Executive summary. Rising labor costs across China, India, Brazil, and many other emerging markets are prompting concern that emerging markets’ inflation will soon place more sustained upward pressure on consumer import prices in developed markets. Our analysis concludes that the direct impact of a $1 rise in emerging markets’ prices on developed markets’ CPI is likely to be low, ranging from $0.04 in the United States and Canada to $0.09 in Australia. Based on these calculations, even a large and unexpected 25% appreciation in the Chinese currency would be expected to boost U.S. CPI headline inflation by less than 1 full percentage point.

We conclude that rising import prices in emerging markets do not currently threaten developed markets’ price stability. Previous Vanguard research has demonstrated that inflation trends in developed countries are predominantly influenced by domestic factors. In the quarters ahead, some emerging countries risk falling into a 1970s-type high-inflation spiral, while others may tighten monetary policy too aggressively, leading to a slowdown in their economies. In Vanguard’s view, such country-specific macroeconomic uncertainty underscores the importance of investing in as broad an emerging markets’ equity vehicle as possible.
Rising emerging markets’ inflation

Inflation in emerging markets now exceeds 6%, a rate more than double that of developed markets (see Figure 1). Although some of the recent run-up can be attributed to a spike in food prices, there is growing concern that the acceleration in emerging markets’ inflation since 2010 marks a return toward the higher trend rates of inflation observed in emerging markets over long stretches of the 1980s and 1990s.

This concern is greatest for the largest and fastest-growing emerging markets economies of China, India, and Brazil. Indeed, more anecdotal reports have emerged of growing labor-market shortages that, if accurate, could translate into higher labor costs for the very same emerging economies that have arguably placed the most downward price pressure on imported consumer products for developed markets. Rising wage pressures in these countries come at a time when money and credit growth rates in some emerging nations are rising more quickly than their already-high economic growth rates (see Figure 2).1

Should inflation in emerging markets persist, how much of a threat is it to the price stability of developed markets? In short, is emerging markets’ inflation the next developed markets’ import?

Emerging markets’ pass-through of price changes to developed markets

All else equal, the most direct and immediate transmission channel of inflation from emerging to developed markets is through import prices. Consequently, we estimated the average impact of a 1% increase in emerging markets’ inflation (based on trade and import price data for 22 emerging economies) on developed markets’ consumer inflation during 2010.2

The bubble charts in Figure 3, on page 4, demonstrate that the potential effect of emerging markets’ inflation diminishes markedly by the time it reaches developed markets. In the United States, for example, we assumed that the incidence of emerging markets’ exporter pass-through of price changes is 42%. This number is based on a long-term upper-bound estimate for foreign exchange pass-through.3

Notes on risk: All investments in mutual funds are subject to risk. There are additional risks when investing outside the United States, including the possibility that returns will be hurt by a decline in the value of foreign currencies or by unfavorable developments in a particular country or region. Stocks of companies in emerging markets are generally more risky than stocks of companies in developed countries.

Note: We thank Charles J. Thomas, a Vanguard investment analyst, for excellent research and data support.

1 In addition, the central banks of Brazil, China, and Mexico have accumulated larger foreign reserves as part of their efforts to prevent more significant exchange-rate adjustments. These policy actions are potentially inflationary, since currencies that are allowed to fluctuate freely serve as a more effective buffer against inflationary pressures stemming from capital inflows.

2 Our calculation for the inflationary transmission is simply based on the weight or contribution of imports from emerging markets’ trading partners in each developed market’s CPI basket of goods and services. International monetary theory predicts that high-inflation currencies tend to weaken relative to low-inflation currencies, so a bilateral foreign exchange rate tends to fully adjust to any inflation differential between two countries. As an example, if U.S. inflation is 2% and inflation in India is 7%, then the rupee would depreciate by 5%—so Indian inflation in U.S. dollar terms would be 2%, same as for the United States. In practice, however, the theory’s predictions are often partially or totally rejected, especially over the short run. Since we chose to ignore any currency adjustment, we can interpret our calculations as an upper-bound to the actual inflation transmission between emerging and developed markets.
Figure 1. Global inflation patterns: 1999–2011

a. Developed markets

<table>
<thead>
<tr>
<th>CPI weightings</th>
<th>Food</th>
<th>Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed markets</td>
<td>13%</td>
<td>8%</td>
</tr>
<tr>
<td>Australia</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>Canada</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td>U.K.</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>United States</td>
<td>14</td>
<td>10</td>
</tr>
</tbody>
</table>

Note: Headline inflation data are from International Monetary Fund (IMF), with estimated IMF projections for 2011.

Figure 2. Select inflation drivers across emerging and developed markets’ economies

a. Excess money supply growth

b. Central banks’ policy rates

Notes: We define excess money supply growth as the growth rate in broad money supply (M2 or its nearest equivalent) minus the growth rate in real gross domestic product (GDP) growth, as of December 31, 2010.
Sources: Vanguard, OECD, IMF, and Thomson Reuters Datastream.
Figure 3. Emerging markets’ import price pass-through to developed markets’ CPI

Australia

EM inflation
$1

EM exporters pass on part of price increase.

EM export prices
$0.7

Imports from EM are 44% of total imports.

Import prices
$0.4

Imports are 29% of PCE.

Australia inflation
$0.087

Canada

EM inflation
$1

EM exporters pass on part of price increase.

EM export prices
$0.6

Imports from EM are 15% of total imports.

Import prices
$0.1

Imports are 44% of PCE.

Canada inflation
$0.042

United Kingdom

EM inflation
£1

EM exporters pass on part of price increase.

EM export prices
£0.7

Imports from EM are 26% of total imports.

Import prices
£0.2

Imports are 39% of PCE.

U.K. inflation
£0.069

United States

EM inflation
$1

EM exporters pass on part of price increase.

EM export prices
$0.4

Imports from EM are 47% of total imports.

Import prices
$0.2

Imports are 18% of PCE.

United States inflation
$0.037

Notes: EM = emerging markets; PCE = personal consumption expenditures. Emerging markets’ exporters tend to pass on only a fraction of the price increase of traded products to major developed markets, in order to preserve market share, even at the expense of reduced profit margins. Campa and Goldberg (2004) found that the long-run pass-through elasticities (percentage change in one variable to percentage change in another variable) of exchange rates into aggregate import prices were 0.42 for the United States, 0.67 for Australia, and 0.65 for Canada. Mumtaz, Ömen, and Wang (2006) found that the exchange-rate pass-through into U.K. import prices was 0.66.

Sources: Vanguard calculations, based on data from OECD, IMF, and Thomson Reuters Datastream.
We then multiplied this by emerging markets’ imports as a percentage of total imports to the United States. Finally, we multiplied the product by total U.S. imports as a percentage of personal consumption expenditures, in this case, 18%. Based on this methodology, every 1% increase in emerging markets’ inflation has resulted in 0.04% higher U.S. CPI inflation (1% inflation = 1% * 0.42 * 0.47 * 0.18 = 0.04%) in 2010. We repeated this exercise for Australia, Canada, and the United Kingdom to arrive at an estimated transmission effect for 2010. Overall, we found that the direct impact of a $1 rise in emerging markets’ inflation on developed markets’ CPI has been low over the past decade, ranging from $0.04 in the United States and Canada to $0.09 in Australia.4 Similarly, in the United Kingdom, the inflation transmission has been 0.07 pounds per 1 pound increase in emerging markets’ prices.

Going forward, the transmission of emerging markets’ inflation to developed markets’ CPI is likely to remain low, despite the recent acceleration in emerging markets’ inflation and the growing importance of emerging markets’ products in world trade. Indeed, repeating our calculations using consensus 2011 emerging markets’ inflation rates resulted in similar estimates to those reported in Figure 3.

Put another way, our calculations suggest that emerging markets’ inflation would need to exceed 25% for higher import prices to boost U.S. CPI headline inflation by 1 full percentage point. For comparison, most analysts expect emerging markets’ inflation to average approximately 7% in 2011 and to perhaps recede in 2012 and beyond. As such, the direct effect of higher emerging markets’ inflation on developed market inflation rates is expected to remain low under most scenarios.

But what if China significantly revalues its currency?

A potential wildcard in this analysis is the compounding effect that a major revaluation in an emerging market’s currency could have on developed markets’ inflation by raising the costs of imported goods. A recent Federal Reserve research paper by Auer (2011), for instance, argues that a sharp appreciation in China’s currency (the yuan or renminbi, RMB) could spark higher U.S. inflation. By some metrics, the Chinese currency appears as much as 25% undervalued relative to its fundamentals.

If the Chinese RMB were to increase 25% in value relative to the U.S. dollar, what would be the inflationary effects for the U.S. economy? Using our previous framework, we estimate that a hypothetical and immediate Chinese currency appreciation of 25% versus the U.S. dollar would translate into a less than 1% rise in U.S. CPI, all else equal. This is consistent with what occurred during the past 17% appreciation of the yuan against the U.S. dollar between 2005 and 2008 (see Figure 4, on page 6).

Even under this extreme scenario, it would appear that emerging markets’ inflation is not an imminent threat to developed markets’ price stability. As stated earlier, Vanguard research has shown that domestic factors are the key drivers of inflation trends in developed markets (Davis and Cleborne, 2009). Also, in Vanguard’s paper Evolving U.S. Inflation Dynamics, Davis (2007) found that inflation expectations and domestic labor market conditions (two major factors in domestic market labor costs) explained the vast majority of fluctuations in core CPI inflation over a three-year period. Changes in commodity prices, in import prices, and in the value of the U.S. dollar may have short-term impacts on headline CPI inflation, but they have not had a significant effect on the trend rate of U.S. inflation over the past three decades.

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3 Estimated by U.S. Federal Reserve researchers Campa and Goldberg (2004). Emerging markets’ exporters tend to pass on only a fraction of the price increase in traded products to major developed markets in order to preserve market share, even at the expense of reduced profit margins.

4 We have equated one U.S. dollar to a 1 percentage point change in inflation. As an example, a 1 percentage point increase in emerging markets’ inflation translates into 0.09 percentage point of inflation in Australia.
Conclusions and investment implications

To reiterate, we do not see emerging markets’ inflation as a looming threat to developed markets’ price stability. Our analysis finds that only $0.04 to $0.09 of every $1 increase in emerging markets’ inflation ultimately passes through to the prices of imported consumer products in developed markets. In many ways, this should not be surprising, since developed markets’ inflationary trends are mostly influenced by domestic factors, as previously documented.

In our view, the rise in emerging markets’ inflation poses a greater risk to emerging economies themselves. Indeed, high and rising emerging markets’ inflation is arguably the most significant risk factor for emerging markets’ equity investors.

At present, certain emerging economies such as India and, to a lesser extent, China are at moderate risk of falling into a 1970s-type high-inflation spiral. Given these conditions, recent monetary policy actions in China and in select other emerging countries are encouraging.

That said, in the quarters and years ahead, some emerging markets’ countries may likely tighten their monetary policy too aggressively and produce lower-than-expected growth, while others may run the risk of trend inflation continuing to rise. Vanguard believes that such country-specific uncertainty emphasizes the importance to equity investors of diversifying across emerging countries, to help lessen such macroeconomic risks.
References


