McKinsey Global Institute



December 2010

Farewell to cheap capital? The implications of long-term shifts in global investment and saving

The McKinsey Global Institute

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Executive summary

The recent bursting of the global credit bubble followed three decades in which capital became progressively cheaper and more readily available. Today, interest rates remain very low for several reasons, including economic weakness in developed economies, little demand for new credit by heavily indebted households, and central bank monetary policies aimed at stimulating growth. Many people have come to believe that low interest rates now are the norm.

But our analysis suggests that this low-interest-rate environment is likely to end in the coming years. We find that the long-term trends in global saving[1] and investment[2] that contributed to low rates in the past will reverse in the decades ahead. The primary reason is that developing economies are embarking on one of the biggest building booms in history. Rapid urbanization is increasing the demand for new roads, ports, water and power systems, schools, hospitals, and other public infrastructure. Companies are building new plants and buying machinery, while workers are upgrading their housing. At the same time, aging populations and China's efforts to boost domestic consumption will constrain growth in global savings. The world may therefore be entering a new era in which the desire to invest exceeds the willingness to save, pushing real interest rates up. Higher capital costs would benefit savers and perhaps lead to more restrained borrowing behavior than we saw during the bubble years. However, they would also constrain investment and ultimately slow global growth somewhat. Among our key findings:

- The investment rate (investment as a share of GDP) of mature economies has declined significantly since the 1970s, with investment from 1980 through 2008 totaling $20 trillion less than if the investment rate had remained stable. This substantial decline in the demand for capital is an often overlooked contributor to the three-decade-long fall in real interest rates that helped feed the global credit bubble.

- The world is now at the start of another potentially enormous wave of capital investment, this time driven primarily by emerging markets.[3] We project that by 2020, global investment demand could reach levels not seen since the postwar rebuilding of Europe and Japan and the era of high growth in mature economies.

- The coming investment boom will put sustained upward pressure on real interest rates unless global saving increases significantly. In most scenarios of future

1 "Saving" refers to gross national saving, which comes from households, corporations, and governments. For households, saving is after-tax income minus consumption, so borrowing that increases consumption reduces saving. Please see the technical appendix for more detail.

2 Throughout this report, "investment" refers to gross capital investment in physical assets such as infrastructure, housing, plant, machinery, and equipment. It does not include investment in stocks, bonds, or other financial assets. Please see the technical appendix for more detail.

3 We define emerging markets as countries with average 2004-08 GDP per capita less than $14,500, excluding oil exporters. Mature economies are those with average GDP per capita at or above this threshold during this period, excluding oil exporters.

economic growth, our analysis of saving suggests that it will not increase enough, leaving a substantial gap between the willingness to save and the desire to invest.

- This difference between the demand for capital to invest and the supply of saving will likely increase real long-term interest rates. That, in turn, will reduce realized investment and may prompt more saving, bringing the two into equilibrium. We do not predict how much interest rates will increase, but we find that if they were to return to their average since the early 1970s, they would rise by about 150 basis points. And real long-term rates may start moving up within five years as investors start to price this long-term structural shift.

- These findings have important implications for business executives, financial institutions, consumers, investors, and government policy makers. All will have to adapt to a world in which capital is more costly and less plentiful, and in which more than half the world's saving and investment occurs in emerging markets. Business models will have to evolve, investors may develop new strategies, and government could play an important role in easing the transition.

FALLING INVESTMENT CONTRIBUTED TO LOW INTEREST RATES

Over the past three decades, the cost of capital has fallen, though not just for the reasons widely believed. Among the most-discussed contributors to falling interest rates was the "global saving glut"—an increase in the global supply of capital in excess of the demand for capital to invest.[4] However, we find that the glut was caused not by an increase in the world's saving rate (saving as a share of GDP). On the contrary, the global saving rate actually declined from 1970 through 2002, driven mainly by a sharp decline in household saving in mature countries.[5]

Rather, our analysis shows that the saving glut really resulted from a falloff in the demand for capital, seen in the rate of global capital investment. Since the 1970s, global investment as a share of GDP fell from 26.1 percent to a recent low of 20.8 percent in 2002 (Exhibit E 1). Total global investment from 1980 through 2008 averaged $700 billion per year less than it would have been had the investment rate of the 1970s persisted—a cumulative sum of $20 trillion. For a sense of the scale of this figure, consider that it equals the combined GDP of Japan and the United States in 2008 and that it exceeds the combined GDP of the EU-27 that year. The amount also dwarfs some other commonly cited explanations for falling interest rates. The $20 trillion is nearly four times the size of cumulative Asian current account surpluses and nearly five times the growth in money supply in excess of GDP over the period.

The global investment rate declined for several reasons. First, investment rates had soared in the decades after World War II as Japan and Europe rebuilt their shattered roads, factories, and cities. Second, since the 1960s, real global GDP growth has slowed, which lowered the need for new investment. Empirically, we see a very strong link between investment growth and GDP growth. In addition, capital goods have

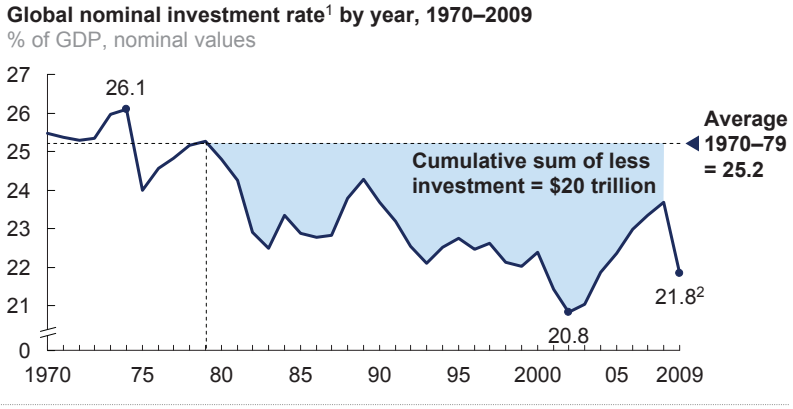
4 Current Federal Reserve Chairman Ben S. Bernanke coined this term in a 2005 speech, "The global saving glut and the US current account deficit." In this speech, he was referring to causes of both current account imbalances—which are broad measures of trade balances—and the fall in long-term real interest rates.

5 This is based on a sample of 10 mature economies (Australia, Canada, France, Germany, Italy, Japan, South Korea, Spain, United Kingdom, and United States) and four developing economies (Brazil, China, India, and Mexico), which together accounted for about 75 percent of global GDP. A comparison of 113 countries also shows a decline in gross saving from 1980 through 2002. But, due to limited data for these countries from 1970 to 1980, we could not conduct a similar analysis comparing saving rates since the 1970s.

become cheaper relative to other goods and services over time, primarily because of rapid declines in the quality-adjusted prices of IT hardware.

Exhibit E 1

Global investment as a share of GDP has declined since 1970, with about $20 trillion cumulative less investment over the period 1980-2008



$ trillion					
Investment	0.8	2.7	5.1	7.1	14.0[3]
GDP	3.1	10.8	21.7	31.7	59.7[3]

1 Nominal gross capital formation over nominal GDP.
2 2009 data based on 53 countries.
3 2008 data (latest available figures for all countries).
SOURCE: McKinsey Global Economic Growth Database; World Development Indicators of the World Bank; Haver Analytics; McKinsey Global Institute

THE BEGINNING OF A NEW GLOBAL INVESTMENT BOOM

There have been a number of economic periods in history, such as the Industrial Revolution and the postwar reconstruction of Europe and Japan, that required massive investment. We are now at the beginning of another investment boom, this time fueled by rapid growth in emerging markets.

Across Asia, Latin America, and Africa, the demand for new homes, transport systems, water systems, factories, offices, skyscrapers, hospitals, and shopping centers has already caused a jump in investment. The global investment rate increased from a recent low of 20.8 percent of GDP in 2002 to 23.7 percent in 2008, but then dipped again during the global recession of 2009. The increase from 2002 through 2008 resulted primarily from the very high investment rates in China and India, but also from higher rates in other emerging markets. Considering the still very low levels of capital that these countries have accumulated, our analysis suggests that these high investment rates could continue for decades (Exhibit E 2).

In most scenarios of future economic growth, we project that global investment demand could increase further, exceeding 25 percent of GDP by 2030. If consensus forecasts of global growth are realized, global investment will amount to $24 trillion in 2030, compared with $11 trillion today (both figures measured at constant 2005 prices and exchange rates).[6] When we examine other scenarios for global growth, we find that investment will still increase from current levels, though less so in the cases of slower GDP growth.

6 The "consensus" GDP forecast is an average of those by the Economist Intelligence Unit, Global Insight, and Oxford Economics.

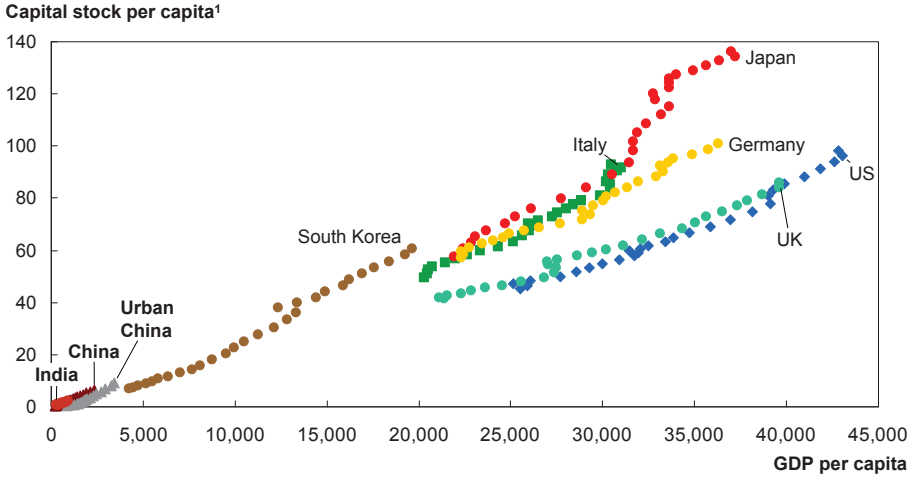
The mix of global investment will shift as emerging market economies grow. When mature economies invest, they are largely upgrading their capital stock. Factories replace old machinery with more efficient equipment, and people make home improvements. But the coming investment boom will have relatively more investment in infrastructure and residential real estate. Consider that emerging economies already invest more than twice as much in infrastructure as mature economies (5.7 percent of GDP vs. 2.8 percent). The gap is seen in all categories of infrastructure and is particularly large in transportation (e.g., roads, airports, rail), followed by power and water systems. Going forward, we project real investment demand of about $4 trillion in infrastructure, $5 trillion in residential real estate, and $15 trillion in other productive assets in 2030 in a consensus global growth scenario (Exhibit E 3).

Exhibit E 2

Capital stock per capita in China and India is very low compared with that of developed countries

Capital stock vs. GDP per capita by country and year, 1980–2008

$ thousand, sample of selected countries, constant 2005 prices and exchange rates



1 Stock of net fixed assets at the end of the year, assuming 5 percent depreciation rate for all the assets.

SOURCE: McKinsey Insights China; McKinsey Global Economic Growth Database; McKinsey Global Institute

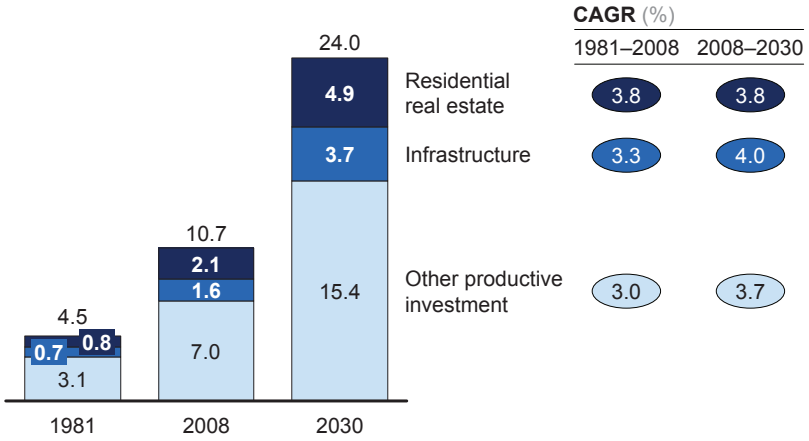
Exhibit E 3

In 2030, global desired residential real estate investment is expected to reach about $5 trillion per year, while desired infrastructure investment will reach about $4 trillion

CONSENSUS GLOBAL GROWTH SCENARIO

Desired global investment[1] by industry

$ trillion, selected years, constant 2005 prices and exchange rates



1 Forecast assumes the price of capital goods increases at the same rate as other goods and assumes no change in inventory.

SOURCE: Economist Intelligence Unit; Global Insight; McKinsey Global Economic Growth Database; Oxford Economics; World Development Indicators of the World Bank; MGI Capital Supply & Demand Model; McKinsey Global Institute

THE END OF THE SAVING GLUT

Rising investment demand will exert upward pressure on interest rates over the next 20 years if not matched by increased saving. The global saving rate has increased since 2002, but our analysis suggests that because of several structural shifts in the global economy, this trend is unlikely to continue in the two decades ahead.

First, China's saving rate will likely decline as it rebalances its economy so that domestic consumption plays a larger role in generating GDP growth. In 2008, China surpassed the United States as the world's largest saver, with its national saving rate reaching 53 percent of GDP. But if China follows the historical experience of other countries—among them Japan, South Korea, and Taiwan—its saving rate will decline over time as the country grows richer. It is unclear when this process will begin, but already the country's leaders have started to adopt policies intended to increase consumption and reduce saving.[7] If China achieves its goal, it would reduce global saving by at least 1.8 percentage points of global GDP by 2030.[8]

Another factor weighing on global saving in the future will be age-related spending. By 2030, the portion of the population over the age of 60 will reach record levels around the world. The cost of providing health care, pensions, and other services will rise along with the growing ranks of elderly. Recent research suggests that spending for the retired could increase by 3 to 3.5 percentage points of global GDP by 2030.[9] All of this additional consumption will lower global saving, through either larger government deficits or lower household and corporate saving.

There may be growth in some sources of savings in the years ahead as well. For example, households in the United States and the United Kingdom have been saving at higher rates since the 2008 financial crisis. In the United States, household saving rose to 6.6 percent of GDP in the second quarter of 2010, from 2.8 percent in the third quarter of 2005. In the United Kingdom, saving rose from 1.4 percent of GDP in 2007 to 4.5 percent in the second quarter of 2010. But even if these rates persist for two decades, they would increase the global saving rate by just 1 percentage point in 2030—not enough to offset the reduced global saving due to China restructuring its economy or countries' increased age-related spending.

All together, these trends mean that if the consensus forecasts of GDP growth are realized, the global desired saving rate will increase to around 23 percent by 2030—falling short of global investment demand by $2.4 trillion. This gap between the world's willingness to save and desire to invest will cause upward pressure on real interest rates and crowd out some investment. In turn, this could constrain global GDP growth unless the global economy can achieve higher capital productivity.

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7 China's government officials have said publicly that increasing consumption, and hence reducing the current account surplus, will be a goal in the 12th Five-Year Plan. Also see *If you've got it, spend it: Unleashing the Chinese consumer*, McKinsey Global Institute, August 2009; or Guonan Ma and Wang Yi, 2010.

8 As with investment, this is measured in terms of 2005 exchange rates and prices.

9 "Fiscal monitor: Navigating the fiscal challenges ahead," International Monetary Fund (IMF) Fiscal Affairs Department, May 2010; and "Global aging 2010: An irreversible truth," Standard & Poor's, Oct. 7, 2010.

HIGHER REAL INTEREST RATES AHEAD

Nominal and real interest rates are currently at 30-year lows, but both are likely to rise in coming years. If real long-term interest rates were to return to their 40-year average, they would rise by about 150 basis points from the level seen in the fall of 2010, as we write this report. And they may start moving up within five years.

The growing imbalance between the world's willingness to save and desired investment will be significant by 2020. However, real long-term rates—such as the real yield on a 10-year bond—could start rising even within the next five years as investors anticipate this structural shift. Furthermore, the move upward is unlikely to be a onetime adjustment, since the projected gap between the demand for and supply of capital widens continuously from 2020 through 2030.

However, real interest rates could easily surpass their long-term average as the world adjusts to the soaring investment needs of emerging markets. Real long-term interest rates reflect the cost of borrowing, plus a risk premium to compensate investors for the possibility that inflation might increase more than expected. This risk premium could be rising today as central banks increase the money supply in an effort to spur more economic growth, creating greater investor uncertainty about future inflation.

BUSINESSES, INVESTORS, AND GOVERNMENTS WILL HAVE TO ADAPT TO A NEW ERA

Our analysis has important implications for business leaders, investors, and policy makers. Businesses and investors will have to adapt to a new era in which capital costs are higher and emerging markets will account for most of the world's saving and investment. Governments will play a vital role in setting the rules and creating the conditions that could facilitate this transition.

Business leaders must recognize that the companies that achieve higher capital productivity—output per dollar invested—will have a growing source of competitive advantage. They will need less of the costlier capital for growth, giving them greater strategic flexibility. Companies with direct and privileged sources of financing will also have a clear competitive advantage. Traditionally, this meant nurturing relationships with major financial institutions in financial hubs such as London, Tokyo, and New York. But going forward, it might also mean building ties with other large pools of capital, such as sovereign wealth funds, pension funds, and other financial institutions from the high-saving countries.

For financial institutions, the relative attractiveness of different business lines will change. Higher real interest rates may improve the economics of commercial and retail banking, which had been overshadowed by other activities in recent years. In the new era, credit volumes will likely grow more slowly as higher rates dampen loan demand, but net interest margins may go up because deposit rates typically rise less than lending rates. Maturity transformation activities will become more attractive as the yield curve is likely to become steeper than it was before the crisis. Financial institutions' capital market activities may also grow more rapidly as the largest corporations increasingly raise funds in debt markets, because they are less costly than bank loans. Moreover, midsized companies will increasingly seek access to the capital markets given the higher cost of bank lending in light of new capital standards.

Investors will want to rethink some of their strategies as real long-term interest rates rise. In the short term, any increase in interest rates could mean losses for bond holders. But over the longer term, higher real rates will enable investors to earn

better returns from fixed-income investments than they could in the years of cheap capital. This will reverse the shift away from traditional fixed-income instruments and deposits toward equities and alternative investments, other things being equal. Rising real interest rates also could reduce the value of equities as the resulting higher real discount rate lowers the net present value of future cash flows. For some companies, this fall in valuation could be partially offset by a reduction in the net present value of future pensions and other liabilities.

Governments will need to encourage the flow of capital from the world's savers to the places where it can be invested in productive ways, while minimizing the risks inherent in closely intertwined global capital markets. Mature market governments need to find ways of promoting more saving and domestic investment, rebalancing their economies so they depend less on consumption to fuel growth. Policy makers in these countries, such as the United Kingdom, the United States, South Korea, and Spain, should start by putting in place mechanisms to raise household saving. Higher interest rates, by themselves, will likely curb household borrowing, which could increase net household saving. But governments should do more. They could, for instance, increase allowances for tax-free saving plans, automatically enroll workers in pension plans (with the right to opt out), and raise the retirement age.

Governments can contribute to raising gross national saving through measures to reduce their deficits, such as by cutting their own expenditures. However, governments alone could not close the projected gap between global saving and investment demand. To replace consumption as an engine of economic growth, governments in these countries also should adopt measures aimed at addressing domestic investment backlogs. To support this, they need to change from government accounting methods that treat necessary investment as consumption. When judging fiscal discipline, lawmakers, financiers, and international bodies, such as the IMF, should look at government gross saving in addition to the fiscal budget balance.

In emerging markets, governments should promote the continued development of deep and stable financial markets that can effectively gather national savings and channel funds to the most productive investments. Today, the financial systems in most emerging markets have a limited capacity to allocate savings to capital users. We see this in their low level of financial depth—or the value of domestic equities, bonds, and bank accounts as a percentage of GDP or wealth.[10] Policy makers should also create incentives to extend formal banking and other financial services to their countries' entire populations.

At the same time, policy makers around the world should create the conditions to enable long-term cross-border funding. This will require removing constraints on cross-border investing, such as restrictions on pension funds and other investors or on capital accounts. They need to ensure that tax and corporate governance systems provide more equal treatment of debt over equity. In addition, policy makers should work on creating a long-term regulatory framework for infrastructure funding. And they must create the governance and regulations that enable managers of investment funds with long-term liabilities (such as pension funds, insurance companies, and sovereign wealth funds) to focus on long-term returns and not quarterly results that reflect market movements and which can deviate from their long-term valuations.

10 See *Global capital markets: Entering a new era*, McKinsey Global Institute, September 2009.

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As we write this report, global investment already appears to be rebounding from the 2009 recession. The outlook for global saving is less certain. A climate of costlier credit would challenge the entire global economy and could dampen future growth. However, higher interest rates would be welcomed by savers and could prevent a return to the conditions that fueled the credit bubble. Financial institutions will have to adapt and innovate as more saving and investment occurs in emerging markets. Non-financial companies will have to boost their capital productivity and secure new dedicated sources of funding as capital becomes less plentiful. While leaders must address the current economic malaise, they must also continue laying the groundwork and creating the conditions for robust long-term growth for years to come.

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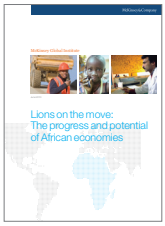

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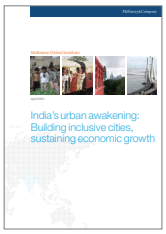

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