

March 12th, 2009

[The equity illusion](#)

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By: [John Kemp](#)

Tags: [General](#), [cash flow](#), [equity capital](#), [equity valuation](#), [John Kemp](#), [market value of equity](#), [The Great Debate](#)



– *John Kemp is a Reuters columnist. The views expressed are his own* –

Even after its recent decline, the U.S. equity market does not look especially “cheap” or “undervalued” when viewed over time; the bear market has simply brought valuations back into line with long-term trends.

At a fundamental level, equity is a claim on a corporation’s residual cash flow after wages, interest, taxes and other costs have been paid.

In aggregate, the total value of equity outstanding cannot grow faster than nominal GDP (which is simply the economy-wide sum of cash flows). Otherwise, corporations and their owners would need to capture an ever-increasing share of national income at the expense of everyone else.

For four decades between 1952 and 1992 this stable relationship between equity valuation and nominal GDP did indeed seem to hold in the United States.

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The chartbook shows how U.S. GDP, as well as profits, debt, interest rates and the market value of equity capital evolved between 1952 and September 2008 (the latest date for which full data is available).

Between 1952 and 1992, the value of outstanding equity rose at much the same rate (8.5 percent per year) as nominal GDP (7.5 percent).

But from 1992 onwards, the relationship broke spectacularly. The market value of equity has risen almost twice as fast (9.5 percent per year) as nominal GDP (5.4 percent) (Chart 1).

As a result, the value of outstanding equity, which had been stable for four decades at 40-80 percent of GDP, doubled to 160 percent of GDP at its peak in Q1 2000 (the height of the millenarian boom). It has remained above 100 percent of GDP for most of the current decade (Chart 2).

THREE FACTORS

Rising equity valuations relative to nominal income were underpinned by three factors:

(1) Profits began to rise as a percentage of GDP from the early 1990s onwards as corporations succeeded in retaining more of the value of output in the form of surplus/profits and reduced the amount captured by employees (wages), government (taxes) and other investors (interest payments on debt). Between 1992 and 2006, the share of corporate profits in national income increased from 7 percent to 13 percent (Chart 3).

(2) In an increasingly integrated world, U.S. corporations derived a growing share of profits from operations and subsidiaries abroad. Profits overseas are tied to GDP growth in foreign countries rather than the United States. Since developing countries have grown faster than the United States over this period, the foreign component of corporate profits could (and did) increase faster than domestic profits or U.S. GDP. As a result, the proportion of foreign profits in total earnings has risen from 16 percent to 26 percent (Chart 4).

(3) Because equities are a claim on profits in future as well as the present, valuations are sensitive to the discount rate used to convert future profits back into current values. By lowering the discount rate, the steady fall in long-term U.S. interest rates between 1982 and 2007 as part of the “Great Moderation” made these future profits much more valuable, driving up equity prices even further (Chart 5).

But two of these factors (a rising share of profits in GDP, and a reduction in the discount rate) could not be sustained indefinitely. To some extent they represented a one-off structural shift.

The share of profits in GDP cannot rise forever at the expense of wages, interest charges and tax payments. The discount rate applied to future profits cannot fall below zero.

So for a time, equity valuations could grow faster than nominal GDP as the market moved from a low-profit high-discount rate equilibrium to a high-profit low-discount one.

Once the transition was complete, however, it was inevitable that the rise in equity valuations would again be limited to the rate of nominal GDP growth (albeit from a higher baseline).

HIDDEN LEVERAGE

The rise in equity valuations was also sustained by a massive increase in borrowing and indebtedness. Share buy-backs, management buyouts and the debt-funded acquisitions by private equity firms substantially increased the amount of debt in the corporate capital structure and reduced shareholders’ equity (the leverage ratio).

In effect, the long period of sustained expansion during the 1990s and the early 2000s, characterized by a mild business cycle, together with falling interest rates, increased risk appetite, and falling borrowing costs made firms comfortable taking on more debt relative to their cash flow than before.

Some of that debt was used to retire outstanding equity, heightening the leverage ratio further.

Because leverage is measured as an increase in debt (liabilities) relative to equity (residual assets) the strong rise in equity prices masked the real increase in underlying leverage.

Between 1952 and 1992, corporate debt, like equity valuations, rose roughly in line with nominal GDP. But after 1992, corporate debt, like equity values, accelerated sharply (Chart 6).

So long as equity values continued to rise, the leverage ratio remained unchanged. In fact, strong growth in equity values cut the ratio from almost 100 percent to less than 50 percent between 1987 and early 2007 (Chart 7).

But the capital structure became increasingly vulnerable to any setback in equity prices; the borrowing boom could only be sustained as long as interest rates fell and the share of profits in GDP rose.

The U.S. economy and capital markets were thus set on an unsustainable course. And as President Richard Nixon's chief economic adviser Herbert Stein noted in the 1970s, if something cannot continue indefinitely, it will eventually stop. That is what happened when the mortgage crisis erupted in the summer of 2007 and the music suddenly stopped playing.

Once rates and spreads had reached ultra-low levels in the mid-2000s they could not be reduced any further. In fact the Federal Reserve began to lift short-term interest rates, cautiously, from mid-2004, putting gentle upward pressure on longer rates. Losses on imprudent subprime lending became apparent from 2006.

Suddenly the cheap-credit dynamic that had previously supported increases in both corporate debt and equity valuations stalled and went into reverse.

The high-debt, high-equity valuation equilibrium proved immensely unstable. As the economy stalled and nominal growth fell, credit availability and costs rose, and the equilibrium fell apart. Looming deflation threatens to wreak even deeper destruction, because it would push nominal GDP growth below zero.

Suddenly the highly valued equity that supported an immense pile of debt has been re-valued downwards, sending leverage ratios soaring and exposing the underlying vulnerability.

The economy-wide leverage ratio reported by the Federal Reserve jumped 16 percentage points from 41 percent to 57 percent in just 15 months between June 2007 and September 2008. Recent declines in share values will push the ratio closer to 100 percent when data for Q4 2008 and Q1 2009 become available in the next few months.

In some sense, the sharp drop in equity valuations over the last six months has restored the historical relationship between equity values and nominal GDP. It has undone much of the “structural shift” in equity valuations to GDP experienced in the last 15 years (Chart 8).

Whether equity prices settle here or recapture some or all of their previous level depends on what caused that structural shift; how much of it proves sustainable; and how much is now reversed.

Share valuations may rise from current levels, but higher credit costs and a lower share of profits in GDP will almost certainly ensure valuations do not regain their previously elevated level in relation to the rest of the economy.

15 comments so far

March 12th, 2009 8:17 am GMT - Posted by Steven Stoffers

the dollar may also be a tad overvalued.... so foreign equities might be a thing? just maybe?

March 12th, 2009 8:29 am GMT - Posted by YR

Remarkable in-depth analysis. Excellent article.

In sum, it appears like the US economy in the past decade and a half was over-valued by foreign investors, who were the main source of cheap money that inflated a credit bubble of epic proportions.

March 12th, 2009 8:54 am GMT - Posted by Franz Kafka

Thanks John, as always good to read fresh analysis. Somehow it seems that the mainstream economists (including those paid by the government) were too busy with other things last couple of years, while the signals outlined in your article would have given pretty convincing signal that something has to give any time soon. I'm also convinced that it would make no difference if there was a Democratic administration.

March 12th, 2009 9:00 am GMT - Posted by John Mack

Brilliant — and frightening.

March 12th, 2009 9:12 am GMT - Posted by AK

It's a systematic logical analysis put together in a manner easy to comprehend. It's a great article and brings a different perspective into stock valuation

March 12th, 2009 9:15 am GMT - Posted by Barry Northrop

I agree with YR: good research and excellent article. It reminds me of the kind of analysis Ed Easterling does but with more causative application to what's currently happening in the market. I plan to hang on to and revisit this article for awhile. Thanks John.

March 12th, 2009 9:23 am GMT - Posted by Craig Coal

When you look back over the last 15 years we had both Democrats and Republicans in both the White House and in control of the House and Senate. I don't think it makes a difference which

party is in power we all saw the things that John is talking about but we all accepted them as normal until the end of 2008.

Good article it is refreshing to have these things brought to light.

March 12th, 2009 9:25 am GMT - Posted by [MAX MANJIT MOHAN](#)

A thorough and refreshing analysis of the past couple of decades. It's evidence of a complete dereliction of oversight, duty and leadership among our politicians and business leaders.

The US has to come to terms, that we no longer are king of the hill. We have to compete with smart people on other continents for scarce resources. We have to produce more efficiently. I know the US will rise to the occasion as it always has in the past.

March 12th, 2009 10:06 am GMT - Posted by arlind

a very good analysis with a strong logic.

March 12th, 2009 11:04 am GMT - Posted by Gregory

Thank God, finally Reuters have posted the truth of the matter. John, it is good to know that there are rational shining lights out there and thank you for this article.

I can't possibly add to or critique the truth embedded in John's analysis.

March 12th, 2009 11:11 am GMT - Posted by Gregory

Thank God, it is good to know that there are rational shining lights out there to provide the truth of the matter.

Thank you for an excellent article John.

March 12th, 2009 11:33 am GMT - Posted by L Marceau

I totally agree. Right now many stocks look ridiculously cheap based on the last 12-16 months, but when you look back to 5 years it is obvious there was a totally irrational rise in share prices during the last 3 years in particular. It's amazing to see how obvious the charts show that the rise in equity value could not be justified or sustained.... I guess we're headed for a long time of "monetary modesty"...which will do the world a world of good...Until the next financial 'genius' comes up with a new game....

March 12th, 2009 11:55 am GMT - Posted by Jonathan Cole

Excellent penetrating analysis. Proves that hindsight is 20-20. But what are the greater implications of these observations? To me it appears as if Economics, "the dismal science" really needs an overhaul. It is an irrational system when you have to be able to look back 15 years to be able to assess what you should have done in order to not self-destruct. Our economic system appears to have engendered a generation of speculators whose earnings have been derived from non-productive activities. This includes corporations, investors, the Fed, the government, businesses and households. The only way to have shared in the benefits of this frenzy of musical chairs was to be the last one standing. Problem is that when there are billions of players and only a few chairs (the underlying fundamentals) the risk of systemic collapse is 100%. Is this any way

to run an economy?

March 12th, 2009 12:19 pm GMT - Posted by Ray

We are witnessing the true costs of a previously growing world economy that was built not on real asset values but on derivatives on top of derivatives on top of irrational credit availability on top of illusions of value. It was financial legerdemain by realtors, insurers and lenders worldwide. Now you see your money, now you don't. Poof!

A disappearing act that will entertain taxpayers and future generations for decades to come as they continue to supply coins to fill the magicians' empty but capacious hats.

March 12th, 2009 12:54 pm GMT - Posted by Mathieu

I think it would've been interesting to put some of the charts on a log scale. i.e chart 6

Great article, different point of view, thanks!

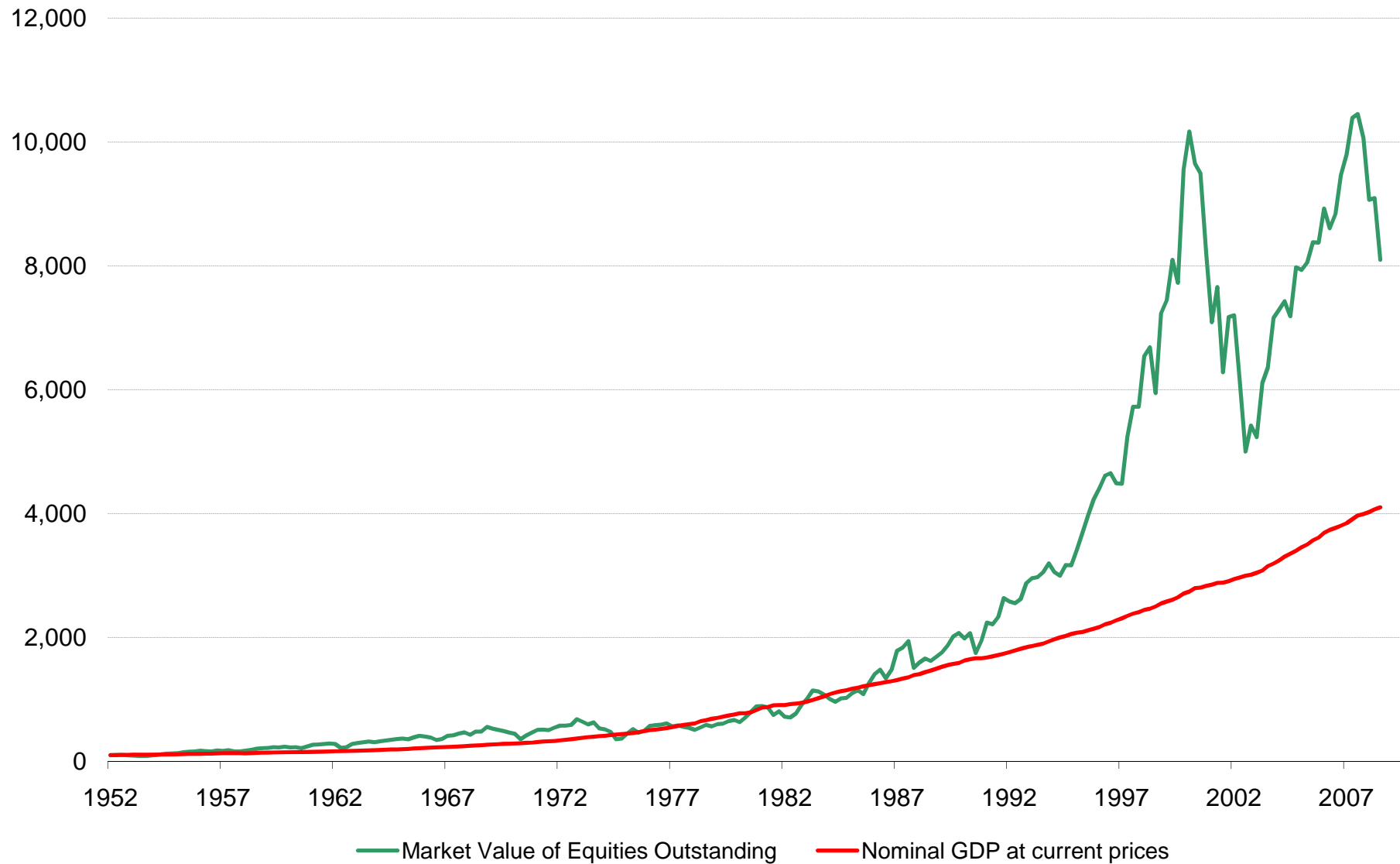
Long-term perspectives on equity values in the United States

John Kemp

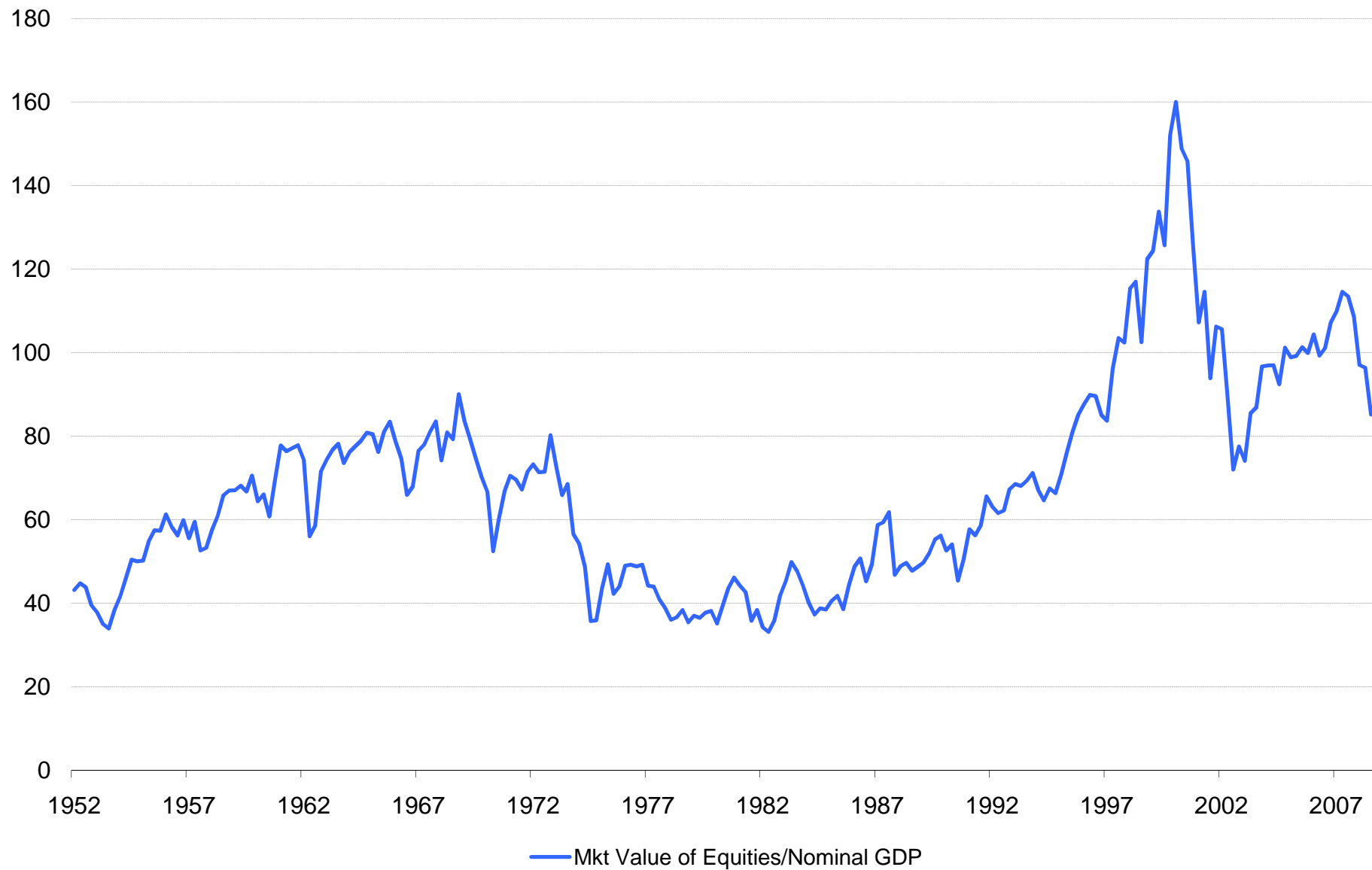
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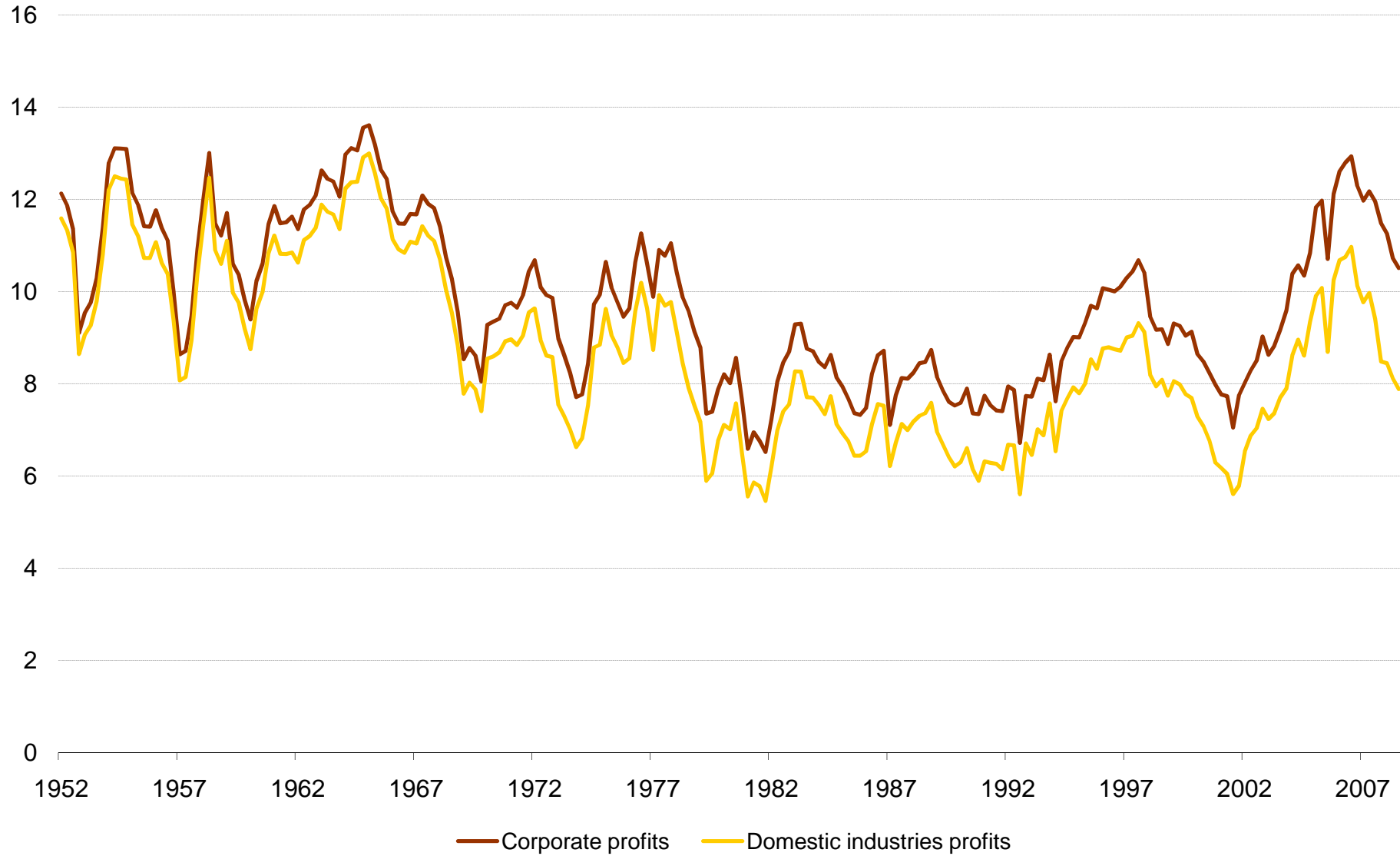
UNITED STATES: CORPORATE EQUITIES AND NOMINAL GDP
INDEX 1952 = 100, LAST DATA Q3 2008



UNITED STATES: RATIO OF EQUITY MARKET CAPITALISATION TO NOMINAL GDP



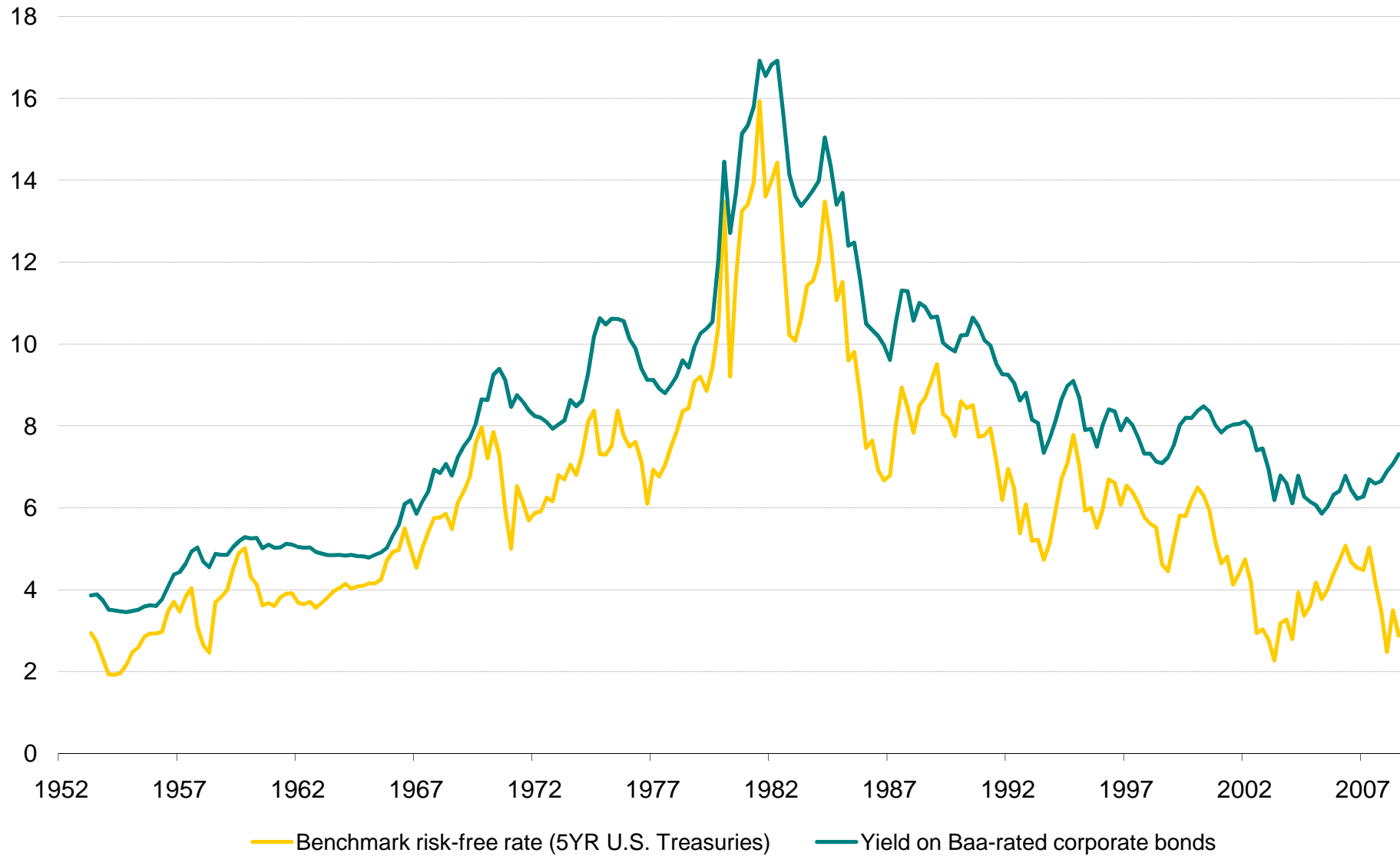
**UNITED STATES: CORPORATE PROFITS AS PERCENT OF GDP
LAST DATA Q3 2008**



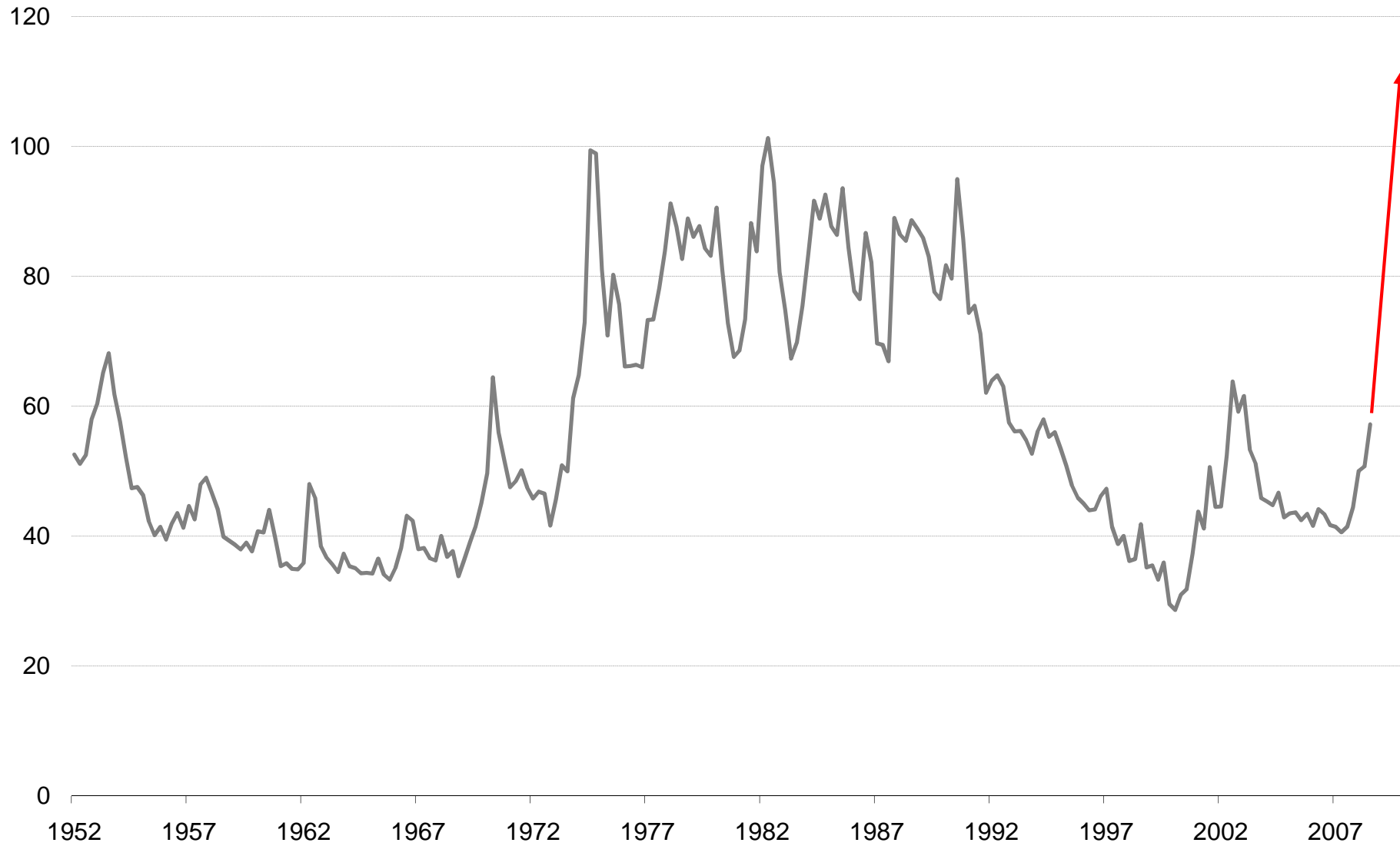
UNITED STATES: SHARE OF TOTAL PROFITS DERIVED FROM OVERSEAS OPERATIONS
LAST DATA Q3 2008



UNITED STATES: IMPLIED DISCOUNT RATE ON FUTURE PROFITS
LAST DATA Q3 2008



UNITED STATES: CORPORATE DEBT/EQUITY RATIO
LAST DATA Q3 2008



UNITED STATES: CORPORATE EQUITIES AND NOMINAL GDP
INDEX 1952 = 100, LAST DATA Q3 2008

