
<td>50</td>
</tr>
<tr>
<td>Poland</td>
<td>50</td>
</tr>
<tr>
<td>Portugal</td>
<td>50</td>
</tr>
<tr>
<td>Turkey</td>
<td>50</td>
</tr>
<tr>
<td>Estonia</td>
<td>45</td>
</tr>
<tr>
<td>Netherlands</td>
<td>40</td>
</tr>
<tr>
<td>Brazil</td>
<td>40</td>
</tr>
</tbody>
</table>


---

\(^4\) Obesity is generally defined by the body mass index (BMI). A BMI reading between 18 and 25 kilograms per square meter in height is considered “normal,” between 25 and 30 is considered “overweight,” and a reading greater than 30 is officially “obese,” though these thresholds vary.
The latter consume more alcohol and sugar-based drinks, exercise less, and lead more sedentary lifestyles— all of which is a recipe for rising levels of global obesity.

The rest of the world is rapidly becoming more inactive, like many in the U.S., while consuming more calories. Western diets are rich in sugar, processed and fast foods, and thanks to all of the items just mentioned, the battle of the bulge has gone global. The war on fat has become a world war. According to global forecasts from the World Health Organization (WHO), 2.3 billion adults will be overweight by 2015 and over 700 million adults will be obese in 2015, up from 500 million people in 2008.

In China alone, there are some 114 million diabetics, putting a massive strain on state-funded healthcare. Nearly 12 percent of the adult population has diabetes, a worrisome trend that relates directly to rising obesity rates in China. Reflecting the rise of affluence, Chinese citizens aged 10 to 30 are about 6 to 7 kilograms (15 pounds) heavier than that age group 20 years ago.5

As the globe’s “girth” grows, so do the costs to combat the challenge. Countries are now faced with the daunting task of allocating an increasing percentage of their respective national budgets to address these issues. China, Mexico, Japan, Australia, the United Kingdom, as well as many European governments, are now spending significant sums of money on account of the obesity epidemic.

According to a Cornell University study that appeared in the January 2012 issue of the Journal of Health Economics, obesity now accounts for nearly 21 percent of U.S. healthcare costs and total costs are more than 40 percent higher for obese patients than normal-weight patients (Finkelstein et al., Health Affairs). Additionally, medical costs associated with treating obesity-related diseases are forecast to increase from $48 billion to $66 billion per year in the U.S. by 2030; the loss in economic productivity could range from $390 billion to $580 billion per year.6

The investment implications from the global obesity crisis run the gamut: think rising demand for various drugs, medical equipment providers and healthcare facilities, commercial weight-loss/diet-management and nutrition centers, and fitness-related products and services.

In the end, the world’s standard of living has never been higher; never have so many people on earth enjoyed the affluence that used to be reserved for nobility, or the very well to do. Today, however, global tastes and lifestyles are converging. In many cases this is a positive development. However, sedentary lifestyles along with rising caloric intake have sparked an obesity crisis beyond the U.S. borders, including some of the poorest nations in the world. The healthcare costs associated with this phenomenon will be in the billions of dollars.

**Investment Summary**

Obesity has gone global. The statistics and percentages are frightening—not just in the U.S. but also in many parts of the world, China included. Obesity and people classified as overweight are now the fifth-highest global risk for death, causing 2.8 million deaths every year (World Health Organization, March 2013). The upshot: exploding medical costs, with the market for medical devices, drugs and therapies to treat this global epidemic poised to increase in the years ahead.

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GLOBAL BRAND LEADERS — THINK AMERICA

Corporate America enjoys a vast global footprint when it comes to international brands and, by extension, a competitive leg up on many of its foreign and local competitors.

Brands are hugely important to brand-conscious consumers the world over, notably in the emerging markets (think China) but also in the developed nations (think Japan). That is another way of saying that brands matter, and, in this respect, no one does it better than corporate America.

The position of the United States, as the brand superpower of the world, is underpinned by corporate America’s extensive global presence. The latter is second to none and reflective of America’s massive foreign direct investment, a topic of discussion in Chapter Three: Global Investment.

It is America’s presence in the far-flung corners of the world that underpins U.S. brands and facilitates rising sales and profits in such diverse markets as South Africa, Slovenia and South Korea.

With the middle class of the emerging markets set to at least triple over the next 10 to 15 years — meaning more income and spending for goods and services among more than a billion new consumers — the firms with the most recognizable brands will be the ones best positioned to capture market share and tap into this new revenue stream. Firms with nominal or underdeveloped brands will find themselves at a competitive disadvantage.

The latest rankings come from BrandZ, which calculates brand value based on several factors including an estimate of the brand’s contribution to earnings, valuation of tangible assets, measures of customer perception, and an estimate of growth potential.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>Category</th>
<th>Country</th>
<th>2013 ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Apple</td>
<td>Technology</td>
<td>U.S.</td>
<td>185,071</td>
</tr>
<tr>
<td>2</td>
<td>Google</td>
<td>Technology</td>
<td>U.S.</td>
<td>113,669</td>
</tr>
<tr>
<td>3</td>
<td>IBM</td>
<td>Technology</td>
<td>U.S.</td>
<td>112,536</td>
</tr>
<tr>
<td>4</td>
<td>McDonald’s</td>
<td>Fast Food</td>
<td>U.S.</td>
<td>90,256</td>
</tr>
<tr>
<td>5</td>
<td>Coca-Cola</td>
<td>Soft Drinks</td>
<td>U.S.</td>
<td>78,415</td>
</tr>
<tr>
<td>6</td>
<td>AT&amp;T</td>
<td>Telecoms</td>
<td>U.S.</td>
<td>75,507</td>
</tr>
<tr>
<td>7</td>
<td>Microsoft</td>
<td>Technology</td>
<td>U.S.</td>
<td>69,814</td>
</tr>
<tr>
<td>8</td>
<td>Marlboro</td>
<td>Tobacco</td>
<td>U.S.</td>
<td>69,383</td>
</tr>
<tr>
<td>9</td>
<td>Visa</td>
<td>Credit Card</td>
<td>U.S.</td>
<td>56,060</td>
</tr>
<tr>
<td>10</td>
<td>China Mobile</td>
<td>Telecoms</td>
<td>China</td>
<td>55,368</td>
</tr>
<tr>
<td>11</td>
<td>General Electric</td>
<td>Conglomerate</td>
<td>U.S.</td>
<td>55,357</td>
</tr>
<tr>
<td>12</td>
<td>Verizon Wireless</td>
<td>Telecoms</td>
<td>U.S.</td>
<td>53,004</td>
</tr>
<tr>
<td>13</td>
<td>Wells Fargo</td>
<td>Regional Banks</td>
<td>U.S.</td>
<td>47,748</td>
</tr>
<tr>
<td>14</td>
<td>Amazon.com</td>
<td>Retail</td>
<td>U.S.</td>
<td>45,727</td>
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<tr>
<td>15</td>
<td>UPS</td>
<td>Logistics</td>
<td>U.S.</td>
<td>42,747</td>
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<tr>
<td>16</td>
<td>ICBC</td>
<td>Regional Banks</td>
<td>China</td>
<td>41,115</td>
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<tr>
<td>17</td>
<td>Vodafone</td>
<td>Telecoms</td>
<td>United Kingdom</td>
<td>39,712</td>
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<td>18</td>
<td>Walmart</td>
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<td>SAP</td>
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<td>20</td>
<td>Mastercard</td>
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<td>Tencent</td>
<td>Technology</td>
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<td>22</td>
<td>China Construction Bank</td>
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<td>China</td>
<td>26,859</td>
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<td>23</td>
<td>Toyota</td>
<td>Cars</td>
<td>Japan</td>
<td>24,497</td>
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<tr>
<td>24</td>
<td>BMW</td>
<td>Cars</td>
<td>Germany</td>
<td>24,015</td>
</tr>
<tr>
<td>25</td>
<td>HSBC</td>
<td>Global Banks</td>
<td>United Kingdom</td>
<td>23,970</td>
</tr>
</tbody>
</table>

According to BrandZ, nine out of the top 10 global brands are U.S.-based. Of the world’s top 25 brands, 16 are U.S. firms. Out of the top 100 global brands, U.S. firms accounted for 43 percent.

The world’s top brands are listed in the accompanying exhibit.

Notably in a strong brand position are American telecommunication services (telecoms) and technology firms. Apple was ranked 1st in 2013, followed by Google and IBM, ranked 2nd and 3rd, respectively. AT&T was ranked 6th, followed by Microsoft (7th), Verizon (12th) and Amazon (14th).

More traditional U.S. blue-chip firms like McDonalds (4th) and Coca-Cola (5th) ranked very well in the latest survey.

From the table, note the depth and breadth of U.S. global brand awareness by sector, ranging from beverages to technology, to regional banks, to credit cards, and to retail. The mix includes both U.S. manufacturers and service companies.

America’s global brand awareness, in other words, does not rest with one company or one sector but is highly diversified.

Only two German firms cracked the top 25 — SAP, the software developer, and BMW, the high-end automobile manufacturer. HSBC and Vodafone represent the United Kingdom. Toyota was Japan’s sole entry into the top 25.

Impressively, China continues to climb the global brand ladder.

China had four companies out of the top 25 in the latest rankings, more than the United Kingdom, Germany and Japan. This expanding presence reflects China’s ongoing transformation from a hub for low-cost production to a society with its own affluent and brand-hungry consumers, further underscoring our theme of the emerging market consumer.

Out of the top 100 brands, China held 12 positions.

That said, while Chinese brands are gaining traction, Chinese consumers still greatly view Western brands as being of higher quality over local brands. They are also considered more authentic (not fake) and more safe, in many cases. In China and many other key emerging markets, the appeal of Western brands remains strong, with an expanding middle class continuing to drive brand value, in our view.

While developing countries are generating their own global brands and expanding their presence, we remain bullish on the future of American brands.

America is a brand superpower — as well as a cultural superpower whose films, music and lifestyles are among the most popular in the world. The latter only adds to and bolsters the global appeal of U.S. brands.

Against this backdrop, U.S. brand leaders are well positioned to benefit from the rise of brand-conscious emerging market consumers around the world.

Investment Summary

Global brands are a powerful engine of future earnings, and no one enjoys this advantage on a global scale more than the blue-chip U.S. firms. Brands are extremely important to the newly emerging consumers of the developing nations; in particular, they are also hugely important to the soaring global youth population. Regarding the latter, the brands listed above have some of the best chances of tapping this unexploited cohort.
AGRICULTURAL COMMODITIES — THE CHALLENGE OF FEEDING 7 BILLION PEOPLE

Despite some periods of price volatility, the unrelenting long-term rise in food prices reflects the doubling of the global labor force since the early 1990s—a seismic event triggered by the collapse of the former Soviet Union, India’s shift away from self-sufficiency, and China’s embrace of free-market capitalism. With the world population expected to exceed 9 billion people by 20407 and rising per capita incomes across key developing countries, we expect to see continuing demand for healthier diets rich in protein. Combining these demographic trends with environmental factors like volatile weather, water scarcity and competition for arable land, we maintain our long-term bullish stance for agricultural commodities.

Since the beginning of 2009, food prices on an aggregate level have risen at a robust pace and are coming off of all-time highs (first exhibit). World food prices have edged down since hitting a peak in early 2011, but this would be a healthy correction, in our view, and we do not expect the drawdown to be as severe as the one witnessed in 2008. Both demand and supply factors are in favor of higher food prices over the longer term. Investors need to take advantage of such price drops to gain exposure to the soft commodities asset class for the long haul. Despite some recent pullback in world agricultural prices, there are many reasons that prices are likely to increase over the long term, ranging from water scarcity8 and rising energy costs (meaning higher prices for agricultural feedstocks, fertilizers, transportation costs and increased use of biofuels), to the likelihood of continued severe and unusual weather patterns that have affected global food harvests and inventories, and the continued battle for arable land.

As a result of these supply pressures, farmers have invested heavily in protecting their harvests and increasing yields through genetically modified seeds. It’s no wonder the global market value of biotechnology crops has averaged 12 percent growth over the last five years, reaching $14.8 billion in 2012. This was 23 percent of the $64.6 billion global crop protection market and 35 percent of the roughly $34 billion global commercial seed market in 2012.9

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World Food Prices
(UN Food and Agriculture World Food Price Index, Index=100 [2002-2004])

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8 The agriculture sector accounts for 70 percent of global fresh water demand.
While developed countries account for over three-quarters of the global biotechnology crop market, future growth will be led by key developing countries like Brazil, Argentina, China, India and South Africa.

Thanks to a steady increase in world population, the demand for food should continue to rise over the next few decades. In addition, rising per capita incomes among more advanced emerging markets—think China and India—result in a shift toward more resource-intensive Western diets rich in meat and dairy products. The majority of meat demand growth since 1960 has been for poultry and swine, while beef consumption grew marginally. It takes an estimated 2.6 lbs., 6.5 lbs. and 7.0 lbs. of feed to produce a single pound of poultry, pork or beef. The World Bank estimates that between 2000 and 2030, worldwide demand for food will rise by 50 percent and demand for meat will jump 85 percent.

Over the last two decades, more than two-thirds of all the global meat demand has emanated from developing Asia. China, the biggest consumer of grain and meat in the world, has a growing livestock industry that also demands animal feed rich in protein, with soybeans the natural choice. It’s not just meat demand that has soared across various developing countries but also the consumption of milk, fruits and vegetables.

What’s gone relatively unnoticed among all the noise over the last few years surrounding the European debt woes and other global events is this: 2012 was the best year ever for overall U.S. agricultural exports. Data from the U.S. Department of Agriculture (USDA) show that aggregate U.S. agricultural exports totaled $141 billion in 2012, up from $51 billion in 2000. Rising global food demand led by the emerging world combined with various supply issues generated a tailwind for highly productive U.S. farmers.

**U.S. Agricultural Exports Have Grown to Record Highs**

(Total value of U.S. agricultural exports)

<table>
<thead>
<tr>
<th>Billions of $</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
</tr>
<tr>
<td>120</td>
</tr>
<tr>
<td>90</td>
</tr>
<tr>
<td>60</td>
</tr>
<tr>
<td>30</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>


**Investment Summary**

We have a long-term bullish outlook on agricultural commodities and global multinational companies that manufacture agricultural products and equipment. Many food grain growers and large U.S. agricultural companies (both public and private) are benefiting from the aforementioned trends, which we expect to continue in the years to come.
Global climate change has gone from the margins to the mainstream. The scientific debate continues, but those arguing for greater care of planet earth have seized the upper hand and the attention of policymakers around the world. New industry standards, government regulations, and cross-border initiatives are in the offing, creating opportunities for numerous companies.

One key holdout on global climate change — the United States — has more or less fallen in line with the greens. The Obama administration has taken a definitive stance on the issue of climate change and has worked to take ownership of emissions cuts to lead the world toward a low-carbon economy. To this point, carbon dioxide emissions in the U.S. have fallen to the lowest level since 1994. Two other key holdouts — India and the world’s largest polluter, China — as well as other developing nations may not have signed formal agreements, but rising domestic pressure is forcing them to invest billions of dollars to clean up their environments.

As per the June 2013 British Petroleum (BP) report, *Statistical Review of World Energy 2013*, China recorded one of the highest rates of change in energy consumption — 7.4 percent in 2012. Coal played a significant role in energy generation in China, with its annual consumption in 2012 recorded at approximately 1,873 million tonnes of oil equivalent (Mtoe). It consumed 50 percent of the world’s coal.

India’s fuel mix for energy generation is also dominated by coal with about 298 million tonnes of oil equivalent being consumed in 2012. Its total coal consumption was more than that of the European Union. Consequently, carbon emissions of both countries, China and India, have been rising at a high rate throughout the last decade. In 2012, China’s annual emissions rose by 6.0 percent and India’s by 6.9 percent (first exhibit). China was responsible for more than one-fourth of the total world emissions in 2012. Though India accounts for only 5.3 percent of global emissions in 2012, it is the only developing country after China to have this large of a contribution. The United States was the second-largest emitter but showed a 3.9 percent decline in emissions in 2012 to 5.8 billion tonnes, according to BP data. The President’s Climate Action Plan (June 2013) provides a detailed outline of the actions the U.S. is taking to address climate change. It contains updated figures on clean energy expenditures and underscores the United States’ commitment to address climate change.

**Carbon Dioxide Emissions**

![Graph showing carbon dioxide emissions for China, United States, and India.](source: British Petroleum, *Statistical Review of World Energy 2013*. Data as of June 2013.)
An April 2012 International Energy Agency (IEA) report presented at the Clean Energy Ministerial illustrated the costs and potential savings in achieving the internationally agreed objective (referred to as 2DS) of limiting global temperature rise to 2°C above preindustrial levels by 2025. According to the IEA report, Tracking Clean Energy Progress, $24 trillion needs to be invested in power, transport, buildings and industry sectors during 2010 – 2020 to achieve the goals in the 2DS. Investment requirements in transportation will constitute the largest share at 34 percent, exceeding $8 trillion this decade. Twenty-seven percent of the investment requirements will go toward power, 26 percent will go toward buildings, and 13 percent will go toward industry. On a country basis (second exhibit), China needs to invest the most ($5 trillion) during the 2010 – 2020 period, followed by the European Union and the U.S. — not surprising given that they are the three largest emitters of carbon dioxide. As a result of 2DS investment requirements, an estimated $4 trillion will be saved from lower fossil fuel use and $200 billion will be spent on additional biomass, equating to a net fuel savings of $3.8 trillion between 2010 and 2020.

In addition to renewables, investments are being made to upgrade power architectures, which include energy efficiency, load management, smart distribution and storage. The world needs efficient, reliable networks to link new energy supplies with growing demand before it can invest the tens or hundreds of billions of dollars needed to develop alternative energy on a global scale. The market has already made this connection: Out of the Global Cleantech 100 most promising clean-technology companies on the planet, from a commercial standpoint, 22 firms are from the energy-efficiency sector, the most for any sector.

According to a March 2013 report from Pike Research, the market for smart grid technologies will grow from $33 billion in 2012 to $73 billion by the end of 2020. The main drivers in this sector include the integration of renewables in developed economies and the reduction of nontechnical losses in less-developed economies. Players in the power architecture space include utilities, control system vendors, telecommunications vendors, smart metering vendors, application and services vendors, systems integrators, cyber security vendors, and standards associations.

### Total Investment Needs in the 2DS, 2010 – 2020

<table>
<thead>
<tr>
<th>Region</th>
<th>Trillions of $</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>5.0</td>
</tr>
<tr>
<td>European Union</td>
<td>4.3</td>
</tr>
<tr>
<td>United States</td>
<td>3.3</td>
</tr>
<tr>
<td>Other OECD</td>
<td>3.0</td>
</tr>
<tr>
<td>Other non-OECD</td>
<td>2.2</td>
</tr>
<tr>
<td>Middle East and Africa</td>
<td>1.9</td>
</tr>
<tr>
<td>Other Developing Asia</td>
<td>1.6</td>
</tr>
<tr>
<td>India</td>
<td>1.5</td>
</tr>
<tr>
<td>Latin America</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Data as of April 2012.

### Investment Summary

Pollution is a serious issue for both developed and developing countries. Regulations and the potential benefits of clean, efficient energy are driving investment. An outdated energy infrastructure is also helping to fuel investment in better energy transmission.
THE DIGITAL DIVIDE — A MAJORITY OF THE WORLD’S POPULATION IS STILL OFFLINE

The development of the World Wide Web has been a giant leap for mankind, revolutionizing almost every part of our daily lives, from the way we shop, read and access services like banking, to the way we communicate both professionally and personally. Indeed, the internet has become so integral to the day-to-day functioning of modern society that a number of recent polls conducted among users and nonusers alike suggest that an overwhelming majority of people view access to it as a fundamental right. Indeed, several countries around the world have enacted laws that require the state to ensure that internet access is made widely available to its citizens.

Around the world, the number of people with access to the internet has ballooned over recent years, almost tripling from roughly 1.0 billion in 2005 to over 2.7 billion in 2013. And the growing uptake is not just a rich-world phenomenon. Indeed, in absolute terms, the number of internet users in developing countries overtook the number of developed country users in 2008. Today, of the more than 2.7 billion internet users globally, just under 1.8 billion (or 65 percent) can be found in the emerging world.10

As a measure of how connected today’s emerging market consumers have become, Brazil is the second-largest market in the world (after the U.S.) for YouTube, and stands in the top five of the world’s active user groups for Twitter.11 India currently has more internet users than Japan and over 60 million users of Facebook,12 and, at 600 million, the total number of connected Chinese citizens would alone be the third-most populous country in the world.13

But the absolute numbers tell only part of the story. Emerging market internet users may be high in number, but they are still low in penetration. Compared with 76.8 out of every 100 citizens in the developed world having internet access, just 30.7 of every 100 people in the emerging world are Web users. According to data from the International Telecommunication Union, the only region of the emerging world to have over half of its people connected is the Commonwealth of Independent States (Russia and the former Soviet Republics), which reached 51.9 percent in 2013. Other emerging regions lag, with a 37.6 percent penetration rate in Arab states, 31.9 percent in Asia-Pacific and 16.3 percent in Africa.

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Internet Usage Around the World Has Exploded in Recent Years


10 International Telecommunication Union, June 2013.
12 comScore, 2013 India Digital Future in Focus, August 22, 2013.
13 International Telecommunication Union, June 2013.
The share of emerging world citizens with internet access is undoubtedly rising quickly—it has gone up almost fourfold since 2005 from just 7.8 percent. But there is nonetheless a large divide between rich and poor countries. While less than a quarter of people in industrialized economies are offline, close to a staggering 70 percent of emerging market inhabitants are currently not internet users.

As well as differing levels of income, this deficit can partly be explained by government policy in some developing countries, which seek to restrict, censor or outright block access to the Web. Since 2006, Paris-based non-governmental organization Reporters Without Borders has published a list of states that it considers to be “enemies of the internet” for carrying out such practices. The latest list counts nine countries as internet enemies, all of which are in the developing world: Burma, China, Cuba, Iran, Saudi Arabia, Syria, Turkmenistan, Uzbekistan and Vietnam. Together they comprise close to 1.7 billion people, and still over 330 million excluding China.

Thus there may be artificial limits placed on Web participation in some markets.

Notwithstanding official checks on Web access, the more than 60 percent of the world’s population (or over 4 billion people) still not online presents a huge opportunity for makers of smart connected devices like tablets, smartphones and netbooks, as well as for network providers, online advertisers, social media sites and other Web-based companies.

As the world’s digital divide continues to narrow, those companies that can successfully compete for the glut of new users coming from developing nations should be well placed to grow their revenues and profits.

<table>
<thead>
<tr>
<th>Global Internet Penetration</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Share of population (%))</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012*</th>
<th>2013*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed Countries</td>
<td>50.9</td>
<td>53.5</td>
<td>59.0</td>
<td>61.3</td>
<td>62.9</td>
<td>67.3</td>
<td>70.5</td>
<td>73.4</td>
<td>76.8</td>
</tr>
<tr>
<td>Developing Countries</td>
<td>7.8</td>
<td>9.4</td>
<td>11.9</td>
<td>14.7</td>
<td>17.5</td>
<td>21.2</td>
<td>24.5</td>
<td>27.5</td>
<td>30.7</td>
</tr>
<tr>
<td>World</td>
<td>15.8</td>
<td>17.6</td>
<td>20.6</td>
<td>23.2</td>
<td>25.7</td>
<td>29.5</td>
<td>32.7</td>
<td>35.7</td>
<td>38.8</td>
</tr>
</tbody>
</table>

*Estimates.
Source: International Telecommunication Union.
Data as of September 2013.

Investment Summary

As science fiction novelist William Gibson once said, “The future is already here—it’s just not evenly distributed.” The world is inevitably moving online, but with more than 60 percent of the globe’s population still not connected, companies that can tap into the more than 4 billion-strong pool of nonusers globally should see their bottom lines benefit.

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14 Ibid.
15 Ibid.
EXPLORING THE POSSIBILITIES FOR 3D PRINTING

President Obama’s plug for 3D printing in his 2013 State of the Union speech is emblematic of the overall excitement many Americans are feeling toward the evolving technology and its potential impact on global manufacturing. Although we share some of this enthusiasm, we believe the technology still requires years of further development before major economic benefits can be realized. With that said, there are some exciting new developments facilitating the broader use of both personal and industrial 3D printers.

3D printing is also referred to as “additive manufacturing” due to the nature in which core construction materials are sequentially layered to build the final product. Materials used can include plastics, ceramics, metal powders, resins and even organic tissues. Utilizing a virtual blueprint made with computer-aided design, 3D printers “print” cross sections, layer upon layer, until a final product is constructed—including finished products with moving parts. While 3D printing dates back to the 1980s for applications in rapid prototyping, it has recently regained popularity with more affordably priced consumer printers and advances into the production side of manufacturing.

Personal printers can range from $500 to $2,000, while industrial printers usually range from $10,000 to well over $50,000. Due to the precise nature of 3D printing, many finished products can be made with less material than traditionally manufactured items, while maintaining similar structural integrity in some cases. Not only is less material often used to make the final product, but less excess material is wasted after construction is complete. Products made are also highly customizable, which has made 3D printing ideal for rapid prototyping, but new technologies are also being developed by companies and academic institutions that could greatly improve core material costs and construction times.

Although 3D printing has captured America’s imagination, there’s still plenty of room for improvement in the underlying hardware and software. That said, investors have shown strong interest in 3D printing companies (see accompanying exhibit), with the STOXX® Global 3D Printing Tradable Index up 56 percent year-to-date through September 13.

Optimism Sending 3D Stocks Higher
(STOXX Global 3D Printing Tradable Price USD Index)

Source: Bloomberg.
Year-to-date data as of September 13, 2013.
If the technology advances to the point where it can mass-produce goods in the same capacity as traditional manufacturing, there would be tremendous economic implications. Within this hypothetical scenario, there would be no need for traditional assembly lines, as 3D printers are able to construct final products containing moving parts. This would create significant savings in labor costs. As labor costs fall, the percentage of total manufacturing costs that will be attributed to transportation will dramatically increase. This will lower the incentive to manufacture in remote low-cost markets and help shift manufacturing closer to the end-consumer. According to a report from Transportation Intelligence, a leading provider of market research solutions to the global logistics industry, “Not only will local manufacturing re-establish itself close to end markets, but it will allow the flexibility to reconfigure in response to changing consumer demands.” Although 3D printers are still years away from disrupting the entire global manufacturing industry, major developments in retail and healthcare are illustrating the slowly evolving manufacturing landscape.

3D printing allows retailers to offer personalized, print-on-demand finished goods at the point of sale, and those who best utilize and adapt to the advances in 3D printing have the greatest potential to secure long-term growth opportunities. In one example, a leading office supplies retailer announced plans to outfit several stores in the Netherlands and Belgium with commercial printers in early 2013. The company announced that the stores would allow customers to upload product designs online to be printed and picked up later at a local store, similar to how the company runs its business card printing service. We expect companies to continue gravitating toward 3D printers, partnering with smaller printing firms in an effort to move closer to the final consumer. The end result will be more choices for consumers, more opportunities for retailers, and more emphasis on consumer-driven manufacturing.

3D printing also has great potential to alter the medical industry. The combination of 3D laser scanning and 3D printing is ideal for the medical industry, but costs still need to come down and further research and development are still needed in many areas. Companies have already begun using 3D laser scanning technology with 3D printers in dental imaging to identify misshapen teeth and print perfectly molded crowns for patients. A roughly similar scanning and printing approach is currently used to create prosthetics that are precisely customized for each patient. In June 2011, an 83-year-old woman suffering from chronic bone disease had her entire lower jaw replaced with a 3D-printed prosthetic made from titanium powder. In February of 2013, physicians at Weill Cornell Medical College and biomedical engineers at Cornell University 3D-printed an artificial ear using collagen and living cow ear cells. There is also enthusiasm surrounding the idea of 3D-printed drugs, like ibuprofen, from the convenience of one’s own home, but patent laws and FDA restrictions will most likely make that reality difficult to achieve.

Investment Summary
We believe advances in 3D printing technology could present an attractive long-term growth opportunity for investors. According to a study by Global Industry Analysts, 3D printing is poised to grow to $3 billion by 2018, a 76 percent increase from 2012 revenue figures. Investors should be aware that the volatility for pure play 3D printer companies may exceed broader market volatility in the near term as companies are relatively small and based on a relatively immature and evolving technology.
BIG DATA—BIG INVESTMENT IMPLICATIONS

From gigabytes to zettabytes, the exponential growth, size and complexity of data requiring real-time analysis are simply staggering. Streams of information are collected from offshore oil rig sensors, global air traffic control centers, city street closed-circuit television (CCTV) networks and genome sequencing — data that demand sorting, organization, labeling and ultimately extraction into a clean and readable report that is deliverable to high-level decision makers.

Prioritizing a Big Data strategy within an organization’s IT infrastructure has revolutionized the way software vendors build, modify and improve code and functionality to reflect the demands of today’s chief information officers. It comes as little surprise that International Data Corporation (IDC) expects the Big Data technology and services market to grow at a 39.4 percent compound annual growth rate from 2012 through 2015. But perhaps Erik Brynjolfsson, an economist at Massachusetts Institute of Technology’s Sloan School of Management, explains it best: “To grasp the potential impact of Big Data, look to the microscope…it allowed people to see and measure things as never before — at the cellular level.”

Innovative U.S. companies, which have already been collecting and storing massive amounts of customer data for years, are developing and fine-tuning their own Big Data strategies to provide analytics and intelligence. For example, payment networks are utilizing valuable transaction data tagged with points such as date, time, location, amount, type of item, size, flavor, style, and gift or no gift, among others.

| Relative Ease of Capturing the Value Potential of Big Data Across Sectors |
|--------------------------|-----------------------------|
| Overall ease of capture index | Sector |
| **Top Quintile** (easiest to capture value) | Manufacturing |
| | Information |
| | Utilities |
| **2nd Quintile** | Natural resources |
| | Computer and electronic products |
| | Transportation and warehousing |
| | Finance and insurance |
| | Healthcare and social assistance |
| **3rd Quintile** | Construction |
| | Real estate, rental, and leasing |
| | Wholesale trade |
| | Administrative support, waste management, and remediation services |
| | Management of companies and enterprises |
| **4th Quintile** | Retail trade |
| | Accommodation and food services |
| | Professional, scientific, and technical services |
| **Bottom Quintile** (most difficult to capture value) | Other services (except public administration) |
| | Arts, entertainment, and recreation |
| | Government |
| | Educational services |

Data as of June 2011 (latest available).
The goal: increase profits by intellectually analyzing aggregated data, which are processed by sophisticated hardware equipment inside next-generation data centers. However, companies are also leveraging these customer data along with external macro factors on their businesses in order to harmonize their operations and maximize the value of their supply chains.

For example, UPS collects and analyzes huge data sets of global weather patterns, internal and external capacity levels, fleet availability and positioning, domestic and international holiday schedules, political turmoil and events that may disrupt transit, and uses this collection of data to determine optimal delivery routes and estimate delivery times for its senders and recipients.

Large IT vendors are also in the mix as they construct and acquire technologies that better position them as the primary choice for companies looking for Big Data integration, management and analysis.

The positive impact of an effective Big Data strategy can be harnessed across all sectors, but there are differences among sectors regarding applications, IT density, and other barriers of entry (see accompanying exhibit).

Computer and electronic products and information sectors have already experienced significant productivity growth from the use of Big Data and will continue to do so in the near term. Finance and insurance and government also stand to benefit from the use of Big Data as long as barriers to its use are manageable—this may prove more difficult for the public sector, as data availability and lack of a data-driven mind-set are current obstacles, according to McKinsey & Company. Also, while the healthcare sector stands to benefit significantly from the use of Big Data, growth will be more pronounced as the sector increases its investment in IT. Sectors that already have high levels of IT investment, like retail, manufacturing and professional services, have lower barriers to entry.

We find mega and large cap U.S. IT to be an ideal way for investors to gain exposure to the robust growth of Big Data strategies. We like companies with solid software and applications exposures that house strong engineer and developer communities. Typically these companies have increasing margins with higher growth rates as the demand for the technologies they are creating increases.

Also look for M&A (mergers & acquisitions) activity within this group as these large IT companies aim to secure market share and expand their analytics capabilities and offerings to customers. Although a shortage of skilled labor across certain U.S. sectors could slow the adoption of some Big Data strategies, we do not see individual sector woes hampering the explosive growth opportunities within Big Data.

**Investment Summary**

Prioritizing a Big Data strategy within an organization’s IT infrastructure has revolutionized the way software vendors build, modify and improve code and functionality to reflect the demands of today’s chief information officers. The rise of Big Data and analytics is presenting growth opportunities for companies across nearly all sectors.
SMART CONNECTED DEVICES — A LARGE MARKET WITH EVEN LARGER POTENTIAL

Personal computers have been around for decades, changing the way we access and process information and permanently affecting our patterns of work and leisure. The earliest examples of the personal computer can be traced back to the 1960s and 1970s, but it was not until the IBM PC (personal computer) in 1981 that we would see something that would be recognizable as a personal computer today. The IBM PC became the industry standard of the early 1980s, paving the way for a host of copycat designs, so-called “IBM Compatibles,” which ran on the same operating system and in many cases resembled the original machine.

But times have changed since then. The rise of the internet and exponential increases in microprocessing capacity have spawned a series of new personal computing devices that are smaller, faster, cheaper and more mobile and would have been hard to imagine 30 years ago. We now live in the era of the smart connected device (SCD). The SCD market encompasses a range of products, including the internet-enabled desktop and laptop PCs, and has most recently expanded to incorporate the netbook, smartphone and tablet.

By any measure, the market is large. According to IDC, new unit sales across product categories topped 1.5 billion in 2013, and according to Cisco, the total number of SCDs owned exceeded the entire world’s population in the same year. Despite its size, the market continues to grow rapidly. By 2017, IDC predicts that total SCD sales will surpass 2.4 billion, with the vast majority of the growth coming from its newest product categories — the tablet and the smartphone.

Tablet sales are forecast to grow by 78.9 percent between 2013 and 2017, with smartphone shipments projected to increase by a comparable 71.1 percent. By contrast, the older PC market will stagnate. Portable PCs (including laptops and netbooks) are expected to grow by just 8.7 percent, according to IDC, while shipments of desktop PCs are forecast to shrink by 8.4 percent. As a result, it is expected that unit sales of the tablet — the latest addition to the SCD market — will exceed those of desktop and portable PCs combined in 2015. In that year, a total of 332 million tablets are expected to be sold, as compared with 194 million portable PCs and 129 million desktops.

**Global Smart Connected Device Sales, by Product Category**

<table>
<thead>
<tr>
<th>Year</th>
<th>Smartphone</th>
<th>Tablet</th>
<th>Portable PC</th>
<th>Desktop PC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>11.8%</td>
<td>16.5%</td>
<td>12.2%</td>
<td>5.5%</td>
</tr>
<tr>
<td>2013*</td>
<td>14.6%</td>
<td>11.6%</td>
<td>8.4%</td>
<td>8.0%</td>
</tr>
<tr>
<td>2014*</td>
<td>15.3%</td>
<td>9.7%</td>
<td>7.0%</td>
<td>5.0%</td>
</tr>
<tr>
<td>2015*</td>
<td>15.9%</td>
<td>8.9%</td>
<td>6.2%</td>
<td></td>
</tr>
<tr>
<td>2016*</td>
<td>16.3%</td>
<td>8.4%</td>
<td>5.5%</td>
<td></td>
</tr>
<tr>
<td>2017*</td>
<td>16.5%</td>
<td>8.0%</td>
<td>5.0%</td>
<td></td>
</tr>
</tbody>
</table>

*Forecasts.
Source: International Data Corporation.
Data as of August 2013.
The largest category within the SCD market, however, is the smartphone. Smartphones accounted for over 50 percent of all mobile phone shipments in the second quarter of 2013. And of total estimated worldwide SCD sales in 2013, smartphones made up 65.2 percent, according to IDC, with their share expected to rise to 70.5 percent in 2017, when consumers are forecast to snap up over 1.7 billion units. Sales should continue growing at a double-digit pace for many years to come, but the rate of growth will inevitably decelerate as the addressable market matures. IDC expects year-on-year growth of 10.1 percent in 2017, down from 32.7 percent in 2013.

But growth in smartphone sales will vary by geography, with the pace of sales in the developed world significantly undershooting sales growth in the emerging markets (EM). Indeed, annualized emerging market smartphone sales growth is expected to almost double that of developed markets (DM) between 2013 and 2017, with projected annual growth of 15.7 percent in EM versus 8.3 percent in DM. In absolute terms, emerging market smartphone sales overtook developed market sales in 2011; and by 2017, the gap is expected to be over 600 million units. DM sales of 464 million are forecast and EM sales are expected to top 1.1 billion. As emerging economies take up a growing share of the smartphone and overall SCD market, we should see device makers turn to lower-priced models in order to attract more buyers and spark new interest in commercial sectors such as education. Meanwhile, more competition is also likely to arise between product categories, with larger-screen smartphones (so-called “phablets”) set to eat into the smaller-size tablet market.

Besides the sheer size of the SCD market, what is clear is that it remains a hotbed of growth, innovation and constant disruption. And with new product categories such as the wearable device market for smart watches and smart glasses yet to enter the fray, there should be plenty more to come.

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Global Smartphone Sales

<table>
<thead>
<tr>
<th>Year</th>
<th>Emerging Markets</th>
<th>Developed Markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>200</td>
<td>100</td>
</tr>
<tr>
<td>2011</td>
<td>400</td>
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<td>2012</td>
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<td>2016</td>
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</tr>
<tr>
<td>2017</td>
<td>1,600</td>
<td>1,400</td>
</tr>
</tbody>
</table>


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**Investment Summary**

The roots of the personal computer can be traced back several decades, and today’s array of smart connected devices are the latest in a long line of products that have permanently altered our way of life. The SCD market should remain strong for many more years to come, and technology companies that can stay at the forefront of emerging trends should benefit from rising sales as they continue to innovate and develop new devices that consumers want.
GLOBAL ODDS AND ENDS

91

U.S. HEALTHCARE — THINK INDIA, INDONESIA, AND CHINA WRAPPED INTO ONE

What’s about double the size of India’s economy, more populated than Indonesia, the fourth-most populated nation in the world, and a lot like China, whose growth has been virtually unstoppable over the past few decades?

Answer: The U.S. healthcare system.

We talked about global healthcare in Chapter Four: Global Competitiveness and examined how America’s bewildering healthcare system represents a clear and present danger to U.S. competitiveness.

This entry sheds even more light on this beast—a beast so large that on a stand-alone basis, the U.S. healthcare system ranks as the fifth-largest economy in the world (first exhibit), which is why we have included U.S. healthcare among our 101 entries.

Relative to the rest of the economy, U.S. healthcare spending has grown faster than GDP in all but eight years since 1960. In 2012, U.S. healthcare spending grew 3.9 percent to reach a staggering $2.8 trillion, or 18 percent of GDP.

The first exhibit gives the above figures some context—to wit, only China, Germany and Japan have larger economies than the U.S. healthcare industry. It is larger than the economies of Brazil, the United Kingdom, Spain and Russia, to name just a few big players. And it has more participants (roughly 262 million) than South Korea and Mexico combined (162 million).

Seen in this context, if the United States could only unlock and unleash the potential of its healthcare industry—a big if, to be sure—the overall impact on the U.S. economy would be substantial.

Think more U.S.-based jobs, good incomes and even a boost to U.S. exports given that the United States is an export leader when it comes to medical equipment and services.

Think more growth in such key cutting-edge industries as biotechnology, pharmaceuticals and medical devices. Think more spending on research and development and the long-term positive effects that come with such endeavors. Think more well-paying service jobs across a range of activities, from eldercare to various outpatient services.

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>15,685</td>
</tr>
<tr>
<td>China</td>
<td>8,227</td>
</tr>
<tr>
<td>Japan</td>
<td>5,964</td>
</tr>
<tr>
<td>Germany</td>
<td>3,401</td>
</tr>
<tr>
<td><strong>U.S. Health Expenditures</strong></td>
<td>2,807</td>
</tr>
<tr>
<td>France</td>
<td>2,609</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2,441</td>
</tr>
<tr>
<td>Brazil</td>
<td>2,396</td>
</tr>
<tr>
<td>Russia</td>
<td>2,022</td>
</tr>
<tr>
<td>Italy</td>
<td>2,014</td>
</tr>
</tbody>
</table>

Sources: International Monetary Fund; Centers for Medicare & Medicaid Services. Data as of April 2013.
In short, transforming, revamping and reactivating the U.S. healthcare system would likely yield massive dividends.

However, any serious efforts to rein in healthcare spending will have to include sacred entitlement programs like Medicare (elderly) and Medicaid (low-income) since, combined, the two programs consume almost 23 percent of federal spending. On current trends, the share is expected to reach 30 percent by the next decade.

Thanks to these soaring costs, the public bill for healthcare in the United States was $827 billion in 2012, and is only set to grow as enrollment figures rise in the coming years and as spending per member continues to climb. Not surprisingly, critical healthcare costs as a percentage of GDP are on course to soar in the following decade (see second exhibit).

That said, keep in mind that the burden of rising healthcare costs is not only a problem for Washington. It is becoming onerous for households and businesses as well. Households, for instance, doled out a record $320 billion in out-of-pocket expenses (co-payments, deductibles and other non-covered items) in 2012, a 59 percent jump from payments in 2000.16 Businesses fared no better. Total private business spending rose to $578 billion in 2012, a 67 percent increase from 2000. Put another way, since the start of the last decade the amount businesses pay for private healthcare premiums has increased by over $200 billion, a rising cost that many companies, most notably in the swath of small and medium-sized firms, cannot bear.17

In a nutshell, the U.S. healthcare monster needs to be neutered and transformed sooner rather than later. There are both risks and rewards to overhauling America’s healthcare system.

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Medicare and Medicaid Spending: Onward and Upward**

*Projections 2013-2038
**Spending on Medicare (net of offsetting receipts), Medicaid, the Children’s Health Insurance Program, and subsidies offered through new health insurance exchanges. Source: Congressional Budget Office. The 2013 Long-Term Budget Outlook. Data as of September 2013.

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Investment Summary

The future of healthcare will shape the future of the U.S. economy — the sector is that large, that important and that intertwined with many aspects of economic activity. Indeed, it ranks as one of the largest economies in the world. If the U.S. gets it right, think more growth in such key cutting-edge industries as biotechnology, pharmaceuticals and medical devices. And think more well-paying service jobs across a range of activities, from elderly care to various outpatient services.

16 Centers for Medicare & Medicaid Services, September 2013.
17 Ibid
GLOBAL UNEMPLOYMENT — AN ARMY OF IDLE HANDS

In the wake of the global financial crisis, a spotlight has been keenly focused on unemployment around the world, and job creation has become a top priority for many world leaders. According to the International Labor Organization (ILO), the global unemployment rate was 5.9 percent in 2012, 0.5 percentage point above the 5.4 percent level that prevailed before the crisis began. And the numbers of unemployed are large in absolute terms. The total number of people looking for work globally in 2012 was 195.4 million, fully 25.7 million higher than in 2007. Moreover, the total is expected to rise over the coming years, reaching 208 million by 2015, and 214 million by 2018.

Several factors may account for varying rates of unemployment from country to country. As well as the economic cycle, labor mobility, wage rates and nonwage benefits may contribute, as may the share of the workforce employed in the informal sector. The ILO estimates, for example, that in two-thirds of emerging economies for which data are available, informal employment stands at over 40 percent, meaning that published unemployment rates are insulated from macroeconomic changes. Specific government policies may also play a role in determining unemployment differences internationally. In Japan, for example, the lifetime employment system means that employers tend to retain surplus workers with government subsidies or adjust wages rather than resort to layoffs. “Non-regular” workers (mostly women and retired older workers) without lifetime employment tend to bypass the ranks of the official unemployed in tough economic times by moving straight from being employed to not being counted in the labor force.

But partly to blame for the persistent employment problems around the world at present has been the hangover from the financial crisis. Instead of hiring new employees, firms have been hoarding cash, reluctant to commit to costly outlays in an environment of strained government budgets, tight credit and subpar demand growth. This caution on the part of the corporate sector has also contributed to rising levels of “underemployment,” with the share of workers employed on a part-time basis also on the rise.

But a large part of the employment shortfall around the world is also structural in nature. For the developed economies of North America and Europe, there is a growing gap between labor force skills and those required by employers. According to McKinsey, employers in these markets will require 16 million to 18 million more college-educated workers than will be available in 2020, a shortfall of around 11 percent of total labor demand.

### The World’s Unemployed

<table>
<thead>
<tr>
<th>Unemployment by Region (millions)</th>
<th>2007</th>
<th>2012</th>
<th>2013</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>World</strong></td>
<td>169.7</td>
<td>195.4</td>
<td>201.5</td>
<td>207.8</td>
</tr>
<tr>
<td>Advanced Economies</td>
<td>29.1</td>
<td>44.0</td>
<td>45.5</td>
<td>45.3</td>
</tr>
<tr>
<td>Central and South-Eastern Europe (non-EU) and CIS</td>
<td>14.3</td>
<td>15.0</td>
<td>15.0</td>
<td>14.9</td>
</tr>
<tr>
<td>East Asia</td>
<td>31.6</td>
<td>38.4</td>
<td>39.5</td>
<td>40.8</td>
</tr>
<tr>
<td>South-East Asia and the Pacific</td>
<td>16.4</td>
<td>14.0</td>
<td>14.3</td>
<td>14.8</td>
</tr>
<tr>
<td>South Asia</td>
<td>25.1</td>
<td>24.8</td>
<td>25.7</td>
<td>27.1</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>18.3</td>
<td>17.9</td>
<td>18.9</td>
<td>20.2</td>
</tr>
<tr>
<td>Middle East</td>
<td>6.4</td>
<td>8.0</td>
<td>8.3</td>
<td>8.8</td>
</tr>
<tr>
<td>North Africa</td>
<td>6.2</td>
<td>7.4</td>
<td>7.6</td>
<td>8.0</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>22.2</td>
<td>25.9</td>
<td>26.6</td>
<td>28.0</td>
</tr>
</tbody>
</table>

Source: International Labor Organization.
Data as of April 2013.
The skills gap is expected to be widest in Southern Europe, which has relatively low educational attainment and a relatively old population. By contrast, the deficiency in the U.S. is expected to be smaller due to higher educational attainment and a younger population. At the same time, developed economies are expected to generate an oversupply of low- to medium-skilled workers who lack a postsecondary education — 32 million to 35 million by 2020, in McKinsey’s estimates. This is likely to lead to structurally higher rates of unemployment and underemployment, downward pressure on low-skilled wages and a greater number of discouraged individuals who simply give up looking for work altogether.

For the time being at least, a number of lower-income countries in the emerging world may have just the opposite problem of having more skilled workers than their domestic industries are ready to employ. In North Africa, for example, unemployment among the highly educated is around 20 percent, much higher than the 8 percent rate among workers with only a primary education. Similarly, India barely produced enough nonfarm jobs to keep up with its growing labor force between 2000 and 2010. The country is expected to produce around 36 million college graduates over the next decade, which is roughly 6 million more than its domestic industries can employ.

But this situation will not last indefinitely. Rapid economic growth and increasing foreign investment are likely to mean growing shortages of medium- and high-skilled workers in the emerging world over the next 20 years, including those needed to fill vocational roles such as plumbing and welding, and those in growth industries such as construction, manufacturing, retail trade and services. McKinsey estimates that on current trends, sub-Saharan Africa and South Asia (excluding India) could have a shortfall of workers with a secondary education of some 31 million by 2030. By 2020 India alone is expected to have a medium-skilled worker gap of 13 million. China’s higher level of development means that its need for high-skilled workers is more pressing. Despite high levels of investment and attainment in education, the Chinese economy is expected to need 23 million more college graduates than it can supply by 2020. Meeting these employment challenges will be critical for emerging economies if they are to continue to move up the industrial value chain, increase their standards of living and maintain social stability.

**Global Unemployment Rates**

Unemployment remains a major challenge for governments around the world. Crucial to overcoming this problem will be closing the gap between the skills needed by employers and those possessed by the population. Failing this, countries with chronically high levels of unemployed people risk creating armies of wasted talent and suffering lower rates of trend growth.
CHINA: TRAVELING, SPENDING, AND DRIVING GLOBAL TOURISM

There are many metrics by which to measure the stunning advancement of China. An economic backwater for most of the 20th century, preferring isolation to integration, the Middle Kingdom is now one of the largest economies in the world, an export juggernaut, and a global growth leader in a number of key industries, including tourism.

For the average Chinese, life is better today, notably for the millions of people who have been pulled out of poverty over the past few decades. In 1980, China’s per capita GDP was a miserable $193; today, it’s $5,445, a 28-fold increase from the time China “opened” to the West.

While China was “closed,” it was almost unheard of for the Chinese to travel — traveling was restricted in and outside the country. Only high-ranking government officials ever set foot beyond China’s shores. Mobility was not one of the nation’s strengths.

Times have changed, however. The Chinese have never been as footloose as they are today — to this point, 83 million Chinese traveled overseas in 2012, up nearly 700 percent from the number of total Chinese travelers in 2000.\textsuperscript{18}

Not only are there more Chinese on the move today, but the folks that are traveling are spending in unheard-of ways. Remarkably, China (still relatively poor based on per capita GDP figures) is now ranked number one in international tourism expenditures, overtaking longtime leader Germany in 2012 (first exhibit).

Chinese travelers spent a record $102 billion on international tourism in 2012, a nearly eightfold increase from 2000. The levels of 2012 were up 37 percent from the prior year, as shown in the first exhibit. While global tourism expenditures are still concentrated among the developed nations, the exhibit underscores the rising importance of not only China but also Russia, ranked number five in 2012, surpassing long-time influencers of global travel like France, Canada, Japan, Australia and Italy.

Returning to China, the surge in tourism spending is one of the best reflections of China’s rising affluence and attendant impact on the global economy.

\textbf{Top Ten Countries by Overseas-Tourism Spending, 2012}
\begin{tabular}{l|c}
\hline
\textbf{Country} & \textbf{Spending} \\
\hline
China & 102 \\
Germany & 84 \\
United States & 84 \\
United Kingdom & 52 \\
Russia & 43 \\
France & 37 \\
Canada & 35 \\
Japan & 28 \\
Australia & 28 \\
Italy & 26 \\
\hline
\end{tabular}

Source: UN World Tourism Organization.
Data as of August 2013.

\textsuperscript{18} China National Tourism Administration, November 2013.
Rising disposable incomes, a relaxation of restrictions on travel and an appreciating currency—all of these factors are creating a new generation of global travelers in China, notably among China’s younger cohorts and professional class who are far more attuned to global trends and far more “open” than their parents’ generation.

More broadly speaking, after expanding 4 percent in 2012, total international tourist arrivals (overnight visitors) grew 5 percent in the first half of 2013; they totaled nearly 500 million people, and are on track to top 1 billion again in 2013. As the second exhibit highlights, international tourist arrivals have exploded over the past 60 years, with foreign tourist arrivals on a global scale expanding from 25 million in 1950 to 278 million in 1980, to 528 million in 1995, and to over 1 billion for the first time in 2012. By 2030, according to the United Nations, the number of international tourists is expected to reach 1.8 billion people.

International tourism receipts totaled $1.1 billion in 2012. As an aside but indicative of the future of the global airline industry, over half (52 percent) of all travelers last year arrived at their destination by air. Cheaper fares and more available destinations stand behind this dynamic. China and other emerging market tourists are helping as well, with the market share of emerging market tourist arrivals increasing from 30 percent in 1980 to 47 percent in 2012; it will not be long before the emerging markets account for half or more of the global total.19

All in all, the global tourism industry, one of the fastest-growing in the world, now accounts for roughly 9 percent of world GDP (directly and indirectly) and was worth $1.3 trillion in exports in 2012, or nearly 6 percent of world exports.20

As a final note, the top 10 tourism destinations in 2012 were the following, ranking from first to tenth: France, the United States, China, Spain, Italy, Turkey, Germany, the United Kingdom, Russia and Malaysia.21

There are many ways the rise of China has touched the world, with cross-border traveling among the primary examples. Only a fraction of China’s actual population has traveled overseas thus far—many, many more Chinese will follow. The upshot: We have seen only the tip of the iceberg when it comes to China’s overall effect on travel.

International Tourist Arrivals

**Investment Summary**

We are bullish on global tourism. The world is shrinking, transportation costs are declining, new destinations are becoming more accessible and new consumers in places like China are taking the roads, rails and sky. Global brand leaders in hotels, airlines and other related tourist activities are primed for solid growth in the years ahead.

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19 UN World Tourism Organization, June 2013.
20 World Travel & Tourism Council, Travel & Tourism Economic Impact 2013, February 2013.
21 UN World Tourism Organization, June 2013.
THE OPENING OF THE ARCTIC REGION — THE FINAL FRONTIER

For better or worse — we’re not entirely sure — one of the world’s last frontiers is about to be integrated into the global economy: the Arctic region.

Long uninviting and inhospitable to human/economic activity, the Arctic region is undergoing rapid and unprecedented change. The Arctic is in a secular thaw due to rising global temperatures; the region’s permafrost is in retreat, with some now believing that by midcentury, if not sooner, the Arctic will be ice-free in the summer, opening up a bevy of new economic activities at the top of the world.

Top of mind when it comes to potential investment opportunities: oil and gas extraction, fisheries, aquaculture, shipping and tourism.

According to a recent report from Chatham House, "Arctic Opening: Opportunity and Risk in the High North," some $100 billion is expected to be invested in the Arctic region over the next decade. Climate change, coupled with advanced technology, means that resources once largely out of reach of mankind are now within their grasp.

Global climate change has been primarily responsible for the Arctic opening. The Arctic region is not only warming; it is warming faster than anywhere else in the world. As the Chatham House report notes, "In 2011, annual near-surface air temperatures over much of the Arctic Ocean were 1.5°C warmer than the 1981 – 2010 baseline." Across the region, summers are coming earlier and lasting longer; beginning in mid-2011, Barrow, Alaska, experienced 86 record-breaking days of minimum temperatures at or above freezing (the previous record was 68 days in 2009).

The upshot from all of the above: a dwindling ice cover in the Arctic, with the mass of Arctic ice not only declining but also becoming thinner and younger. These dynamics, in turn, create their own effects on the climate, socioeconomic activities and the ecosystems of the Arctic.

**Distances and Potential Days Saved for Asian Transport from Kirkenes (Norway) and Murmansk (Russia)**

<table>
<thead>
<tr>
<th>Destination</th>
<th>Via Suez Canal</th>
<th></th>
<th></th>
<th>Via Northern Sea Route</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Distance, Nm</td>
<td>Speed Knots</td>
<td>Days</td>
<td>Distance, Nm</td>
<td>Speed Knots</td>
<td>Days</td>
</tr>
<tr>
<td>Shanghai, China</td>
<td>12,050</td>
<td>14</td>
<td>37</td>
<td>6,500</td>
<td>12.9*</td>
<td>21</td>
</tr>
<tr>
<td>Busan, S. Korea</td>
<td>12,400</td>
<td>14</td>
<td>38</td>
<td>6,050</td>
<td>13</td>
<td>20</td>
</tr>
<tr>
<td>Yokohama, Japan</td>
<td>12,730</td>
<td>14</td>
<td>39</td>
<td>5,750</td>
<td>13</td>
<td>19</td>
</tr>
</tbody>
</table>

*Based on an actual voyage performed by M/V Nordic Barents from Kirkenes to Lianyungang (China), September 2010. Source: Tschudi Shipping Company A/S. Data as of April 2012.
In terms of resources, the Chatham House report notes the following:

“In 2008, the United States Geological Survey estimated that the Arctic contained some 412.2 billion barrels of undiscovered oil and oil equivalent. Over two-thirds of this was estimated to be natural gas — approximately 46 trillion cubic meters, representing 30 percent of global undiscovered natural gas (approximately equivalent to Russia’s entire current proven reserves of natural gas). Some 90 billion barrels were estimated to be oil — 13 percent of the estimated global total of undiscovered oil, approximately three times the current total proven reserves of oil of the United States and more than three times the proven reserves of the world’s largest non-state oil company, Exxon-Mobil.”

In terms of the Arctic’s fisheries the potential is staggering, considering that the region presently accounts for only 5 percent of the overall global catch. Meanwhile, ice-free summers mean shorter shipping times between Europe and the Far East, with the accompanying table showing the significant days saved when using the Northern Sea Routes versus the Suez Canal.

Meanwhile, the longer the summers in the Arctic, the greater the opportunities for eco-tourism; the latter, indeed, has already gained considerable traction among the world’s tourist elite.

Yet, despite the manifold opportunities of a more open and hospitable Arctic, there are plenty of risks. Geopolitics and pressure from various environmental groups could very well slow or prohibit the pace of the Arctic’s development. Presently, the primary Arctic states — the United States, Iceland, Russia, Canada, Denmark (Greenland), Finland, Sweden and Norway — lack a coordinated and cohesive governance plan by which to develop the Arctic region. Common rules, regulations and standards have yet to be in place, creating tensions among the main parties as to who owns what.

Not surprisingly, the Arctic’s rich oil and gas industry has caught the eye of many foreign governments and accelerated the pace of development in recent years. In general, onshore and offshore reserves are owned by the eight Arctic states, although outside investors from South Korea, Japan and China have expressed interest in tapping the virgin offshore riches of the Arctic.

Given the Arctic’s complex environment and ecosystem, the development of the last frontier will be gradual and slow. In addition to policy risks, there are a number of operational risks in the Arctic given its remoteness and inclement weather. The climate is very demanding and unforgiving of the human and physical infrastructure; local pressures to preserve the status quo are yet another inhibitor to development.

That said, the top of the world, while still barren and remote, is gradually being drawn into the world economy, creating new opportunities for investors across various sectors.

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**Investment Summary**

The North Pole is no longer about Santa Claus. Global climate change is having its greatest effect at the top of the world. Investment opportunities will evolve gradually and be focused on shipping, fisheries, energy and mining, and ecotourism.
GLOBAL REMITTANCES — A CRITICAL BUT OFTEN FORGOTTEN SOURCE OF FOREIGN CAPITAL

Remittances are a product of global migration and represent money that a foreign worker may send back to his home country. For some countries in the developing world, they play a key role in the balance of payments, economic growth and the living standards of residents. According to the World Bank, global remittance flows were $454 billion in 2010, of which $334 billion went to developing countries. The numbers are expected to increase to $549 billion and $414 billion, respectively, in 2013, and reach $707 billion for global flows and $540 billion for flows into developing nations by 2016.

As such, global remittances are large compared to other income and capital sources for countries. On a global basis, they are nearly three times the size of official development assistance, larger than portfolio flows of equity and private debt, and larger than foreign exchange reserves in at least 15 countries including Egypt, Pakistan, Honduras, Jamaica and Sri Lanka. The value of remittances is equal to at least half the level of foreign exchange reserves in over 50 developing countries. Thus they are a crucial component of the current account in several nations and an important source of foreign currency.

On a regional basis, by far the largest recipient of remittances is Asia. According to World Bank classifications, the East Asia/Pacific and South Asia regions commanded 41 percent of all remittances globally in 2012, and their share is expected to grow slightly by 2016. Indeed, of the top 10 remittance receiver nations, six are found on the Asian continent. This, however, is largely owed to Asia’s economic size; other nations experience larger remittance inflows relative to their national output and thus find themselves more dependent on remittance receipts. As a share of the economy, by far the largest recipient is Tajikistan, with remittance inflows of 48 percent of GDP. Indeed, it is estimated that half of the Central Asian nation’s male workforce lives abroad, mainly in Russia. The Kyrgyz Republic (31 percent) is second, followed by Nepal (25 percent), Lesotho (25 percent), Moldova (24 percent), Armenia (21 percent), Haiti (21 percent), Samoa (21 percent), Liberia (20 percent) and Lebanon (17 percent). Thus only one Asian country is in the global top 10 when it comes to remittances as a share of GDP.

Top 10 Receivers of Global Remittances, 2012

Remittance receipts by a given nation are largely determined by economic conditions in its donor countries. Thus the more diversified a country’s remittance sources are, the more stable those receipts are likely to be. South Asia and the North Africa/Middle East regions, for example, each receive over 40 percent of their remittance inflows from the nations of the Gulf Cooperation Council. They are therefore highly sensitive to changes in oil prices. Similarly, remittances to the Europe/Central Asia region are highly dependent on Russia, which provides 31 percent of the region’s total remittance receipts. Remittance flows to Latin America and the Caribbean are even more concentrated, with a massive 76 percent coming from the U.S. alone (second exhibit).

In addition to providing income and foreign exchange for receiver countries, remittances can also have positive spillover effects on the wider economy. By encouraging receivers to open a personal bank account, for example, remittances can also play a key role in promoting access to financial services, thus helping to develop local banking systems.

The remittance market, however, remains opaque and remittance flows continue to face headwinds from high costs and concerns over illicit financing activity. According to the World Bank, the average cost of sending a $200 remittance is around 9 percent, with even higher rates applying between countries where volumes are smaller. In addition, some receiving banks have begun to charge remittance receivers so-called “lifting fees,” which can be as high as the sending cost. Furthermore, some international banks have closed the accounts of remittance transfer operators on suspicion of money laundering and terrorism financing. Thus while global remittance receipts are expected to grow over the coming years, these factors may act as constraints.

**Remittance Sources, by Region, 2012**

Data as of October 2013.

**Investment Summary**

When considering linkages between countries, investors tend to focus on trade and investment. It is, however, important to remember that remittances also play a crucial role in cross-border country dependencies and are an important part of the balance of payments and national income of nations around the world.
Global Odds and Ends

The Global Drug Trade — A Hidden Market with Hidden Consequences

The trade in illicit substances is large and global and brings with it a host of detrimental effects on economies and societies around the world. The market is opaque, and high-quality data on production, use and trafficking are often difficult to obtain. Nonetheless, the last estimates from the United Nations put the global trade in illegal substances at around $320 billion,²² with between 167 million and 315 million people aged 15 to 64 estimated to have used illegal drugs in 2011, corresponding to 3.6 percent to 6.9 percent of the adult population.²³

Though its large population gives Asia the highest absolute number of drug users worldwide across most substance categories, the largest markets in value terms for the sales of such substances are North America (44 percent) and Europe (33 percent) according to the UN’s last estimates.

The UN also puts a $200 billion to $250 billion price tag on the financial burden that illegal drug use imposes on the global economy. This is equivalent to the amount needed to cover the cost of required drug treatment worldwide. Moreover, individual studies done in the U.S., Canada and Australia have shown that losses to productivity related to illegal drug use amount to 0.9 percent, 0.4 percent and 0.3 percent of GDP, respectively. A United Kingdom study estimated the costs associated with drug-related crimes to be equivalent to 1.6 percent of GDP. In short, this illicit trade is not only large and widespread but also highly detrimental to the economies that it touches.

Countries affected by the illegal drug trade may be subject to a range of negative impacts, including violent crime and environmental damage, illegal cross-border migration by those who end up on the run from drug lords or drug-related paramilitary groups, risks to public health (especially from HIV), money laundering and official corruption. All of these effects have the potential to stymie the productive potential of countries’ economies and may increase the burden on national budgets.

Global Usage of Illicit Drugs

(Thousands of users)

<table>
<thead>
<tr>
<th></th>
<th>Americas</th>
<th>Europe</th>
<th>Asia</th>
<th>Africa</th>
<th>Oceania</th>
<th>World</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannabis</td>
<td>49,060</td>
<td>30,920</td>
<td>54,070</td>
<td>43,930</td>
<td>2,630</td>
<td>180,620</td>
</tr>
<tr>
<td>Opioids</td>
<td>13,020</td>
<td>4,040</td>
<td>12,190</td>
<td>1,920</td>
<td>730</td>
<td>31,900</td>
</tr>
<tr>
<td>Opiates</td>
<td>1,600</td>
<td>3,010</td>
<td>10,020</td>
<td>1,820</td>
<td>40</td>
<td>16,490</td>
</tr>
<tr>
<td>Cocaine</td>
<td>8,240</td>
<td>4,600</td>
<td>1,310</td>
<td>2,540</td>
<td>370</td>
<td>17,060</td>
</tr>
<tr>
<td>ATS (excluding ecstasy)</td>
<td>5,930</td>
<td>3,050</td>
<td>19,130</td>
<td>5,130</td>
<td>510</td>
<td>33,750</td>
</tr>
<tr>
<td>Ecstasy</td>
<td>3,190</td>
<td>3,830</td>
<td>10,570</td>
<td>1,060</td>
<td>710</td>
<td>19,360</td>
</tr>
</tbody>
</table>

ATS is Amphetamine-type stimulants. Numbers are UN “best estimates” to nearest 10.


Data as of June 2013.

²² World Drug Report 2005, vol. 1, Analysis (United Nations publication, Sales No. E.05.XI.10). No estimates have been released since.

Like any other market, the illegal drug trade responds primarily to changing demand patterns. Generally speaking, much of the growth in global drug use is being driven by emerging economies given their younger, increasingly urbanized populations and thanks to rising incomes and weaker law enforcement institutions.

Much of the recent demand growth for cannabis (the world’s most widely used drug, with an estimated 180.6 million users worldwide) has come from Asia, while use in North America and Europe is considered to be stable or falling. Similarly, cocaine use is on the rise in Asia, as well as in Africa and South America, while Europe and North America have been experiencing stable or declining usage rates. And Asia has also seen an increasing prevalence of ecstasy and ATS (amphetamine-type stimulants) usage.

A new phenomenon has been the manufacture and increasing use of “new psychoactive substances,” which are not controlled by international drug conventions but replicate the effects of traditional drugs and pose the same public health threats. These substances include cannabinoids, synthetic cocaine derivatives, phenethylamines and ketamine, and the internet is playing an increasing role in their marketing and pricing.

On the supply side, cannabis is the most widely produced of all illicit drugs due to strong global demand and its relative ease of cultivation. It is cultivated in most countries around the world and is often consumed where it is produced. However, the sources of other illegal drugs tend to be more concentrated.

Afghanistan and Myanmar together account for around 90 percent of global production of opium (used to cultivate the drug heroin), a substance that is often a preferred target for smugglers due to its high dollar value per unit of volume.

Mexico remains the largest opium producer in the Americas. Meanwhile, South America dominates global cultivation of the coca plant, from which cocaine is produced. The entire world’s supply essentially comes from three countries: Peru, Colombia and Bolivia.

Over the last five to 10 years, West Africa (via countries such as Liberia, Guinea and Guinea-Bissau) has been a major hub for the trafficking of cocaine from South America to Western and Central Europe. This illegal trade represents a potential constraint on West Africa’s economic rise due to the money laundering, organized criminal activity and increased usage by which it is often accompanied. The number of cocaine users in West and Central Africa, for example, is estimated at 1.6 million, and the prevalence rate in the region is thought to be significantly higher than the global average.

Similarly, the UN reports that Iraq may be emerging as a major new trafficking route for opium sourced from Afghanistan, in addition to longer-standing passageways to Europe through Central Asia and Russia.

**Investment Summary**

The global drug trade is largely conducted off the official records and out of the view of the global investment community. It nonetheless has far-reaching and often hidden negative effects on countries around the world that can severely hamper economic performance.
In the wake of the financial crisis, the divide between the rich and the poor has been a hot-button topic around the world, fueling popular protest movements and civil unrest in developed and emerging countries alike.

But economic inequality is nothing new. To a greater or lesser extent, inequality of wealth and income has been part and parcel of societies around the world throughout history, and levels of inequality have fluctuated over time (first exhibit). Data on income distribution in the U.S., for example, show that the share of income going to the top 10 percent has moved in a range of between approximately 30 percent and 50 percent over the past 100 years. On this measure, inequality peaked in the middle to late 1920s, on the eve of the Wall Street Crash, before falling precipitously during World War II. After decades of stability through the 1950s, 1960s and 1970s, the income share of the top 10 percent began to climb again in the early 1980s, peaking just before the global financial crisis and Great Recession of 2008. Data from other major developed economies such as France and the U.K. show a similar pattern.

Several factors can help to explain what causes income inequality to rise and fall. Technological change can render certain jobs obsolete — think electronic touch-screen kiosks replacing airline check-in staff or less demand for legal clerks due to computer software that can review case law. The degree to which a labor force is unionized may also play a role by increasing the bargaining power of blue-collar workers in wage negotiations — Scandinavian countries such as Denmark and Finland rank low among countries on economic inequality (second exhibit) and have some of the highest unionization rates in the world. The degree to which education is made available to a country’s citizens may play a part — a higher level of education among the workforce is likely to result in less inequality. And fiscal policy also has a role to play. For example, lawmakers may increase or reduce tax rates for different income brackets or for individual sectors of the economy in order to shift the tax burden among different groups, or to fund spending priorities that address inequality. An important example for emerging economies here is government fuel subsidies, which boost the discretionary incomes of lower wage workers. Similarly, public spending priorities will affect degrees of inequality.

The Rise and Fall and Rise of U.S. Income Inequality


Data as of July 2010 (latest available).
Investment Summary

Inequality has been a constant feature of economic life for nations around the world over time and has tended to be associated with worse societal outcomes. But even though levels of inequality remain high within many countries, rapid growth in emerging economies could help levels of inequality between countries to decline.
The Arab Spring protest movements that began in Tunisia in late 2010 and claimed a series of long-standing Arab leaders show that political unrest and social disorder can quickly erupt in countries that appear stable but lack basic freedoms.

Though a nation’s level of political and individual freedom cannot be measured definitively, Washington, D.C., think tank, Freedom House, assesses the freedom status of countries around the world by assigning numerical ratings according to two broad categories: political rights such as the electoral process and the functioning of government; and civil liberties such as freedom of expression and belief, rule of law and personal autonomy.

### National Income and Political Freedom

<table>
<thead>
<tr>
<th>GDP/Capita Rank</th>
<th>Country</th>
<th>GDP/Capita</th>
<th>Freedom Status*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Luxembourg</td>
<td>107,206</td>
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<tr>
<td>2</td>
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<td>3</td>
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<td>Iraq</td>
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</tr>
<tr>
<td>87</td>
<td>China</td>
<td>6,076</td>
<td>Not Free</td>
</tr>
</tbody>
</table>

*Freedom House assigns a numerical rating from 1 to 7 for both political rights and civil liberties, with 1 representing the most free and 7 the least free. The ratings are determined by the total number of points (up to 100) each country receives on 10 political rights questions and 15 civil liberties questions; countries receive 0 to 4 points on each question, with 0 representing the smallest degree of freedom and 4 the greatest degree of freedom. The average of the political rights and civil liberties ratings, known as the freedom rating, determines the overall status: Free (1.0 to 2.5), Partly Free (3.0 to 5.0), or Not Free (5.5 to 7.0).

Sources: Freedom House; International Monetary Fund.

Data as of May 2013.
Since 1972, Freedom House’s *Freedom in the World* report has graded countries along these lines, designating them as “Free,” “Partly Free” or “Not Free.”

The trend over time has been for the level of freedom across countries to increase. The share of countries that Freedom House designates as free increased from 29 percent in 1972 to 46 percent in 2012. Over the same period, the number of countries that are viewed as partly free rose from 25 percent to 30 percent, while the share seen as not free nearly halved from 46 percent to 24 percent.

Population-wise, an estimated 3 billion people live in nations considered free, 1.6 billion in countries considered partly free and 2.4 billion in countries considered not free.

With its internet censorship, state-owned media and hostility to organized protest, China is classified by Freedom House as not free; and with its population of 1.4 billion, it alone accounts for over 50 percent of the people in that category. China ranks 87th in the world on GDP per capita (according to figures from the International Monetary Fund), and of the 86 countries with higher levels of per capita income, Freedom House classifies 60 as free, 12 as partly free and 14 as not free. Of the 14 designated not free, all but one (Belarus) are major producers of natural resources.

The takeaway here is that in almost all cases, countries that have achieved higher levels of per capita income than China either embrace a greater degree of political and individual freedom or (in the case of the commodity countries) are endowed with natural resource wealth. As economic growth slows in China, this underscores the challenge that the country faces as it attempts to raise the standard of living of its citizens under a closed political system while maintaining social order.

Regional breakdowns also suggest a link between economic prosperity and individual freedoms. Western Europe ranks highest on the Freedom House measure, with all countries classified as either free or partly free. The Americas rank second with 97 percent, followed by the Asia-Pacific region with 79 percent, Central and Eastern Europe with 76 percent, Sub-Saharan Africa with 59 percent and the Middle East and North Africa with 39 percent.

Why might freedom and prosperity go together?

As we discuss elsewhere, national competitiveness, productivity and ultimately national income rely in large part on a country’s ability to innovate, produce risk takers and entrepreneurs, attract immigrants and bring in foreign investment. A nation that lacks basic political and individual freedoms is likely to stifle these forces.

Moreover, as the Arab Spring showed, without the release valve of representative democracy, a free press or freedoms of expression, association and assembly, apparent political stability can suddenly unravel.

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**Investment Summary**

Political and individual freedom has increased around the world over recent decades, but a large share of the world’s population still lives in nations that are relatively closed. Countries that lack basic freedoms may ultimately face the risk of worsening economic outcomes and greater levels of social unrest.
SUNNI VERSUS SHIA — THE KEY SOURCE OF CONFLICT IN THE MIDDLE EAST

With 1.6 billion followers, around 23 percent of the world’s population and a majority in 49 countries, Islam is (after Christianity) the world’s second-largest religion. Muslim communities are found in all regions of the world, but by far the largest populations reside in Asia, the Middle East and Africa, which together account for 97 percent of all Muslims globally (first exhibit). Asia is by far home to the largest share of the world’s Muslims, with some 62 percent of the global Muslim population living on the continent. North Africa and the Middle East comprise another 20 percent of the total, while Sub-Saharan Africa accounts for 15 percent. Among individual countries, Indonesia has the largest Muslim population with a total of nearly 205 million, or 13 percent of all Muslims worldwide.

Though Islam itself contains several individual sects, the religion consists of three main denominations: the Sunni, the Shia and the Sufi. Precise population numbers on each are not known, but the Sunni and Shia branches make up the overwhelming majority. Some 75 percent to 90 percent of all Muslims are estimated to be Sunni, with the Shia population thought to make up 10 percent to 20 percent.

The Sunni-Shia divide emerged after the death in 632 A.D. of Islam’s founder and spiritual leader, the Prophet Muhammad, when Muslims were divided over who would lead the religion as the Prophet’s rightful successor. Most of Muhammad’s followers (the Sunni) wanted a new leader to be elected from among the best-qualified members of the community, while a minority believed that the leadership of the faith should remain within Muhammad’s family or be passed only to those who had been directly or divinely appointed. This group (the Shia) favored Muhammad’s cousin and son-in-law Ali ibn Abi Talib as a successor to Muhammad.

The Sunni majority eventually prevailed, selecting close friend, advisor and father-in-law to Muhammad, Abu Bakr, as Islam’s first leader (or Caliph) after Muhammad’s death. But the two branches would never reunite. Shia leaders rejected the appointment of the first Caliph, with both Ali and his son Hussein killed in the succession wars that would follow between the two groups. Over the centuries, there have been periods of conflict and periods of peace between the Sunni and Shia, but recent wars in the Middle East have once again drawn out bitter ancient rivalries.

### Largest Muslim Populations, by Country

<table>
<thead>
<tr>
<th>Country</th>
<th>Estimated Muslim Population (millions)</th>
<th>Share of Population that is Muslim (%)</th>
<th>Share of World Muslim Population (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>202.9</td>
<td>88.2</td>
<td>12.9</td>
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<tr>
<td>Pakistan</td>
<td>174.1</td>
<td>96.3</td>
<td>11.1</td>
</tr>
<tr>
<td>India</td>
<td>160.9</td>
<td>13.4</td>
<td>10.3</td>
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<td>Bangladesh</td>
<td>145.3</td>
<td>89.6</td>
<td>9.3</td>
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<td>78.5</td>
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<td>5.0</td>
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<td>73.8</td>
<td>99.4</td>
<td>4.7</td>
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<tr>
<td>Turkey</td>
<td>73.6</td>
<td>–98*</td>
<td>4.7</td>
</tr>
<tr>
<td>Algeria</td>
<td>34.2</td>
<td>98.0</td>
<td>2.2</td>
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<tr>
<td>Morocco</td>
<td>32.0</td>
<td>–99*</td>
<td>–2*</td>
</tr>
</tbody>
</table>

*Approximations.

Note: Data for Turkey and Morocco come primarily from general population surveys, which are less reliable than censuses or large-scale demographic and health surveys for estimating minority-majority ratios. As a result, the percentage of the population that is Muslim in these two countries is rounded to the nearest integer.

Only four countries in the world have a majority Shia Muslim population: Iran, Azerbaijan, Iraq and Bahrain (second exhibit). Of these, Iran’s Shia population is by far the largest. Indeed, between 37 percent and 40 percent of all Shia Muslims in the world are found in Iran alone. Within the Persian Gulf region as a whole, large Shia Muslim populations tend to reside in the oil-rich areas. Iran, with a Shia Muslim population of over 90 percent, is the world’s sixth-largest oil producer. Iraq’s Shia majority is smaller at 65 percent to 70 percent, but much of the nation’s oil comes from the predominantly Shia south, and Saudi Arabia is majority Sunni, but its Shia population lives in the country’s oil-rich eastern areas. The United Arab Emirates and Kuwait (also among the world’s top oil producers), meanwhile, have relatively large Shia minorities.

The recent turmoil in the Middle East—from the wars in Iraq and Afghanistan to the toppling of long-standing rulers in North Africa during the Arab Spring, to the nuclear tensions between Iran and the West, to the prolonged civil conflict in Syria—underlines the importance of the Muslim world to global geopolitics and the world economy. The natural resource-rich region is host to a complex series of relationships, alliances and rivalries, many of which operate along sectarian lines, and which carry the potential to destabilize both the wider region and the rest of the world.

### Shia Islam Around the World

<table>
<thead>
<tr>
<th>Country</th>
<th>Estimated Shia Population</th>
<th>Shia Share of Muslim Population (%)</th>
<th>Share of World Shia Population (%)</th>
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<tbody>
<tr>
<td>Iran</td>
<td>66 – 70 million</td>
<td>90 – 95</td>
<td>37 – 40</td>
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<tr>
<td>Pakistan</td>
<td>17 – 26 million</td>
<td>10 – 15</td>
<td>10 – 15</td>
</tr>
<tr>
<td>India</td>
<td>16 – 24 million</td>
<td>10 – 15</td>
<td>9 – 14</td>
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<tr>
<td>Iraq</td>
<td>19 – 22 million</td>
<td>65 – 70</td>
<td>11 – 12</td>
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<tr>
<td>Turkey</td>
<td>7 – 11 million</td>
<td>10 – 15</td>
<td>4 – 6</td>
</tr>
<tr>
<td>Yemen</td>
<td>8 – 10 million</td>
<td>35 – 40</td>
<td>5*</td>
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<td>Azerbaijan</td>
<td>5 – 7 million</td>
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<td>Afghanistan</td>
<td>3 – 4 million</td>
<td>10 – 15</td>
<td>2*</td>
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<td>Syria</td>
<td>3 – 4 million</td>
<td>15 – 20</td>
<td>2*</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>2 – 4 million</td>
<td>10 – 15</td>
<td>1 – 2</td>
</tr>
<tr>
<td>Nigeria</td>
<td>&lt;4 million</td>
<td>&lt;5</td>
<td>&lt;2</td>
</tr>
<tr>
<td>Lebanon</td>
<td>1 – 2 million</td>
<td>45 – 55</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Tanzania</td>
<td>&lt;2 million</td>
<td>&lt;10</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Kuwait</td>
<td>500,000 – 700,000</td>
<td>20 – 25</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Germany</td>
<td>400,000 – 600,000</td>
<td>10 – 15</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Bahrain</td>
<td>400,000 – 500,000</td>
<td>65 – 75</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>~400,000*</td>
<td>~7*</td>
<td>&lt;1</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>300,000 – 400,000</td>
<td>~10*</td>
<td>&lt;1</td>
</tr>
<tr>
<td>United States</td>
<td>200,000 – 400,000</td>
<td>10 – 15</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Oman</td>
<td>100,000 – 300,000</td>
<td>5 – 10</td>
<td>&lt;1</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>100,000 – 300,000</td>
<td>10 – 15</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>~100,000*</td>
<td>10 – 15</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Qatar</td>
<td>~100,000*</td>
<td>~10*</td>
<td>&lt;1</td>
</tr>
<tr>
<td><strong>World Total</strong></td>
<td><strong>154 – 200 million</strong></td>
<td><strong>10 – 13</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Approximations.

Note: Countries with an estimated Shia population of less than 1% of the country’s Muslim population are not listed. The figures for Shias are generally given in a range because of the limitations of the secondary-source data. Figures may not sum to totals due to rounding.


Data as of October 2009 (latest available).
FINANCIAL CRISIS: CAUSES, COSTS AND CONSEQUENCES

Whether in the form of currency crises, hyperinflations, bursting asset bubbles, banking collapses, debt defaults or some combination of all the above, financial crises have been part and parcel of economic life throughout the centuries; they can be traced as far back as the 4th century B.C.E., when attempts by the Ancient Greeks to devalue their debts resulted in currency debasement and hyperinflation. In more recent times, however, investors have tended to associate financial crises with emerging economies, and a number of emerging markets have experienced severe crises since the 1970s (see accompanying exhibit). Most prominent among these were Latin America’s “lost decade” of the 1980s and the Asian currency crisis of the late 1990s, each of which imposed significant costs on those regions.

During the 1960s and 1970s, a number of Latin American countries—principally Brazil, Argentina and Mexico—borrowed heavily from foreign creditors to finance domestic infrastructure programs. Funding initially came from supranational organizations like the World Bank Group but, after the oil boom of the early 1970s, shifted to commercial banks in the industrialized world, which had received substantial liquidity infusions from oil exporters. Then in the late 1970s and early 1980s, Latin America was hit by the combination of higher U.S. interest rates (which raised its debt service burdens), declines in its currencies (which increased the local value of foreign debt) and falling prices of its natural resource exports (which hurt growth). The crisis catalyst was Mexico’s announcement of a 90-day debt moratorium, which caused creditors to stop rolling over short-term debt and to pull back on new loans to the region. The crisis of confidence spread to other countries, resulting in recession, rising unemployment, inflation, and social unrest.

### Notable Crises of Recent Decades

<table>
<thead>
<tr>
<th>Crisis Episode</th>
<th>Year Started</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latin American Debt Crisis</td>
<td>1982</td>
</tr>
<tr>
<td>U.S. Savings and Loans Crisis</td>
<td>1989</td>
</tr>
<tr>
<td>Nordic Banking Crisis</td>
<td>early 1990s</td>
</tr>
<tr>
<td>Japanese Asset Bubble</td>
<td>1990</td>
</tr>
<tr>
<td>U.K. Exchange Rate Mechanism Crisis</td>
<td>1992</td>
</tr>
<tr>
<td>Mexican Peso Crisis</td>
<td>1994</td>
</tr>
<tr>
<td>Asian Financial Crisis</td>
<td>1997</td>
</tr>
<tr>
<td>Russian Debt Crisis</td>
<td>1998</td>
</tr>
<tr>
<td>Argentine Economic Crisis</td>
<td>1999</td>
</tr>
<tr>
<td>Dot-Com Bubble</td>
<td>2000</td>
</tr>
<tr>
<td>U.S. Subprime Mortgage and Global Financial Crisis</td>
<td>2008</td>
</tr>
<tr>
<td>Eurozone Debt Crisis</td>
<td>2009</td>
</tr>
</tbody>
</table>

Source: U.S. Trust Market Strategy Team.
Data as of September 2013.
The Asian currency crisis began with high interest rates attracting substantial foreign inflows, which led a number of governments to take on large foreign debts to fund new capital investment, especially in real estate. Rising U.S. rates and a strengthening dollar in the mid-1990s saw slowing inflows and growing pressure on the region’s fixed exchange-rate regimes. In this case, the crisis catalyst was Thailand’s huge reserve losses as the country failed to defend its currency peg in July 1997. The collapse of the Thai baht and drop in confidence among foreign investors led to severe currency devaluations and falling asset prices across Southeast Asia, with Indonesia, South Korea and Thailand the worst-affected.

A number of other emerging economies have also experienced severe crises over recent decades, such as Mexico (1994), Russia (1998) and Argentina (1999) (see accompanying exhibit). But major developed economies have also fallen victim to financial crises over the years. Indeed, one of the first major crises of the 20th century was the U.S. Panic of 1907, which escalated after the collapse of the Knickerbocker Trust Company. This would of course be dwarfed two decades later by the Wall Street Crash of 1929 and subsequent Great Depression — the most severe economic crisis in living memory. And, more recently, a number of other developed economies have suffered severe crises, including Japan (1990), Sweden and Finland (early 1990s) and the Eurozone (2009).

Of course the most notable crisis of recent times was the subprime crisis of 2008, which began in the developed world but ultimately engulfed the global economy. All financial crises incur significant costs, but the subprime crisis took a particularly large toll. A 2013 paper by the Federal Reserve Bank of Dallas²⁴ conservatively put the cost to the U.S. economy at 40 percent to 90 percent of 2007 GDP — that is a colossal $6 trillion to $14 trillion, or roughly $50,000 to $100,000 for every U.S. household. But that is to say nothing of the declines in household wealth, the deterioration in public finances and future stimulus capacity, the lingering effects of trauma and lost opportunity for those left unemployed, and, of course, the impact on the rest of the world.

But even though financial crises are hugely costly, actions taken in their wake can be beneficial. The Panic of 1907, for example, led to the founding of the Federal Reserve as a lender of last resort. Similarly, the Federal Deposit Insurance Corporation, the Securities and Exchange Commission and a variety of social programs including the Social Security Administration were all set up in response to the Great Depression. And since the Asian crisis, countries in that region have built up massive foreign exchange reserves. Asia has seen its total reserves rise over 10-fold from around $450 billion in 1997 to over $5 trillion in 2012. And even excluding China, Asia’s total reserves today are more than twice the cash hoard of the entire emerging world in 1997. Financial crises are almost certain to remain an inevitable and painful part of economic life, but, with each new episode, policymakers and regulators will continue to introduce new safeguards to limit their fallout.

Investment Summary

Financial crises are a seemingly inevitable part of capitalism and have ravaged economies all over the world for centuries in developed and developing countries alike. But while financial crises are hugely costly, actions taken after they occur can be beneficial.

SLEEP — THE WORLD’S MOST IMPORTANT ECONOMIC INGREDIENT?

As any university economics major will tell you, the three most important inputs to an economy are capital, labor and natural resources. You must have all three ingredients to create and maintain a successful economy.

Well, maybe.

Researchers have stumbled onto a fourth ingredient just as vital to an economy as capital, labor and natural resources. What is it? Sleep.

Yes, if you want to size up an economy, and understand how it operates and performs over the long term, look no further than how rested the labor force happens to be. Sleep matters—notably in today’s 24/7, uber-connected, globalized world we live in.

“Tired but wired”

According to some researchers, our brains are so wired and stimulated that we cannot sleep. And when workers do not sleep, bad things happen. Think more work-related accidents, decreased productivity, subpar employee performance, and rising healthcare risks to both employees and employers.

How significant is this problem? Well, according to the report, “Insomnia and the Performance of U.S. Workers: Results from the America Insomnia Survey,” an estimated one-third of all U.S. adults experience weekly difficulties with sleeping; research from Cornell University notes that sleep disorders are common among 40 million Americans.

Key Facts/Trends About Sleepless Nights

<table>
<thead>
<tr>
<th>Key Facts/Trends About Sleepless Nights</th>
</tr>
</thead>
<tbody>
<tr>
<td>An estimated 50 million to 70 million Americans chronically suffer from a sleep disorder.</td>
</tr>
<tr>
<td>Chronic insomnia affects nearly one in five adults in the United States.</td>
</tr>
<tr>
<td>Sleep deprivation costs U.S. industry roughly $66 billion a year.</td>
</tr>
<tr>
<td>High school and college students are walking zombies — nearly 70 percent of high school adolescents sleep less than the recommended amount each night.</td>
</tr>
<tr>
<td>One hour more sleep each night decreases risk of artery calcification by one-third.</td>
</tr>
<tr>
<td>Lack of sleep leads to decreased cognitive performance.</td>
</tr>
<tr>
<td>Sleep deprivation is correlated with increased risks of heart disease, diabetes, obesity and cancer.</td>
</tr>
<tr>
<td>Drowsy driving may be a factor in 20 percent of all serious motor vehicle crash injuries.</td>
</tr>
<tr>
<td>According to IMS Health, some 60 million prescriptions for sleeping pills were prescribed in the U.S. in 2011, up from 47 million in 2006.</td>
</tr>
</tbody>
</table>


25 “Help to get a good night’s sleep,” Financial Times, Emma Jacobs, October 3, 2013.
27 Sleep for Success, Dr. James Mass, May 2011.
Most adults need 7.5 hours to 8.5 hours of sleep each night, while adolescents need 9.25 hours. But in a world where we now sleep with our smartphones or wear (at night) earphones or headphones plugged into something, sleep is becoming a scarce commodity.

Sleep is vital, however. Weary workers are moodier, less alert, sapped of energy and unproductive, among other things. In many cases, being tired means being irritable, less social and full of more anxiety.

These consequences seem minor, but folks short of sleep for long periods of time run greater risks of heart disease, diabetes, obesity and cancer. The lack of sleep is a silent killer. There are, in other words, serious economic consequences and costs associated with sleepless nights.

To wit, sleep-deprived U.S. workers cost their employers $63 billion in lost productivity each year, according to a 2011 Harvard Medical School study.28

Sleep deprivation also puts the public at risk. Harvard research notes that among hospital interns who had been scheduled to work for at least 24 consecutive hours, research found that the odds of the interns stabbing themselves with a needle or scalpel increased 61 percent, their risk of crashing a vehicle spiked 168 percent, and their risk of a near miss soared 460 percent.29 The same research notes that in the United States, sleepy drivers are responsible for nearly one-fifth of all motor vehicle accidents and some 8,000 deaths.

All of the above is another way of saying that sleep is a significant economic variable in its own right, affecting the cost-benefit structure of multiple industries.

Against this backdrop, it is hardly surprising that the fight to sleep is big business for U.S. drug firms. To this point, according to IMS Health, some 60 million prescriptions for sleeping pills were prescribed in the U.S. in 2011, up from 47 million in 2006.30

Sleep consulting has become a growth industry, with a number of companies recognizing that a sleep-deprived workforce is hazardous to its performance and, therefore, a risk to the firm’s revenues and profits.

Luxury hotels and airlines have taken on the challenge by emphasizing their sleep- and relaxing-related capabilities. For airlines, this means more comfortable beds at 35,000 feet; for luxury hotels, think pillow menus and slumber-inducing food.

Companies are beginning to realize that bad sleep begets bad outcomes.

In the end, in the wired and connected hurry-up-get-it-done economy of the 21st century, the premium on a good night’s sleep is rising. A worker that sleeps well performs well. A country of insomniacs is economically dangerous.

**Investment Summary**

It’s not quite time to rewrite standard economic textbooks about what makes an economy tick; capital, labor and natural resources remain the foundation of all economies. However, investors should be wary of companies or countries suffering from sleep deficiency. A good night’s rest matters more than most of us think. That said, good night.

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28 “Help to get a good night’s sleep,” Financial Times, Emma Jacobs, October 3, 2013.
30 “Help to get a good night’s sleep,” Financial Times, Emma Jacobs, October 3, 2013.
INDEX DEFINITIONS

Securities indexes assume reinvestment of all distributions and interest payments. Indexes are unmanaged and do not take into account fees or expenses. It is not possible to invest directly in an index.

Cyclicals consist of six out of the 10 major sectors: materials, technology, energy, consumer discretionary, financials and energy.

Defensives consist of four out of the 10 major sectors: healthcare, consumer staples, telecommunications and utilities.

EMBI Global Diversified Index – J.P. Morgan's Emerging Market Bond Index (EMBI) tracks total returns for traded external debt instruments in the emerging markets.

FAO Food Price Index is a measure of the monthly change in international prices of a basket of food commodities. It consists of the average of five commodity group price indexes (representing 55 quotations), weighted with the average export shares of each of the groups for 2002 – 2004.

Ibbotson U.S. Inflation Index is an inflationary indicator based on the Consumer Price Index (CPI) that tracks U.S. inflation.

Ibbotson U.S. Intermediate-Term Government Bond Index is an unweighted index that measures the performance of five-year-maturity U.S. Treasury Bonds. Each year a one-bond portfolio containing the shortest noncallable bond having a maturity of not less than five years is constructed. Bonds with impaired negotiability or special redemption privileges are omitted, as are partially or fully tax-exempt bonds starting in 1943. To measure holding period returns for the one-bond portfolio, the bond is priced (with accrued coupons) over the holding period and total returns are calculated.

Ibbotson U.S. Long-Term Corporate Bond Index is a market value-weighted index that measures the performance of long-term U.S. corporate bonds. The index includes nearly all AAA-rated and AA-rated bonds with at least 10 years to maturity. If a bond is downgraded during a particular month, its return is included in the index for that month before it is removed from future portfolios. The Ibbotson U.S. Long-Term Corporate Bond Index includes reinvestment of income.

MSCI ACWI (All Country World Index) Index is a free-float-adjusted, market capitalization-weighted index that is designed to measure the equity market performance of developed and emerging markets.

MSCI ACWI FM (Frontier Market) Index is a free-float-adjusted, market capitalization-weighted index that is designed to measure the equity market performance of developed and emerging markets. MSCI covers 24 developed, 21 emerging and 31 frontier markets. If there is no designation (such as ‘EM’ or ‘AC’) before a regional or composite index, the index consists of developed markets only.

MSCI China Index is a free-float weighted equity index that provides coverage of the large and mid cap segments in China and is constructed according to the MSCI Global Investable Market Indexes Methodology. The MSCI China Index is part of the MSCI Emerging Markets Index.

MSCI Emerging Markets Index is a free-float-adjusted, market capitalization index that is designed to measure the equity market performance of emerging markets. The MSCI Emerging Markets Index consists of the following 21 emerging market country indexes: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Singapore, South Korea, Taiwan, Turkey, Thailand, Mexico, Peru, Philippines, Poland, Russia, South Africa, Sweden and Switzerland.

MSCI Europe Index is a free-float-adjusted, market capitalization-weighted index that is designed to measure the equity market performance of the developed markets in Europe. The MSCI Europe Index consists of the following 16 developed market country indexes: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

MSCI Japan Index is a free-float-adjusted, market capitalization-weighted index that is designed to track the equity market performance of Japanese securities listed on the Tokyo Stock Exchange, Osaka Stock Exchange, JASDAQ and Nagoya Stock Exchange. The MSCI Japan Total Return Index takes into account both price performance and income from dividend payments.

MSCI World Index is a free-float-adjusted, market capitalization-weighted index that is designed to measure the equity market performance of developed markets. The MSCI World Index consists of the following 24 developed market country indexes: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom and the United States.

MSCI U.S. Index represents the universe of companies in the U.S. equity market, including large, mid, small, and micro cap companies.

MSCI U.S. Large Cap 300 Index represents the universe of large capitalization companies in the U.S. equity market.

NASDAQ Index is a broad-based capitalization-weighted index of stocks in all three NASDAQ tiers: Global Select, Global Market and Capital Market. The index was developed with a base level of 100 as of February 5, 1971.

NCREIF Farmland Index is a composite return measure of investment performance of a large pool of individual agricultural properties acquired in the private market for investment purposes only. All properties in the Farmland Index have been acquired, at least in part, on behalf of tax-exempt institutional investors — the great majority being pension funds. As such, all properties are held in a fiduciary environment.

NCREIF Property Index is a total rate of return measure of a very large pool of individual commercial real estate properties acquired in the private market for investment purposes only. All properties in the Timberland Index have been acquired, at least in part, on behalf of tax-exempt institutional investors — the great majority being pension funds. As such, all properties are held in a fiduciary environment.

S&P 500 Index is a capitalization-weighted index of 500 stocks. The index is designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.

S&P 500 Total Return Index is a capitalization-weighted index of 500 stocks. It is calculated intraday by Standard and Poor’s on the price changes and reinvested dividends of the S&P 500 Index.

S&P 500 Consumer Discretionary Index is a capitalization-weighted index that tracks the consumer discretionary sector of the S&P 500, as denoted by the GICS.

S&P 500 Consumer Staples Index is a capitalization-weighted index that tracks the consumer staples sector of the S&P 500, as denoted by the GICS.

S&P 500 Dividend Aristocrats Index measures the performance of S&P 500 companies that have increased their dividends every year for the last 25 consecutive years. The index treats each constituent as a distinct investment opportunity without regard to its size by equally weighting each company.

S&P 500 Energy Index is a capitalization-weighted index that tracks the energy sector of the S&P 500, as denoted by the GICS.

S&P 500 Financials Index is a capitalization-weighted index that tracks the financials sector of the S&P 500, as denoted by the GICS.

S&P 500 Health Care Index is a capitalization-weighted index that tracks the healthcare sector of the S&P 500, as denoted by the GICS.

S&P 500 Industrials Index is a capitalization-weighted index that tracks the industrials sector of the S&P 500, as denoted by the GICS.

S&P 500 Information Technology Index is a capitalization-weighted index that tracks the information technology sector of the S&P 500, as denoted by the GICS.

S&P 500 Materials Index is a capitalization-weighted index that tracks the materials sector of the S&P 500, as denoted by the GICS.

S&P 500 Telecommunication Services Index is a capitalization-weighted index that tracks the telecommunications sector of the S&P 500, as denoted by the GICS.

S&P 500 Utilities Index is a capitalization-weighted index that tracks the utilities sector of the S&P 500, as denoted by the GICS.

S&P GSCI® is a composite index of commodity sector returns representing an unleveraged, long-only investment in commodity futures that is broadly diversified across the spectrum of commodities.

STOXX® Global 3D Printing Tradable Index is an equal-weighted index that tracks the performance of companies that generate at least 1% of their revenue from the growing and emerging 3D printing sector.
IMPORTANT INFORMATION

Investing involves risk. There is always the potential of losing money when you invest in securities.

The information and views contained in this publication is for informational purposes only and does not provide investment advice or take into account your particular investment objectives, financial situations or needs and is not intended as a recommendation, offer or solicitation for the purchase or sale of any security, financial instrument or strategy. Neither U.S. Trust, Bank of America Corporation nor any of its affiliates is responsible for this content, and before acting on any information in this material, you should consider whether it is suitable for your particular circumstances, liquidity needs, time horizon and risk tolerance and, if necessary, seek professional advice. Any opinions expressed herein are those of U.S. Trust, Bank of America Private Wealth Management, are given in good faith, are subject to change without notice and are only correct as of the stated date of their issue. Projections made may not come to pass due to market conditions and fluctuations. All exhibits are based on historical data for the time period indicated and are intended for illustrative purposes only.

All sector and asset allocation recommendations must be considered in the context of an individual investor’s goals, time horizon and risk tolerance. Not all recommendations will be suitable for all investors.

Past performance is no guarantee of future results. Asset allocation, diversification and rebalancing do not assure a profit or protect against loss in declining markets.

Always consult with your independent attorney, tax advisor, investment manager, and insurance agent for final recommendations and before changing or implementing any financial, tax or estate planning strategy.

OTHER IMPORTANT INFORMATION

Equities
Equity securities are subject to stock market fluctuations that occur in response to economic and business developments.

Stocks of small and mid cap companies pose special risks, including possible illiquidity and greater price volatility, than stocks of larger, more established companies.

Fixed Income
Investing in fixed-income securities may involve certain risks, including the credit quality of individual issuers, possible prepayments, market or economic developments and yields and share price fluctuations due to changes in interest rates. When interest rates go up, bond prices generally drop and vice versa.

There may be less information available on the financial condition of issuers of municipal securities than for public corporations. The market for municipal bonds may be less liquid than for taxable bonds. Tax-exempt investing offers current tax-exempt income, but it also involves special risks. Income from investing in municipal bonds is generally exempt from Federal and state taxes for residents of the issuing state. Interest income from certain tax-exempt bonds may be subject to certain state and local taxes and, if applicable, the alternative minimum tax (AMT).

Treasury bills are less volatile than long-term fixed-income securities and are guaranteed as to timely payment of principal and interest by the U.S. Government.

International Investing
International investing involves special risks, including foreign taxation, currency risks, risks associated with possible differences in financial standards, and other risks associated with future political and economic developments. Investing in emerging markets may involve greater risks than investing in more developed countries. In addition, concentration of investments in a single region may result in greater volatility.

Commodities
Trading in commodities, such as gold, is speculative and can be extremely volatile. There are special risks associated with an investment in commodities, including market price fluctuations, regulatory changes, interest-rate changes, credit risk, economic changes, and the impact of adverse political or financial factors. Tangible assets can fluctuate with supply and demand, such as commodities, which are liquid investments unlike most other tangible investments.

Energy and natural resources stocks have been volatile. They may be affected by rising interest rates and inflation and can also be affected by factors such as natural events (for example, earthquakes or fires) and international politics.

Alternative Investments
Alternative investments are intended for qualified and suitable investors only. Alternative investments are speculative and involve a high degree of risk. Alternative investments such as derivatives, hedge funds, private equity funds and funds of funds can result in higher return potential but also higher loss potential. Changes in economic conditions or other circumstances may adversely affect your investments. Before you invest in alternative investments, you should consider your overall financial situation, how much money you have to invest, your need for liquidity and your tolerance for risk.

Other
Nonfinancial assets, such as closely held businesses, real estate, oil, gas and mineral properties, and timber, farm and ranch land, are complex in nature and involve risks, including total loss of value. Special risk considerations include natural events (for example, earthquakes or fires), complex tax considerations and lack of liquidity. Nonfinancial assets are not suitable for all investors.

Investments in real estate securities can be subject to fluctuations in the value of the underlying properties, the effect of economic conditions on real estate values, changes in interest rates and risks related to renting properties, such as rental defaults.

Dividend payments are not guaranteed. The amount of a dividend payment, if any, can vary over time.

Investing in mutual funds is subject to stock market volatility. You should carefully consider a fund’s investment objectives, risks, charges and expenses before investing. This and other important information is included in the fund’s prospectus, which should be read carefully before investing. Prospectuses can be obtained from your investment professional.

Exchange-Traded Funds are subject to risks similar to those of stocks. Investment returns may fluctuate and are subject to market volatility, so that an investor’s shares, when redeemed or sold, may be worth more or less than their original cost. You should carefully consider the investment objectives, risks, charges, and expenses before investing in this product. This and other important information is included in the prospectus, which should be read carefully before investing. Prospectuses can be obtained from your investment professional or through the investor’s sign-in area of bankofamerica.com/investments.

Breakdown reflects ratings from Standard & Poor’s, Moody’s and/or Fitch Ratings. For additional information on ratings, please see www.standardandpoors.com, www.moodys.com, and/or www.fitchratings.com.


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