Global macro matters

China's key risk: It's housing, not stocks

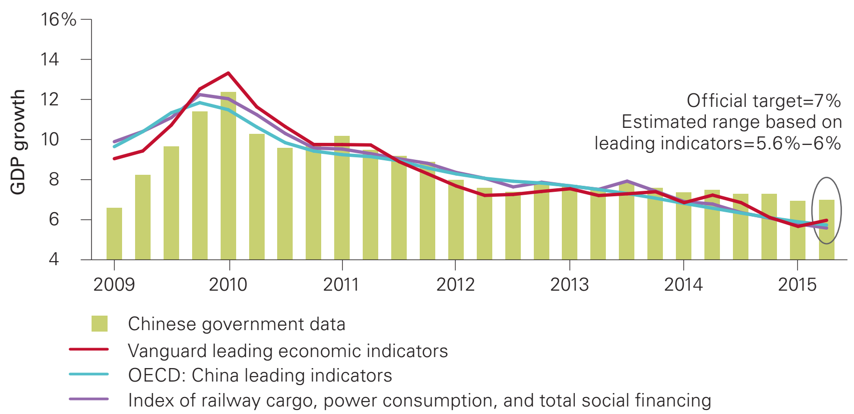
Vanguard research | Joseph Davis, Ph.D. | September 2015

The stock market isn't most concerning

Much of the recent volatility in China's stock market stems from renewed concerns about an economic hard landing (growth below 4%). In our view, a hard-landing scenario is less worrisome than an outright recession (negative growth). The probability of a recession is not trivial, because of the long-term and structural nature of the slowdown. Given this, we expect that China will marginally miss its stated 2015 growth target of 7%.

This is a pivotal time for the country as it transitions from a manufacturing-based economy to a service-based one. As such, concerns over China's economy should persist for years. Policy actions that address economic fundamentals should be more effective—and welcomed by long-term investors—than ones that react to stock market activity.

Growth below 7% would fall short of China's target for second straight year



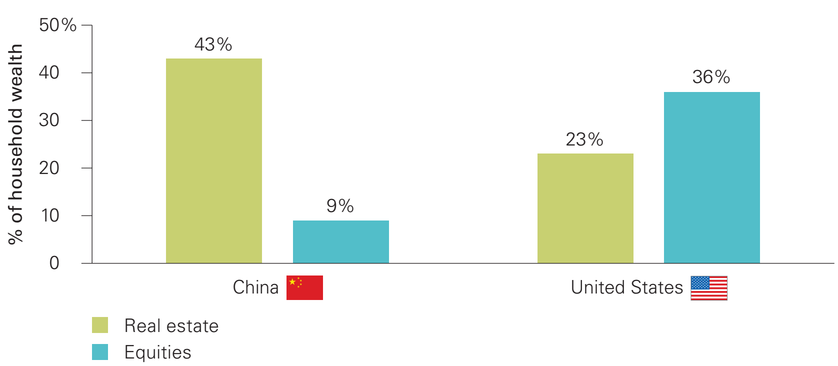
Notes: Data cover first quarter 2009 through second quarter 2015. GDP values represent fitted values after adjusting for trend using the Hodrick-Prescott filter for all but the Chinese government values.

Sources: CEIC Data, Citi, China's National Bureau of Statistics, Organisation for Economic Co-operation and Development (OECD), Thomson Reuters Datastream, and Vanguard calculations.

Housing is a bigger economic risk

Despite elevated volatility in China's stock market, only about 9% of household wealth is invested in equities, versus 36% in the United States. The real estate market, on the other hand, is the largest single source of Chinese household wealth. Home values across China have risen 279% since 2002 and, by some measures, seem inflated in more than a few cities, as illustrated by a 457% home-value increase in Shanghai. For China to improve its economic outlook, the housing market needs to stabilize.

Housing is much more vital to China's wealth than the stock market



Sources: Board of Governors of the Federal Reserve System, Z.1 Financial Accounts of the United States (First Quarter 2015), CEIC Data, and Vanguard calculations.

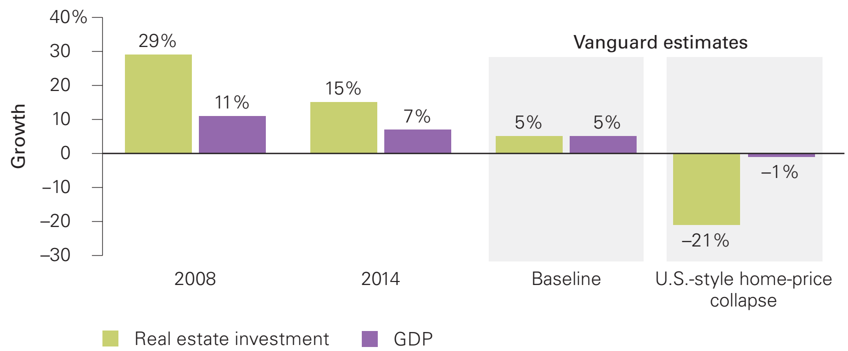
The housing decline explains 75% of China's slowdown since 2008

Housing has been essential to China's growth, growing an average of 25% per year from 2003 to 2013; it now represents about 10% of GDP. In comparison, U.S. housing construction peaked at 6% of GDP in 2006. Our calculations show that China's housing market alone accounts for nearly a quarter of the world's demand for aluminum, steel, and zinc.

Based on our analysis, a 10% decline in housing investment sheds more than 2% from headline GDP growth. Despite housing's impact, it is unlikely to trigger a U.S.-style home-price collapse because China's property market is much less leveraged than in many developed economies. The ratio of mortgage debt to property assets is less than 7%, and Chinese buyers need a 30% down payment for a first-time mortgage and up to 60% for a second one.[1]

1 See the *Global Macro Matters* paper *China: Slowdown Possible, Financial Crisis Less So*, at vanguard.com/research.

China recession requires a U.S.-style home-price collapse, but property market is less interconnected



Notes: All data for 2008 and 2014 are real values. "Baseline" and "U.S.-style home-price collapse" scenarios are estimated using an augmented input-output model. Housing sector is proxied by housing service sector plus 55% of construction sector (assuming the rest to be infrastructure-related construction activities). Latest available input-output table in China is the 2010 table released in 2013 by China's National Bureau of Statistics. Real estate investment growth in the "U.S.-style home-price collapse" scenario is proxied by U.S private fixed investment: residential average annual growth 2007–2009. Both GDP growth estimates are based on the slowdown in housing investment, holding all other factors constant such as policy support and financial service sector growth.

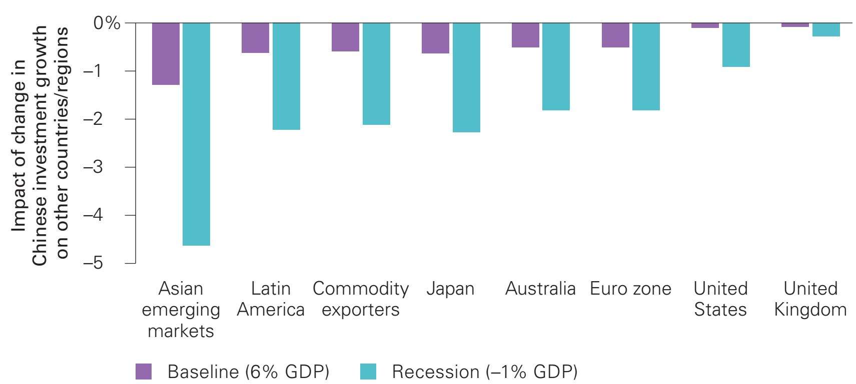
Sources: CEIC Data, China's National Bureau of Statistics, Moody's Analytics Data Buffet, Organisation for Economic Co-operation and Development, U.S. Bureau of Economic Analysis, and Vanguard calculations.

Despite China's size, a hard landing is not enough to trigger a global recession

A slowdown in China's real estate investment is expected, but the likelihood of a housing market crash that leads to a global recession is low. China's slowdown will be most felt by its neighbors and commodity exporters like Brazil. There is a risk that select emerging-market economies will continue to struggle in adjusting their growth models given low commodity prices, weaker productivity, and high debt levels.

Our view remains that China's slowdown and excess capacity will generate deflationary impulses worldwide, and investors should expect periodic and sharp volatility. However, that volatility should not damage global growth too significantly as long as the United States and Europe continue recovering and China avoids a housing market crash.

A hard landing pales compared with a U.S.-style crash, which is less probable



Notes: Chart depicts simple regression based on the direct impact of China's trade linkages, ignoring second-order effects. It assumes that Chinese GDP growth slows from reported 7% to the rates stated in parentheses for the two scenarios. Euro zone is represented by GDP growth impact on Germany. Commodity exporters are represented by Canada, Chile, and Australia.

Sources: Vanguard calculations, based on data from International Monetary Fund 2012 Spillover Report.

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