

# **Financial-Market Turbulence: Greed versus Fear and Does It Matter?**

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On several occasions over the past six weeks, global financial markets have experienced brief bouts of turbulence. My task is to try to put those adjustments into perspective, to consider whether the balance of investor sentiment has shifted from greed (the reckless pursuit of short-term gains) to fear (a substantial reduction in risk taking), and to speculate on the consequences.

Recent financial-market developments have unfolded against the backdrop of an extended period of strong, broad-based, global expansion and overall financial stability. According to Michael Mussa and Martin Baily, these conditions are likely to continue.

Current financial-market conditions generally reflect the benign global economic environment and favorable prospects. As is shown in slide 2, gauges of financial-market nervousness, for example, in the form of exchange-traded hedging instruments such as the Chicago Board of Option Exchange's Volatility Index, are calm. Despite blips, volatility has been on a downtrend or plateau for four years. Nevertheless, all good things have to come to an end. This is not to say that their duration necessarily increases the chances that the end will be sooner or more spectacular.

A major focus of financial-market attention is global equity markets, shown in slide 3. Earlier this year, many markets reached further new highs. These indexes tend to move together. This phenomenon is easily explained by two facts: The profits of a large fraction of the firms

whose stocks trade on these exchanges are affected directly or indirectly by global economic and financial conditions. In addition, investors are increasingly globally diversified. Consequently, the normal process of portfolio rebalancing transmits sympathetic impulses. Of course, equity prices also are influenced by changes in overall risk aversion. Small adjustments may signal the need to head for the exits.

One feature of global economic and financial developments over the past several years has been the absence of external financial crises affecting major emerging-market economies. This has contributed to a substantial narrowing of spreads on emerging-market debt (slide 4). Shown at the bottom of the first column is the EMBI Global index on average for the first six weeks of the year. On the right are deviations for selected countries. Spreads are generally narrow and display little differentiation among countries. They have been favorably affected by the robust, global expansion, easy monetary conditions, and a paucity of net, new supply.

Despite efforts here at the Peterson Institute to stimulate rapid exchange rate adjustment to help address global imbalances, exchange rates over the past five years have been uninteresting. As is depicted in slide 5, the US dollar has declined on balance by about 15 percent in real terms. I interpret this decline as evidence that global adjustment is under way, but its pace had been glacial and its distribution suboptimal. An important risk is that the adjustment could accelerate with negative feedbacks on the US and/or global economies.

Thus recently, greed has generally dominated fear (slide 6). However, at the end of February and early March, we saw a few spikes in the Volatility Index, what the Financial Stability Forum characterized as “adjustments in risk positions.” In each case, as in 2005 and 2006, the index subsided.

Equity markets (slide 7) have shown an uneven pattern in recent weeks. Does this signal a correction or the beginning of a collapse? To date there has not been a collapse, but such questions reinforce concerns about the economic outlook.

On slide 8, we see that relative spreads on emerging-market debt widened a bit in late February and early March, but on average they have reverted. The small differentiation among individual countries appears to reflect developments in those countries rather than overall market conditions.

Finally, with respect to exchange rates (depicted in slide 9) recent events have raised the possibility that financial-market developments would trigger another leg down in the inevitable, in my view, further adjustment of the dollar. So far that has not been the case. Although there have been some adjustments in bilateral exchange rates, the dollar on balance is only slightly lower than it was before February 27, having risen a bit initially and then backing off.

Against this background, a number of issues might be addressed. I will consider three: (1) What are the potential economic consequences of changes in equity prices in the United States and, by implication, globally? (2) What is the role of the so-called carry trade in financial-market developments? (3) Does the balance between greed and fear matter for the global economy?

One's assessment of the potential economic consequences of a collapse in equity prices depends on one's view of how much stock markets matter. The principal channels are via the cost of capital and wealth effects on consumption. As you can see in slide 10, there is wide variation in national stock market capitalizations relative to GDP. However, these measures are misleading because links between the national markets and the national economies are not tight. For example, the behavior of the Swiss stock market with a capitalization of more than 250 percent of GDP has little to do with the performance of the Swiss economy and vice versa.

A more relevant question is whether stock prices are generally overvalued. Price/earnings ratios are one, crude indicator of possible overvaluation. Slide 11 provides P/E data on the US market, based on current operating earnings. The good news is that, in contrast with the situation in the late 1990s, the aggregate ratio for the S&P index has not increased, and the same holds generally in most major markets.

The potential bad news is that in the United States, as well as globally, earnings and profits—the denominator—have been rising rapidly, probably at an unsustainable pace. As is depicted in slide 12, global economic profits for US corporations reached a new high in 2006, since 1980 at least, relative to national income. That fact highlights the possibility that

profits not only will cease to rise as fast as income but also might decline substantially. The former would be expected to contribute to some downward adjustment in equity prices.

On the other hand (slide 13), a 25 percent decline in the profit share, say, from the elevated 13.8 percent level in 2006 to the average of 10.4 percent for 1995–2004, if fully translated into the capitalization of the US stock market, would imply a loss of about \$4.9 trillion on paper. Four-cents-on-the-dollar is a generous rule-of-thumb estimate for the consequent depressing effects on US consumption. This translates into about \$200 billion or 1.5 percent of 2006 GDP.

However, it is unlikely that the decline in the profit share would occur over a very short period. The adjustment in equity prices probably would be less drawn out, but the negative influence on consumption and the related effects on investment would occur over several years.

My conclusion from these back-of-the-envelope calculations is that a substantial US (and global) stock market correction would dampen growth *ceteris paribus*. However, the combined probability of its occurrence and its likely attenuated nature does not pose a large risk. A potential benefit is that a US stock market adjustment might facilitate a reduction in US current account deficit by boosting current saving.

Turning to the role of carry trade on financial-market developments, the frequent mention of this phenomenon in the press reminds me of the ability of the media to produce a crime wave where none exists (slide 14).

What is carry trade? There is no consensus definition. I am attracted by a broad definition: an actual or simulated open position in another currency. The activity may take many forms. For example, in the case of yen-based carry trade, it may involve capital outflows by domestic residents, borrowing in yen by foreign residents, similar activities outside of Japan, or positioning entirely in forward or futures markets.

These activities may show up in the balance of payments statistics of one or more countries, but whether they do depends on the quality of the statistics and, more importantly, on the behavior of the counterparties. In this area, one should focus on the gross as well as the net. Of course, these activities may influence exchange rates, for example, tending to weaken the yen and strengthen other currencies as trades are put on.

In my view, the simplest way to think about carry trade is to focus on short-term interest rate spreads. Slide 15 shows selected differentials relative to Japanese rates for five dates, starting with June 2004. Over the past three years, a few large differences have narrowed, but many more have widened. In the face of these differentials and if an investor thinks that they will not be offset over the relevant time horizon by exchange rate adjustments, there is an exploitable profit opportunity.

Slide 16 provides estimates by one hedge fund of returns, net of transactions costs, from such activities over the past eight years in several dimensions. The returns have been considerable. On the other hand, if there is a generalized increase in risk aversion or movements in the relevant exchange rates that are expected to persist, positions may close quickly.

In retrospect, commentators attribute the strengthening of the yen by almost 30 percent between mid-August and mid-October 1998 to unwinding of the yen carry trade. More than half of the overall adjustment occurred in five trading days in early October, well after financial markets tightened up and the Federal Reserve began to ease. The size and speed of any such adjustments can affect market psychology and, in particular, the capacity of institutions to cope with the associated effects on their balance sheets. Accidents can happen!

This brings me to my final issue: Do changes in the balance between greed and fear matter for the global outlook? The simple answer is yes. A more complicated question is how much.

We know we have had, and think we can look forward to, a continued strong global expansion with low inflation. However, recent favorable developments have contributed to what look like unsustainably low risk premiums in many markets. We know there will be periodic adjustments, for example, in the US housing and housing finance markets.

What matters is whether those inevitable adjustments are concentrated in time and correlated across markets. That depends in large part on underlying conditions and vulnerabilities. Mussa and Baily have described some of the vulnerabilities, but they assured us that underlying conditions remain quite strong.

Global political developments could bring about dramatic changes in the economic environment. Financial markets last week hinted at their response to intensified US trade actions against China. It is also possible that the global adjustment process could accelerate from its recent gradual pace. In response, policies might be slow to adjust, or adjust inappropriately, in the United States and/or the rest of the world.

The balance between greed and fear does matter. If fear takes over in a big way, leading to a substantial reduction in risk taking, the crisis industry will receive a boost. However, if the Mussa-Baily-Greenspan probability of a US recession is one third, then I place at 10 percent the probability that global financial turbulence over the next year or two, in turn, will contribute to a hard landing for the global economy.

# **Financial-Market Turbulence**

## **Greed versus Fear and Does It Matter?**

Edwin M. Truman

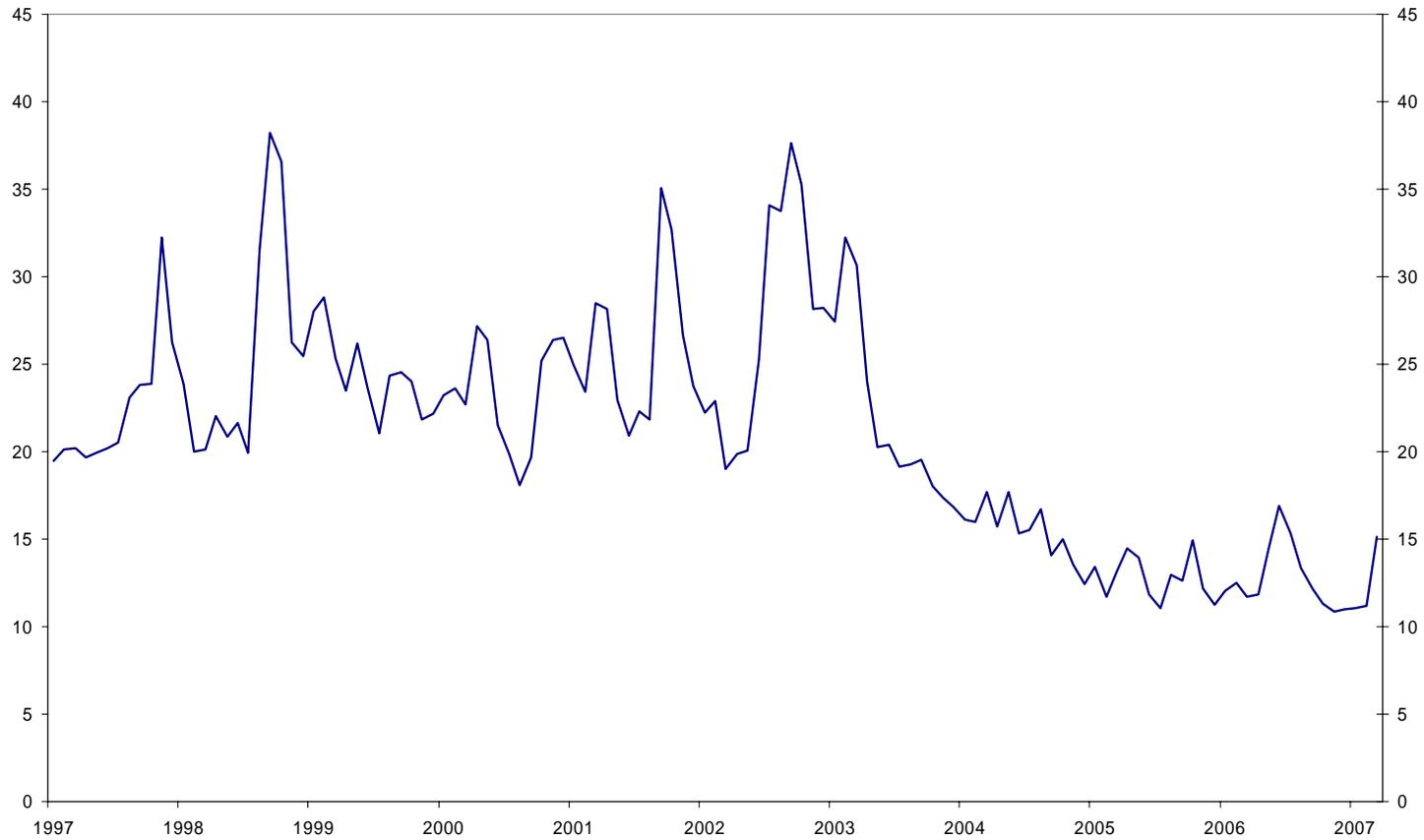
with

Doug Dowson

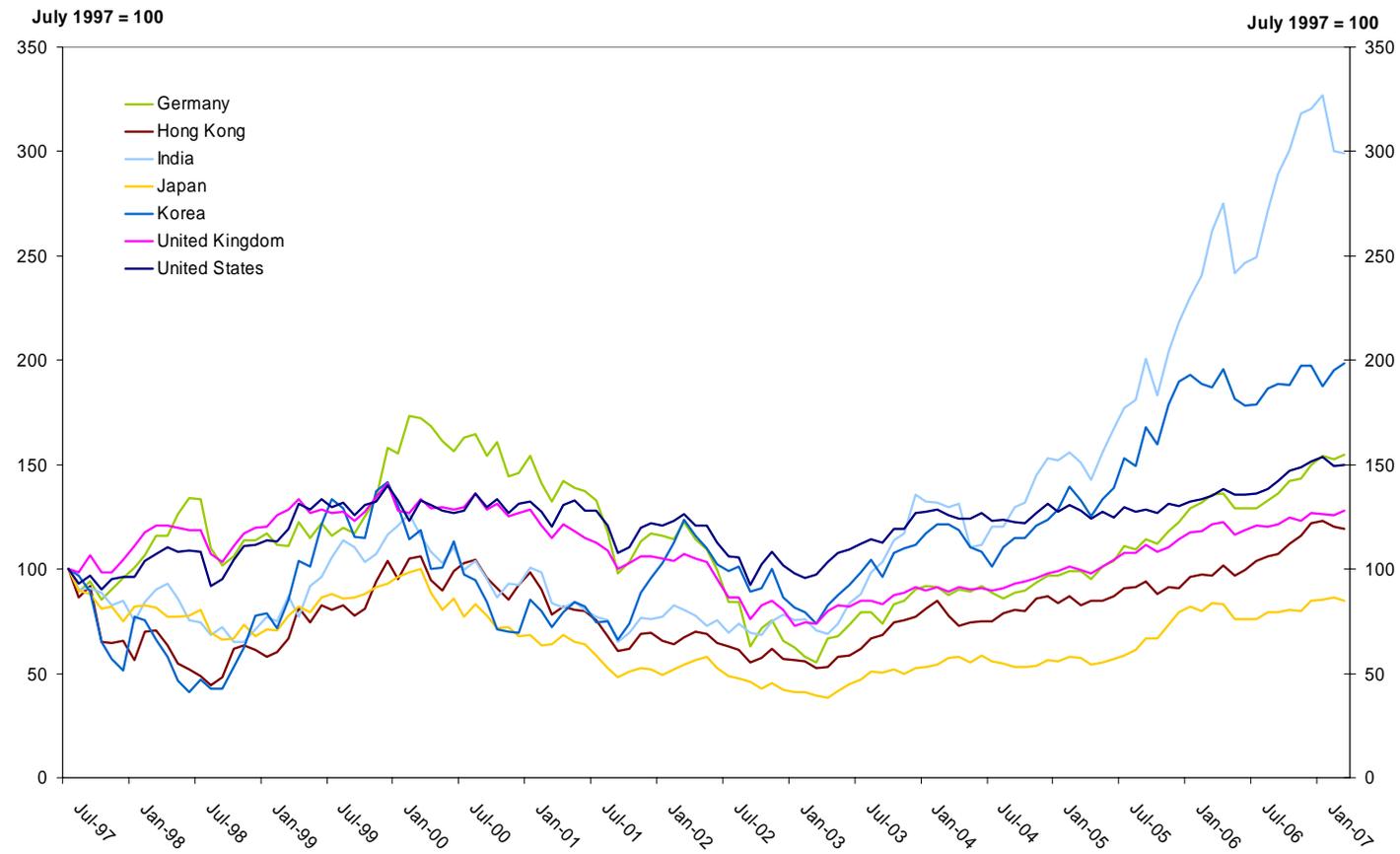
# Has fear overtaken greed? The jury is still out!

CBOE Volatility Index

Expected 30-day S&P Volatility



# Will this bull market be different?

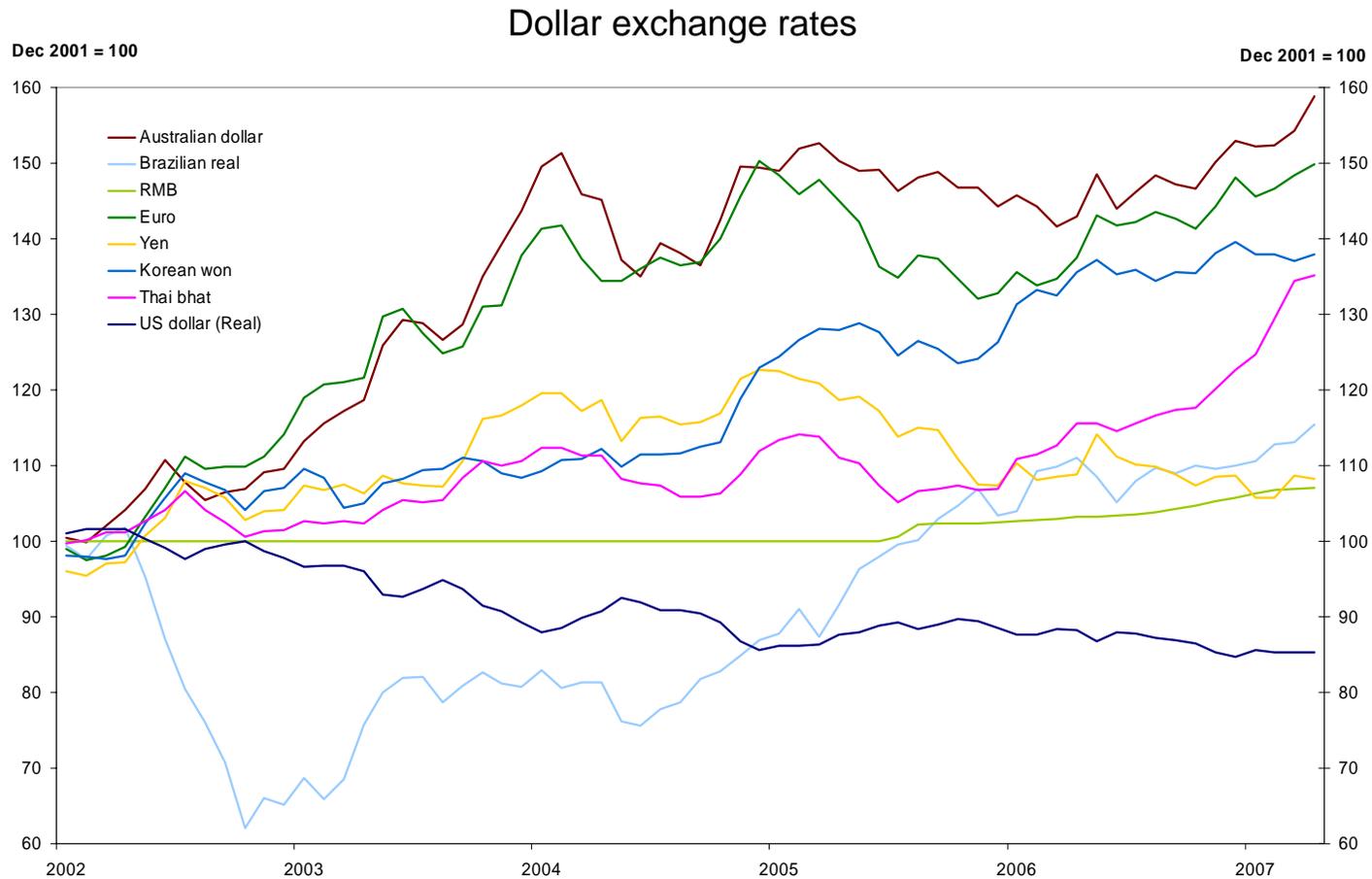


## Is emerging-market debt in a new era?

Emerging market spreads (average Jan 2 - Feb 16, 2007)

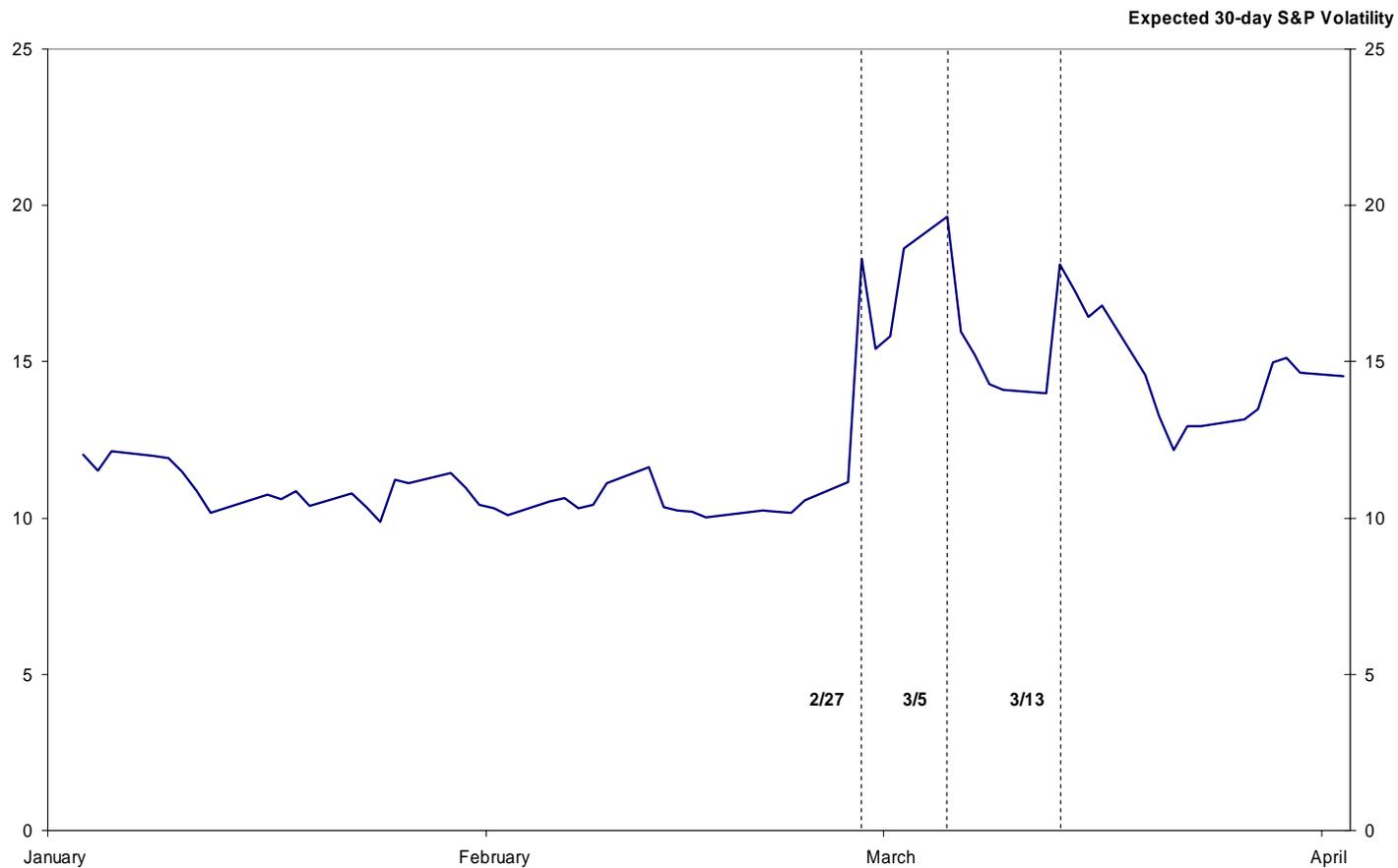
Country	Spread	Deviation from EMBI Global Spread
Turkey	205	34
Argentina	202	31
Brazil	188	16
Philippines	156	-16
Indonesia	153	-18
Mexico	119	-53
Russia	102	-69
South Africa	76	-96
Hungary	60	-112
<b>EMBIG</b>	<b>171</b>	<b>0</b>

# Is there a soft landing for the dollar? So far so good!

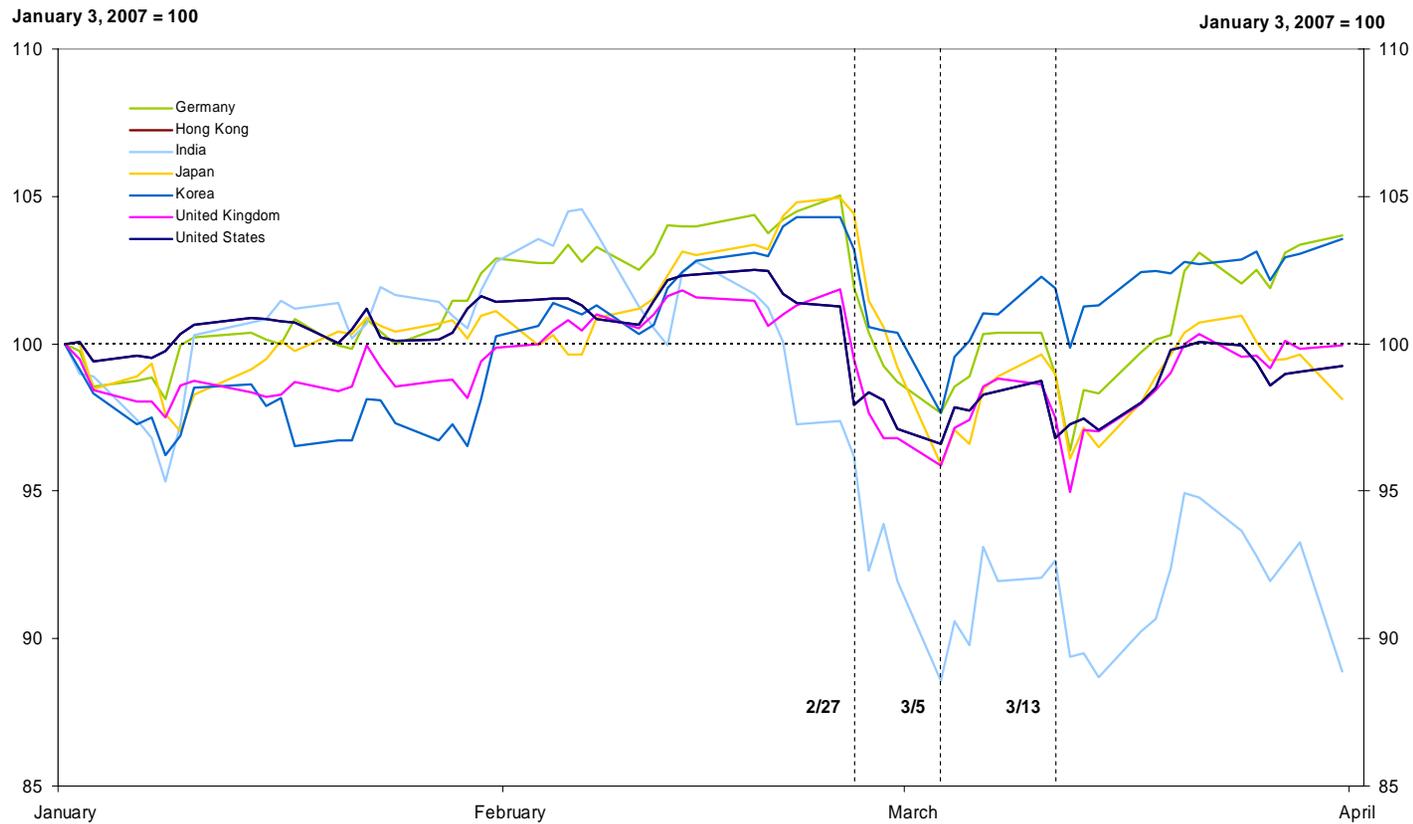


# The end of greed and the start of fear? Not much of a signal here!

CBOE Volatility Index, 2007

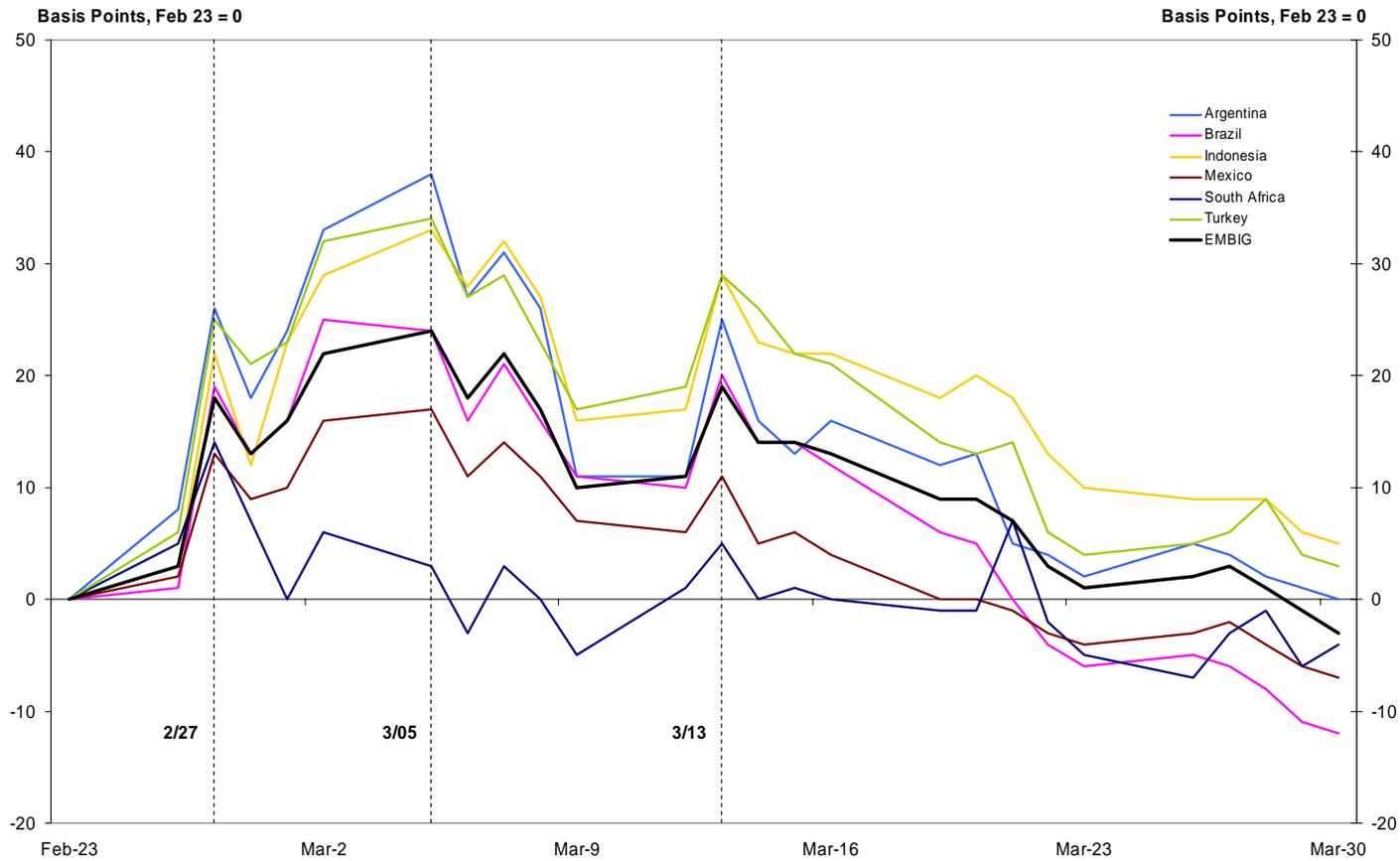


# An equity market correction or a collapse? Limited evidence to date



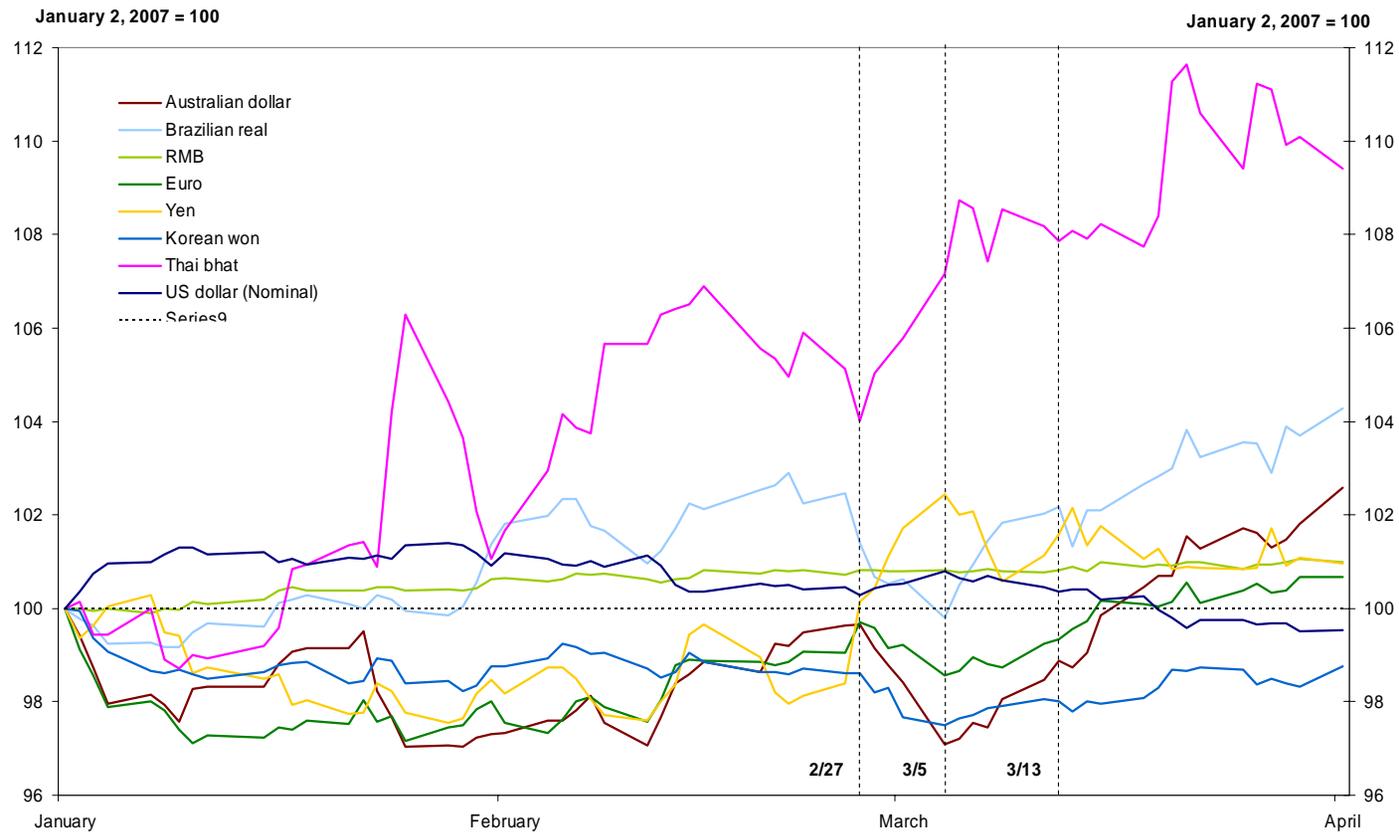
# Back to “normal” for emerging markets!

Change in spreads



# So far the dollar has been unaffected

Dollar exchange rates



## Do stock markets matter?

Stock market capitalization, 2005

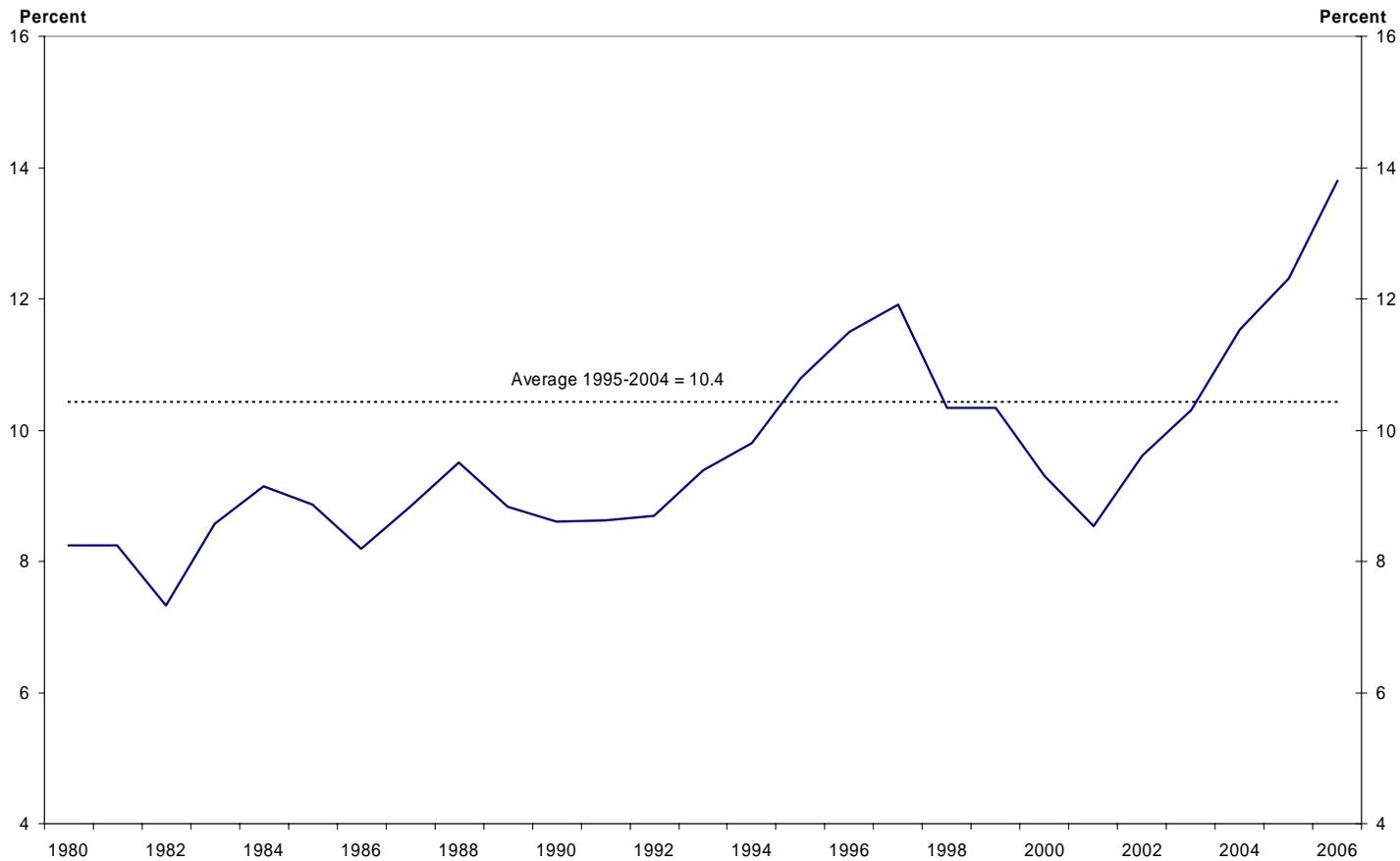
Country	Stock Market Capitalization (US \$billions)	Stock Market Capitalization / GDP (percent)
Hong Kong	1,006	566
Switzerland	939	255
United Kingdom	3,058	137
United States	16,998	136
Australia	804	113
Japan	4,737	104
Korea	718	91
India	553	72
Brazil	475	60
Germany	1,221	44
Hungary	33	30

## Can we learn anything from P/E ratios?



# Profits and earnings have risen rapidly

US global profits as a share of national income



## Implications of a stock market correction

- Principal effects are on investment (cost of capital) and consumption (wealth effect)
- Illustrative effects on consumption:
  - 25% decline in profit share X \$19.8 trillion valuation = \$4.9 trillion loss
  - \$4.9 trillion X 0.04 = \$200 billion
  - \$200 billion = 1.5% of 2006 GDP – Likely to be spread out over several years

## What is carry trade?

- Broad definition:
  - An actual or simulated open position in another currency**
- Multiple forms:
  - Domestic capital outflows, foreign currency borrowing, and positioning in forward or futures markets**
- May not show up in balance of payments data
- Affect and affected by exchange rates

## What motivates carry trades?

Short-term interest rate spreads with Japan, basis points

Country/Region	June, 2004	June, 2005	June, 2006	January, 2007	March, 2007
Turkey	2200	1430	1496	1723	1700
Brazil	1579	1973	1516	1266	1225
South Africa	800	700	746	873	850
Hungary	1137	704	552	759	750
New Zealand	568	675	721	715	700
Australia	525	550	571	598	575
United States	103	304	495	498	475
United Kingdom	433	481	449	490	475
Korea	376	327	413	436	400
Euro area	200	200	271	323	325

## Estimated returns from carry trading

(percent)

Years	Dollar toward Industrial Countries	Euro toward the rest of Europe	Toward Emerging Economies	Combined
1999-2003	14.2	7.9	14.2	17.9
2004-2006	4.1	9.2	20.7	21.5
1999-2006	10.8	8.1	16.4	18.8

## **Do changes in the balance between greed and fear matter?**

- Simple answer: **Yes**
- Complicated answer: **Depends on conditions and vulnerabilities**
- Conditions are favorable and vulnerabilities are ever present
- Possible triggers: **Political developments, protectionism, and spontaneous acceleration of global adjustment**
- Consequences depend on fundamentals and timing and direction of policy adjustments
- Hard landing probability: **10 percent**