

The Long View

Investment Insights

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• The Future Is
Under
Construction.

The Future Is Under Construction

“The move toward urbanization in the developing world, particularly China, is not likely to slow down.”

Shaw Wagener, Portfolio Manager

Urbanization is nothing new. It’s been going on for centuries, and it helped make Europe and the United States global economic and political powers. But what is different about today’s wave of urbanization is its unprecedented speed and scale – it’s bigger and faster than ever.

In fact, at the current pace of urbanization, the world’s cities will add 65 million inhabitants a year between now and 2025, according to researchers at the McKinsey Global Institute.

The resulting demand for infrastructure will mean that each year, India alone will need to add as much floor space as exists in all of Chicago, and China more than twice that. Around the world, McKinsey estimates \$57 trillion needs to be spent by 2030 on infrastructure just to keep pace with economic growth.

History has shown that migration to cities lifts the incomes of individuals, the wealth of nations and the global economy. By 2025, urban consumers are likely to inject about \$20 trillion a year in additional spending into the world economy.

“We are quite simply witnessing the biggest economic transformation the world has ever seen as the populations of cities in emerging markets expand and enjoy rising incomes – producing a game-changing new wave of consumers with considerable spending power,” according to McKinsey’s report, *Urban World: Cities and the Rise of the Consuming Class*.

Portfolio manager Shaw Wagener says infrastructure spending in China, India and other developing countries could provide investors with opportunity, but the pace of change is likely to vary from one country to the next.

“The move toward urbanization in the developing world, particularly China, is not likely to slow down. The government is not emphasizing growth in cities such as Beijing and Shanghai. But they are expected to provide additional incentives for people to move into Chinese cities with smaller populations. So we are expecting greater infrastructure spending in these smaller cities,” Shaw says.

McKinsey reports that while the pace of urbanization has varied historically, “the process has been inexorable and irreversible.” Urbanization isn’t always accompanied by economic advancement. Political and geographic factors, even soil and climate, can affect the transition. But urbanization and growth go together, and no country has ever achieved middle-income status without a population shift into cities.

London-based portfolio manager Chris Thomsen calls the movement a

lasting trend with significant investment opportunities.

“Despite the recent economic slowdown in emerging markets, I continue to have strong conviction that the evolution of the middle class is one of the most important investment themes of the decade,” Chris says.

Key Takeaways

A new world is taking shape

- Urbanization, which helped make the United States and Europe global economic powers, is now transforming developing countries.
- Between now and 2025, the world’s cities will add 65 million people a year, mostly in Asia and Africa.
- The evolution of cities and developing countries will require massive investments in infrastructure, creating significant opportunities for companies and investors.

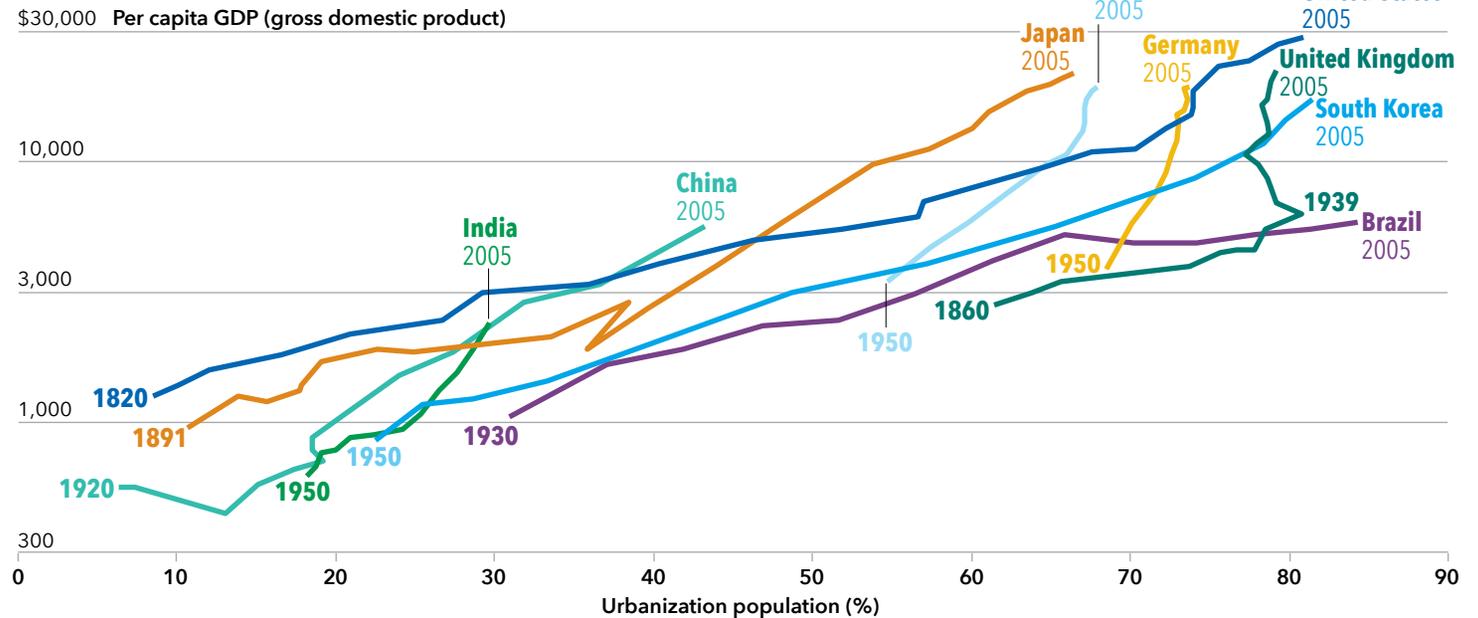
Urbanization Is Transforming the World – Again

The Wealth of Nations Soars When Societies Shift From Rural to Urban

“The growth in the developing world is having a profound effect on the global economy, and it also has significant implications for companies in the U.S. and other parts of the developed world.”

Jody Jonsson, Portfolio Manager

Per capita GDP has risen in tandem with increases in the urbanization rate



Source: Exhibit from *Urban World: Cities and the Rise of the Consuming Class*, June 2012, McKinsey Global Institute, www.mckinsey.com/mgi, © McKinsey & Company. All rights reserved. Reprinted by permission. Please see back cover for additional information.

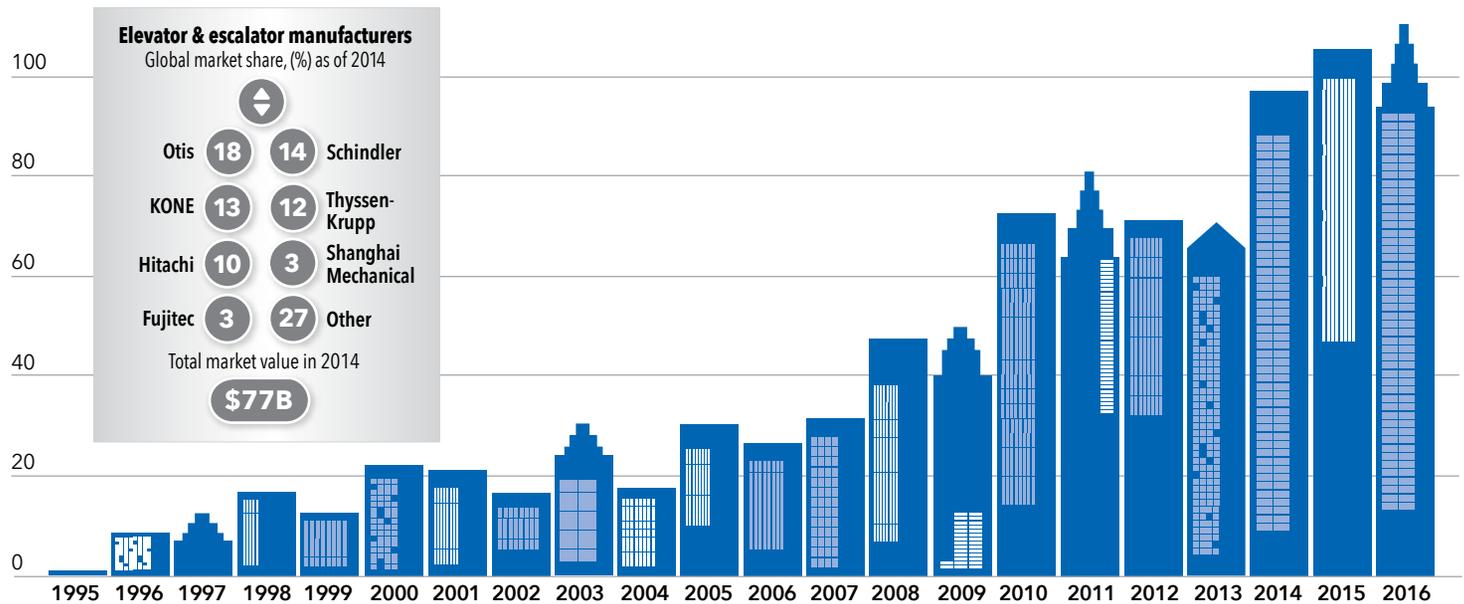
- Urbanization isn't a modern phenomenon. In centuries gone by, the shift to living in cities underpinned the industrial revolutions of Europe and the United States and the rise of those regions to global economic and political power. Now urbanization is transforming the developing world. But what is different about today's wave of mass urbanization is its unprecedented speed and scale, according to the McKinsey's *Urban World: Cities and the Rise of the Consuming Class*.
- Cities are economic dynamos. They attract skilled workers and productive businesses. Cities offer higher wages and better standards of living than those available in rural areas. As countries develop, urbanization and growth of per capita GDP tend to be correlated. The key reason for this relationship between cities and growing wealth is that the increased density of urban populations produces economies of scale that boost productivity, which in turn enhances growth – a virtuous cycle.
- Around the world, the number of cities with a population greater than 10 million is expected to rise from 18 in 2007 to 41 in 2025, with Lagos and Jakarta joining the list of megacities. Just as the process reshaped the world in the past, urbanization is likely to redefine much of the world this century. Indeed, the world's cities will add 65 million inhabitants a year between 2015 and 2025, creating opportunities for social and economic development, and exerting pressure on infrastructure and resources.

Getting Taller All the Time: Maybe the Sky Isn't the Limit

The 3,281-Foot Kingdom Tower in Saudi Arabia Will Be the World's First Kilometer-Tall Building

2014 was the "tallest year ever," with the completion of a record 97 buildings above 200 meters

120 Total number of buildings 656 feet (200 meters) or taller completed each year around the world



"The companies that make elevators and escalators are in a wonderful business. They install it, and then they maintain it for years on end. Very high returns on capital."

Jody Jonsson, Portfolio Manager

Sources: CTBUH Year in Review: Tall Trends of 2014, and Forecasts for 2015, Council on Tall Buildings and Urban Habitat; KONE Primer, CS European Capital Goods, May 2015, Credit Suisse. The total number of buildings completed for each year includes tall (600+ feet/200+ meters), supertall (900+ feet/300+ meters) and megatall (1,900+ feet/600+ meters) buildings; projected data for 2015 and 2016 represent expected, not possible, completions. The data for elevators and escalators are Credit Suisse estimates, based on company data as of fiscal year 2014, for new installations and maintenance.

- Elisha Otis founded The Otis Elevator Company in 1853, but it was the company's 1903 innovation called the gearless traction elevator that set in motion a remarkable change in the urban landscape. The invention made very tall buildings practical for the first time and ushered in the era of the modern skyscraper. Things have been going up ever since. In fact, 28 buildings over 1,312 feet in height are due for completion by the end of 2018, compared with just 15 in the previous 15 years.
- That's good news for Otis Elevator, the world's largest manufacturer and maintainer of people-moving products, including elevators, escalators and moving walkways. Otis is a part of UTC Building & Industrial Systems, a unit of United Technologies Corp.
- Otis elevator systems are used in many of the world's most iconic buildings, including eight of the last 10 to have held the title of the world's tallest building. The current record holder, the 2,716-foot (163 floors) Burj Khalifa in Dubai, relies on Otis systems, as does the 2,165-foot Ping'An Financial Center in Shenzhen, which will be China's tallest upon completion in 2016. Otis received about \$36 million for its work on Burj Khalifa. The elevators in the kilometer-high Kingdom Tower in Saudi Arabia, however, will be installed by rival KONE Corporation, founded in Finland in 1910.
- For comparison, the 102-story Empire State Building, which stood as the world's tallest for 40 years after its completion in 1931, is 1,250 feet tall. Today, it's the 25th tallest building in the world. Otis installed the elevators in 1931.

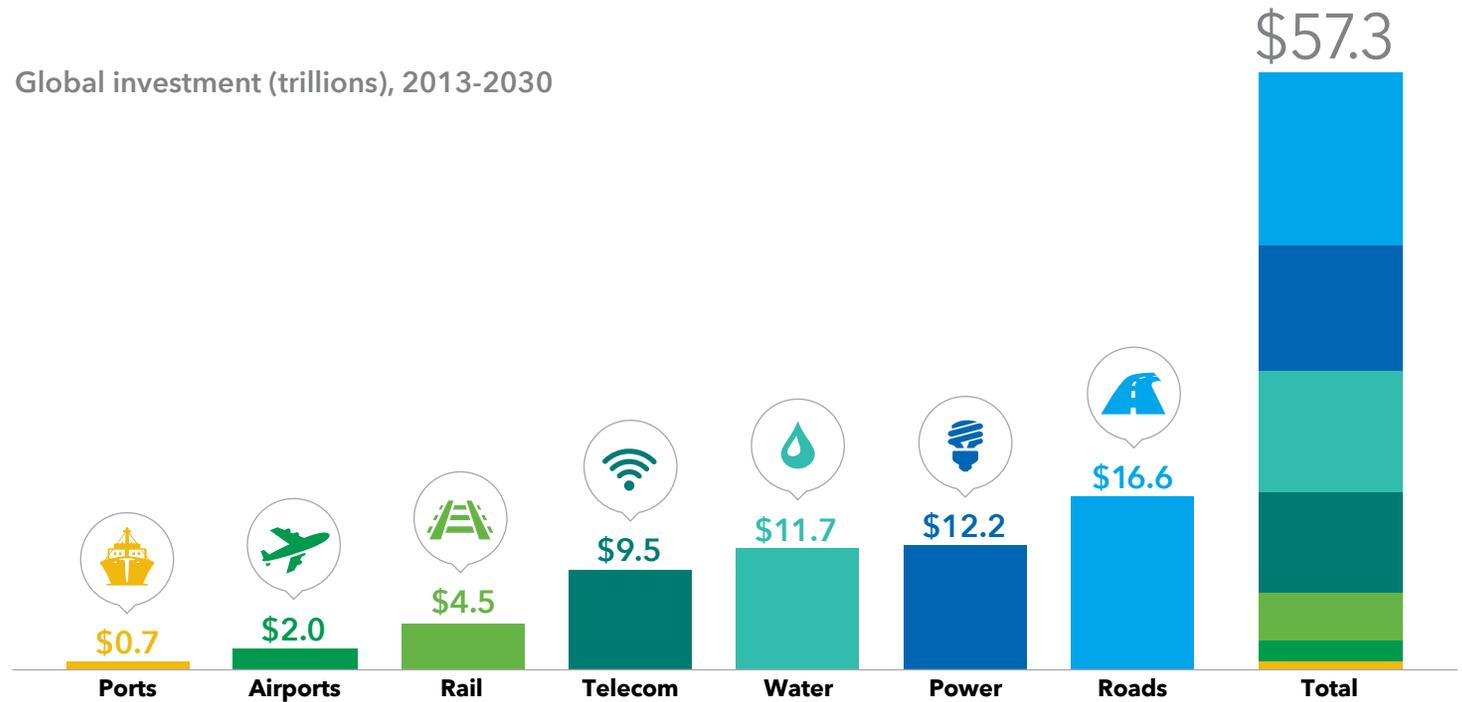
A \$57 Trillion Bill for Infrastructure Is Coming Due

The World Faces a Massive Construction Project Just to Keep up With Projected Growth

“What I think we will see – and this is one of the positive structural outlooks for China – is that probably 10-15 million people, at least, every year will be moving into cities. So that’s a pretty meaningful demand-construction outlook.”

Andrew Dougherty, Investment Analyst

Global investment (trillions), 2013-2030



Source: Exhibit from *Infrastructure Productivity: How to Save \$1 Trillion a Year*, January 2013, McKinsey Global Institute, www.mckinsey.com/mgi, © McKinsey & Company. All rights reserved. Reprinted by permission. Please see back cover for additional information.

- Some countries need infrastructure that simply meets basic human needs, such as safe drinking water. Another may want to modernize its transportation network, and still others may be trying to lay the groundwork for future global competitiveness by building a national broadband network. But around the world, about \$57 trillion needs to be spent by 2030 to keep up with the projected growth of global gross domestic product. Roads and power account for about half of projected spending.
- Indeed, building and repairing roads and power grids are the two areas with the greatest need for new investment, followed by water provision and telecom networks. Much of the money needs to be spent in developing countries. In 2012, for example, only 34% of rural Africans lived within two kilometers of an all-weather road, only 25% had electricity and only 61% had access to water sources that were protected from external contamination. The infrastructure needs in Africa are especially daunting.
- There are, of course, many countries with multibillion-dollar projects underway. Perhaps the most ambitious are in China, where such megaprojects include the world’s largest bridge and the longest underwater tunnel. In Panama, improvements that will double the capacity of the canal are expected to be completed in 2016. The bill for such projects can be daunting. But without the necessary infrastructure, economies struggle to meet their full economic and human potential.

The Secret to Keeping People in the Air? Groundwork

Globally, \$543 Billion Worth of Airport Construction Projects Are in Progress

“History shows that as economies develop and populations gain wealth, one of the first things they do is fly.”

Todd Saligman, Investment Analyst

Airport construction projects worldwide and investment amount (in billions), as of January 2015



Source for data:
centreforaviation.com/data/airports

Source: CAPA - Centre for Aviation, Premium Airports Database, centreforaviation.com/data/airports. Data are for existing airports with projects either in progress or planned for and with a good chance of completion.

- China started working on a new airport near Beijing on December 26, 2014. The airport, which is being designed by Netherlands Airport Consultants, is expected to be completed in 2018 and cost about \$14 billion. Upon completion, the 7.5-million-square-foot terminal will accommodate about 45 million people per year. The terminal will later expand to handle an annual flow of up to 72 million people, about the same capacity as London's Heathrow, one of the world's busiest airports.
- China leads the world in airport construction, and this will be Beijing's second international airport. But airports

are taking off all around the world. Globally, \$543 billion worth of projects are in progress, according to research by CAPA Centre for Aviation.

- In the U.S., for example, one of Denver International Airport's (DIA) main runways is getting a \$46.5 million face-lift. And, in November a 14-story Westin will open next to DIA, along with a new transit center housing a commuter railway that will take passengers to downtown Denver in 30 minutes.
- But the Asia-Pacific region, including China and India, is driving much of the increase in the world's air traffic. Millions

of people are taking to the skies in that region. The demand is expected to be so great that Boeing, one of the world's largest airplane makers, predicts that 35,280 new planes, valued at \$4.8 trillion, will be in the air by 2032.

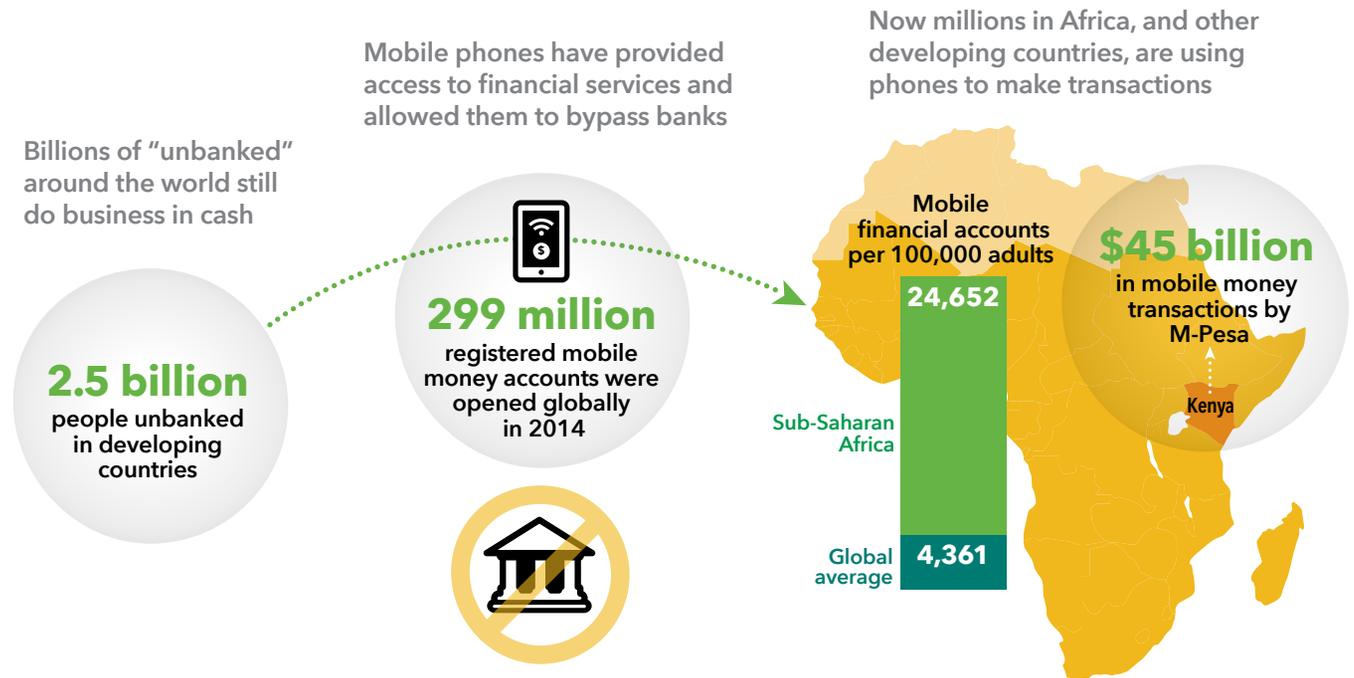
- The Middle East, Latin America and Africa are also driving growth. Many of those regions will require significant investments in new or improved runways, terminal expansions and entirely new airports, a potential opportunity for such global companies as Caterpillar, Komatsu and Cummins, which provide the machines that help build the future.

Africa Leapfrogs Landlines, and Takes a Shortcut to the Bank

Technological Advances Can Allow Countries to Skip Building Out Traditional Infrastructure

“Growth is happening with the help of the Internet and smartphones, or just cellphones. It’s happening around the world – in Vietnam, the western part of China, or Africa.”

Gregg Ireland, Portfolio Manager



Sources: 2014 State of the Industry: Mobile Financial Services for the Unbanked, March 2015, Groupe Speciale Mobile Association (GSMA); “Banks Vie for a Piece of Africa’s Mobile Banking Market,” August 15, 2014, *The Wall Street Journal*; Safaricom Limited FY15 Presentation. The GSMA Mobile Money report is available at http://www.gsma.com/mobile-fordevelopment/wp-content/uploads/2015/03/SOTIR_2014. The data for mobile financial accounts per 100,000 adults are as of June 2013. The total M-Pesa transactional value of \$45 billion is for the fiscal year ended March 31, 2015.

- Africa provides one of the classic examples of technology trumping traditional infrastructure. The introduction of mobile phones has allowed millions of Africans to receive the social and economic benefits of telephone networks without the sunk cost of massive landline infrastructure. They have effectively “leapfrogged” an entire stage of development, going directly from little or no telephone service to the same, efficient technology used in developed countries. That’s changing lives around the world.
- Since 2011, due largely to rapid adoption of mobile phones in developing countries, about 700 million people have become account holders at banks, other financial institutions, or mobile money service providers, the World Bank reports. Mobile money, or using a phone to transfer money and make payments, has been perhaps the most powerful tool for bringing the unbanked into more formal financial activities. One of the most dramatic examples has occurred in sub-Saharan Africa.
- While fewer than a quarter of Africans have bank accounts, 40% have a mobile phone. That’s made the continent attractive to mobile-payments businesses, such as M-Pesa, which handled \$45 billion in transactions for the year ended March 31, 2015. M-Pesa is owned by Safaricom, the Kenyan subsidiary of Vodafone Group PLC, the global telecom company. Indeed, in sub-Saharan Africa, there are about 25,000 mobile financial accounts per 100,000 adults, about six times the global average.

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The following information pertains to the charts on the pages specified below.

Page 1: Urbanization is the increasing number of people living in cities as populations shift from rural to urban areas; the definition of urbanization varies by country. Pre-1950 data for the United Kingdom are estimated. Historical per capita GDP is expressed in 1990 Geary-Khamis dollars, which reflect purchasing power parity (PPP) that estimates the amount of adjustment needed on the exchange rate between countries in order for the exchange to be equivalent to each currency's purchasing power. PPP helps determine the exchange rate adjustment so that identical goods and/or services in different countries have the same price when expressed in the same currency.

Page 3: McKinsey calculated the estimate of \$57 trillion, or 3.5% of global gross domestic product, for global infrastructure need through 2030 by compiling projections of demand in the different infrastructure categories shown. The estimate for telecom covers only those members of the Organisation for Economic Co-operation and Development, plus Brazil, China and India. The estimated investment amounts, expressed in constant 2010 dollars, may not sum due to rounding. The constant dollar is an adjusted value of currency used to compare dollar values from one period to another.