

Memorandum

To : FORUM Staff
From : BW
Copy to :
Date : April 26th, 2012
Subject : Macro Dashboard Q I 2012

1. Summary of Results

1.1 Profits and Valuations

In Q I 2012 **US Corporate profits** have dropped, reducing the positive deviation from the **long-term averages**

- a) **to 5 – 20%**
- b) Down from 20 – 35% in Q I 2011.

At the same time the steep drop in equity prices in Q III 2011 has reduced the degree of overvaluation relative to the historical averages:

- a) **Now at ca. 5-25% with the mean at ca. 20%.**
- b) Down from a mean of ca. 30% at the end of Q II 2010.

This implies an **interpolated mean of ca. 1,0 standard deviations.**

As a result **expected real returns from US equities continue to be below their historical average of 6,3% p.a.** History suggests **real returns of 3 – 5% p.a. in next 5 – 10 years.**

1.2 Risks

We still see most of the general risks we have been pointing towards in past newsletters, e.g. a structural weaknesses in consumer spending in the USA, the China investment bubble and the risk of protectionism.

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Clearly, the European sovereign debt issue has shot to prio 1 by now. It is deeply interlinked with a crisis of the European financial system which in turn affect the real economy. We see a high probability that the train of events will unfold in a very negative way with even the € currency at risk.

In terms of outcome we believe the outcome will be very negative for equity markets.

1.3 Range of Outcomes

The downside risks clearly are more significant than the upside risks, both in terms of probabilities and outcomes. This is the result of both profit levels and valuations still starting from a high base.

2. Status of the Profit Cycle

2.1 US After-Tax Corporate Profits as % of GDP (Appendix 2.1)

In Q IV 2011 **US after-tax Corporate Profits** continued their ascent to an all-time high of 7,1% - up from 6,9% in Q III 2011.

This implies a **ratio of 138% of its 80-year average** which stands at 5,1%.

US after-tax Non-Financial Corporate Profits – eliminating the volatility of banking profits – stayed unchanged at 5,0% (Q III revised). This is still below the all-time peaks of 6,2% and 5,5% reached in 2006 resp. 2005 and 2007.

The eighty-year mean is 4,1%. Thus in Q IV 2011 **US after-tax Non-Financial Corporate Profits** stood at **122% of the long-term average – indicating a slight positive deviation.**

2.2 US Corporate EBITDA (Appendix 2.2)

The second metric we use for assessing corporate profitability is **US Corporate EBITDA** (Net Operating Surplus plus Consumption of Fixed Capital divided by Gross Value Added). It eliminates any distortions from changes in interests or taxes.

As you can see from the **Appendix 2.2** we get similar results as outlined in the chapter above:

- a) In Q IV 2011 **Corporate EBITDA** stayed unchanged at **33,5%**. As pointed out in the latest Macro Dashboard this is the highest level ever reached after the beginning of this time series in 1929.
- b) As the **80-year average** stands at **27,3%** the latest level of **33,5%** implies a ratio of **122%**.

2.3 Pre-Tax Non-Financial ROA (Appendix 2.3)

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Pre-Tax Return on Tangible Assets (“ROTCE”) of the US Non-Farm, Non-Financial sector (as reported by the Federal Reserve) in Q IV 2011 dropped again slightly to 6,8% from 7,0% in Q III 2011

The **long-term average since the first publication of this time series in 1965 is 5,8%**. Thus this measurement of corporate profitability stood at ca. 117% of its long-term average – in line with the other two profit metrics outlined above.

2.4 FORUM Conclusions on Profitability

Below please find a summary of the four metrics for corporate profitability compared with their respective averages and with historic deviations:

Metric	% of LT Average	Standard Deviations
Total Profitability as % of GDP	138%	1,06x SD
Non-Fin. Profits % of GDP	122%	0,52x SD
Corporate EBITDA Level	122%	2,30x SD
Non-Financial ROA	116%	0,60x SD.

Overall the degree by which profit levels exceed their historic averages **has come down slightly since the last quarter**.

When viewed together, the four metrics for corporate profitability in Q IV 2011 show a **reasonably consistent picture of a positive deviation of ca. 16 – 38% from their averages with the median positive deviation at ca. 22%**. This is nearly unchanged from the last quarter

In terms of **standard deviation** the different metrics show more scatter due to their different implicit volatilities. The median has dropped to < 1,0x. This implies “normal” conditions in the profit cycle.

The high level of US total corporate profitability is owed largely to the **financial sector**: its weight continues to be significantly above its historical average and the level of profitability has recovered again to a high level in comparison with past averages.

3. Valuations

3.1 Cyclically Adjusted PE Ratios/Shiller’s CAPE (Appendix 3.1)

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For a **tops-down calibration of valuations we prefer Shiller's CAPE**, a metric introduced in his 2000 book "Irrational Exuberance". It eliminates short-term earnings fluctuations by calculating a 10-year average, inflated to today's purchasing power based on the GDP deflator. It is calculated based on all constituents of the S & P 500. We will refer to it below as Shiller's Cyclically-Adjusted Price Earnings Multiple ("**Shiller's CAPE**" or just "**CAPE**").

Prof. Shiller reports a **CAPE of 22,2x for April 8th, 2012**, his latest update. On that date the S&P 500 stood at 1.398,08. This is an increase of ca. 10% from a CAPE of 21,9x reported as of February 1st, 2012, the time of our latest report with the S&P 500 at 1.324,09.

The long-term average of CAPE since 1881 stands at 16,4x. This implies that **current valuations are at 134% of their long-term average.** In terms of deviation from the past this valuation implies a moderate **standard deviation of 0,84x** – up from 0,71x in our latest report. **Thus it is approaching again the level of "significant overvaluation" already reached at the end of Q IV 2010, i.e. before the market correction in 2011.**

3.2 Tobin's q

Tobin's q is a ratio of the **value of the stock market relative to the replacement cost of net assets.**

The application of Tobin's q to equity market valuations has been introduced by authors Smithers and Wright in their 2000 book "Valuing Wall Street" and updated by Andrew Smithers in his book "Wall Street Revalued" published in 2009. For a validation we refer to an article by Harney/Tower in the Jan. 2nd 2003 edition of The Journal of Investing. Please note that **q is only calculated on non-financial companies.**

There are two generally accepted methods to calculate this ratio:

- the US Federal Reserve Flow of Funds accounts
- Smithers & Co consultants who apply an adjustment.

There are also numerous additional versions published by consultants and market participants, thus you may get diverging data.

3.2.1 Non-adjusted Tobin's q

Based on the latest **US Federal Reserve Flow of Funds** as of December 31st, 2011 **the non-adjusted ratio has increased slightly to 0,87 at the end of Q IV 2011**, up from 0,82 as of September 30th, 2011. The non-adjusted average observed since 1900 based on our calculations is 0,76, **thus q is at 114% of its long-term average.** This corresponds with **0,31 Standard Deviations.** (We used to calculate this ratio based on a published average of 0,63 for q, but cannot replicate this number. We have therefore decided to switch now to the number of 0,76 which is based on our own calculations.)

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After extrapolating for the increase in the S&P 500 to 1.363,61 on April 30st, 2011 from 1.257,60 as of December 31st, 2011, i.e. for an increase of 8%, **the level of q including statistical discontinuities decreases to 123% of its long-term average.**

3.2.1 Adjusted Tobin's q

Smithers & Co. adjust Tobin's q as reported by the Fed for statistical discontinuities beginning in 1983, mainly revaluations of fixed assets to market values beginning in 1984. At the end of Q IV 2011 **q ex statistical discontinuities (line 20 of Table R 102) stood at 1,42**, up slightly from 1,33 at the end of Q III 2011. Based on the long-term average of 0,88 this implies **a level of 160% of its long-term average resp. 1,19 standard deviations.**

After adjusting for the increase in the S&P 500 by 8% as outlined above **the overvaluation of q ex statistical discontinuities as of December 31st, 2011 increases to 173% of its long-term average of 0,88.**

3.3 US Equity Market Capitalization as % of GDP (Appendix 3.3)

Based on the Fed data US market capitalization as % of GDP **stood at 111%** at the end of Q III 2011, slightly up from 101% at the end of Q III 2011.

As the long-term average since the beginning of this time series is 80% this valuation implies **a premium of ca. 39% which corresponds to 0,93x standard deviations.**

Increasing this ratio by 8% to account for the drop in the S&P since September 30th, 2011 as the most significant index entering total market cap yields **an adjusted value of 120% of GDP as of April 30th, 2011 – implying a level of 140% of its historic average.**

3.4 Qualitative Indicators for Overvaluations

In Q I 2012 we did not note significant qualitative developments which would indicate an overvaluation

- a) **IPO activity** is at a “normal” level. The quality and valuation of the European IPOs we see look reasonable.
- b) There are some continuing attempts of **PE firms and other asset managers to do IPOs**. Historically they have shown a good sense of market timing – thus a decision by the partners to “sell” part of their groups is a counter-indicator.
- c) **Volatility** in global equity markets is below its average, but not exceptionally so.

3.5 FORUM Summary and Conclusions

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Below please find a summary of the level of valuation metrics compared with their long-term averages and standard deviations **as of December 31st, 2011 for the USA:**

	% of LT Average	Standard Deviation
Shiller's CAPE	134%	0,84x SD
Tobin's q non-adjusted	114%	0,31x SD
Tobin's q adjusted for discontinuities	173%	1,19x SD
US Equity Market Cap. as % of GDP	139%	0,64x SD ¹ .

These data suggest that US equity markets are **overvalued by 20 – 40%** (eliminating Tobin's adjusted q as an outlier). **The interpolated mean of all four metrics is an overvaluation by ca. 30%.** This is largely unchanged from the previous quarter.

Similarly **standard deviations have largely stayed unchanged, with the interpolated median of all four metrics now at ca. 0,7x.** By our definition this implies that markets are in a zone of "mild overvaluation".

3.5.1 Implications for Expected Long-Term Returns

If one believes in the Mean-Reversion characteristics of valuation the most likely assumption on expected returns on equities in the next 5 – 10 years would be **returns below long-term averages. The long-term real return of the US equity market since 1900 including dividends has been 6,3% p.a.** The most likely expected return will depend on the time it takes for this **overvaluation of with a mean of ca. 30%** based on the four metrics analyzed above to unwind:

Years for Unwinding	Real Return p.a.
2	negative
5	0 - 2%
10	2 – 4%.

Based on a standard deviation of 0,84x our statistical exercise – **correlating standard deviation of Shiller's CAPE with subsequent nominal returns without dividends, see Appendix 2.2** - would suggest **nominal returns of**

- a) **ca. 2,8% p.a.** in the next 5 years
- b) **ca. 4,1% p.a.** in the next 10 years.

¹ All SD calculations are based on end of previous quarter numbers.

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Assuming a long-term inflation rate of ca. 2% p.a. and dividends at the same rate **real total returns from equities would be the same. i.e. 1 - 2% p.a.**

GMO – an asset manager whose approach we share in many respects – in their 7-year Asset Class Return forecast as of March 31st, 2012 **expect real returns of**

- a) **-2,0% p.a. for US smallcap**
- b) **-0,3% p.a. for US Large caps.**

This is in line with our expectations.

As our investment results over a cycle will be determined by the returns in equity markets in general plus an outperformance of 5 – 10% p.a. created from our investment approach **these expected market returns make it very difficult for us to reach the targeted 15% p.a. return in equity markets of mature economies.**

4. Risks to US Profits and Valuations

In this chapter we focus on **trends and constellations in the US economy which appear unsustainable to us.** We have explained our concerns in the last few Macro Dashboards, they are mainly centered around

- a) **Stagnating resp. decreasing real Median Household Income** – most of the additional income created in the last decade has gone to the top 1 – 10% of top earners.
- b) **Stagnating real Market-based income and purchasing power** – purchasing power is maintained by government transfer payments – which in turn create an unsustainable rate of increase in government debt.
- c) A very **slow process of deleveraging in the household sector.** At the end of Q IV 2011 the level of household debt/GDP continued the process of slow deleveraging to 86,3% from 87,0%. This is just 1/10 lower at the peak of 97,9 reached in 2006.

Total debt of all sectors stayed largely unchanged at 353% of GDP. This is still largely unchanged from the peak level of 362% at the end of 2007 when the financial crisis began.

We are still worried that the US economy is treading water by substituting government debt for household debt. This makes corporate profits – particularly at the elevated levels reached by now – exposed to setbacks.

We feel that this has not been fully realized by investors. Most of the investor sentiment is determined by the chase for yield above the lowly short-term money market rates – which makes most risk asset classes look attractive. We doubt whether the implied equity risk premium compensates for the risks to corporate profits and valuations outlined above

5. Other Risks

5.1 Overview

In the last Macro Dashboards we discussed the following risks:

- a) **Sovereign Debt:** We see this as the most important short-term risk in Europe, and a significant mid-term risk in the USA and Japan in the medium term. We are discussing our views on the European perspective in a separate chapter below.
- b) **The China investment bubble:** history suggests strongly that any long period of expansion based on a share of investments in GDP of more than 50% will eventually lead to massive capital misallocations and tends to correct itself with a sharp bust.

We do not know when this will happen, but **historical evidence lets us put a rather high probability of this event happening**. We believe the outcome will be moderate to the world on average, but hit certain industries and companies very hard.

- c) **Trade wars:** historically this has tended to be an answer of politicians to problems at home.

This risk is latent and **at this point in time probabilities appear to be low**.

5.2 Main Risk Today: Europe

In the last Macro Dashboard we had focused the discussion of this risk factor on the sovereign debt issue. By now it has become more complex

- a) The simultaneous de-leveraging in Europe of the public sector, banks and parts of the corporate sector is reducing aggregate demand in a way which could trigger a broad “**balance sheet recession**” in most of Southern Europe. This will **impair GDP growth** in the whole continent and also increase the existing imbalances in the short term.
- b) The **LTRO program of the ECB and the target 2 system have exposed the ECB to credit risks** of the European banking sector. This creates the risk that at some point in time there may be a crisis of confidence in the whole financial system – with unpredictable results from herding behavior.

The discussion of the target 2 balances in Germany is one potential way this could evolve.

- c) The “balance sheet recession” described under a) leads to shrinking GDPs in many countries – **which in turn makes it much more difficult for governments to reach sustainable levels of debt**.

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There are also some early warning signals that electorates in many countries are not willing to support the path of deficit reduction any more. This makes the situation very unpredictable and creates political risk. This is a new development.

As a result we expect that the European economy will show very low growth overall. For the PPIGS we expect shrinking economies with significant pressure on profit margins.

The new development since the last macro Dashboard are “known unknowns” which could lead to disruptive negative outcome

- a) The credibility of the ECB – and the whole European financial system
- b) Political unrest.

6. Conclusions

6.1 Expected Economic Conditions and Equity Returns

In summary we draw the following conclusions:

- a) We should assume that **Average Future Conditions** of the economy will be not as good as in the last up-cycle which I would time from 2003 – 2008.
- b) **Based on valuations of equity markets overall equity returns in the next 5 – 10 years** in the mature economies should be assumed to be below their long-term averages. An expectation of **1 - 2% p.a. in real total terms for equities respectively 3 – 4% in nominal terms (assuming LT levels of inflation) appears realistic.**

6.2 Range of Potential Outcomes

We believe that there is a **significant tail-end risk that the economy will get into a double-dip recession** as the structural impediments to higher growth in the developed countries have not been addressed yet.

Given the level of corporate profits – which is still significantly above historical averages – the risk of a positive surprise on profits is a much lower.

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Appendix 1.1: Historical Relationship between Standard Deviations and Returns for CAPE

Stock Market Return as a Function of # Standard Deviations from Average PE/ 10

Status as of November 2nd 2010

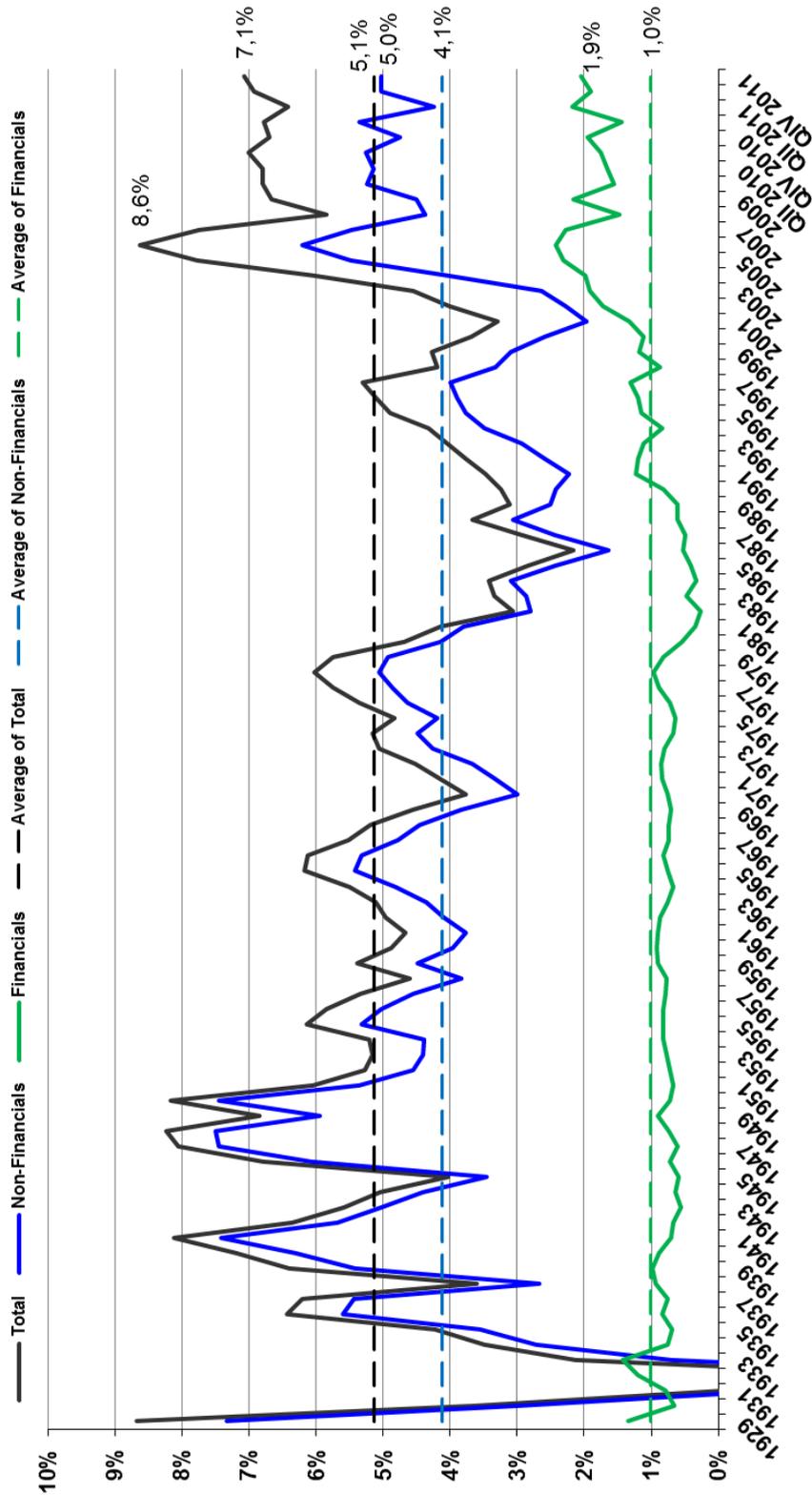
	Deviation from average as a # of standard deviations	# months	Nominal return		
			2 years	5 years	10 years
Negative deviations	Less than -3	1	14.5%	5.2%	9.9%
	Between -3 and -2	79	5.3%	4.8%	7.0%
	Between -2 and -1	294	7.8%	7.8%	4.6%
	Between -1 and -0.5	226	10.5%	6.8%	6.6%
	Between -0.5 and 0	159	7.8%	5.3%	6.3%
Positive deviations	Between 0 and 0.5	169	2.1%	3.6%	5.6%
	Between 0.5 and 1	178	2.1%	2.8%	4.1%
	Between 1 and 2	297	1.6%	3.8%	2.5%
	Between 2 and 3	71	1.1%	1.7%	2.3%
	More than 3	56	0.0%	-2.7%	-0.1%
Total		1530	5.0%	4.8%	4.7%

Period covered: 1881-2010

Source: Shiller, FORUM Research

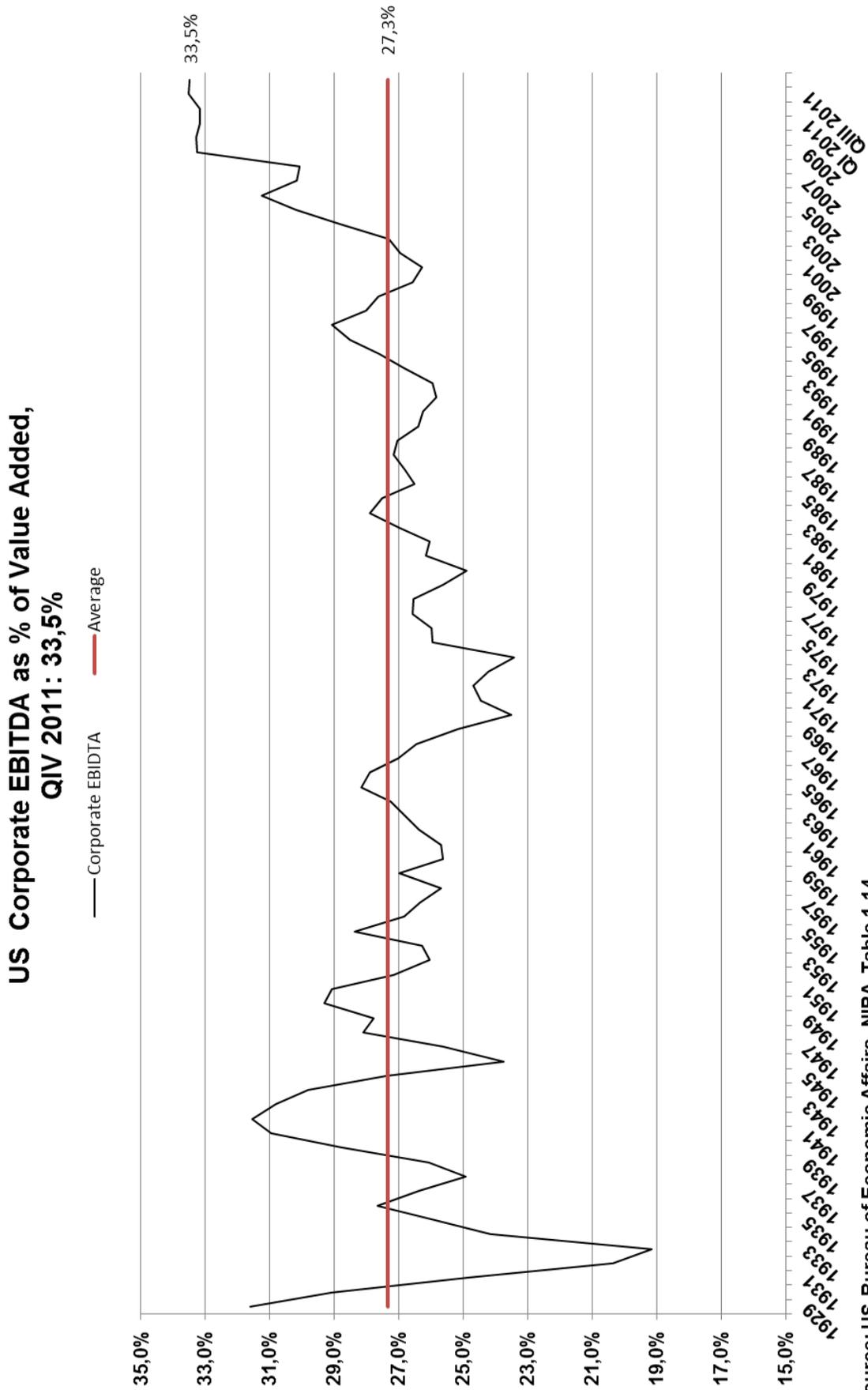
Appendix 2.1: Corporate Profits as % of GDP

US Corporate Profits as Share of GDP
QIV 2011: 7,1%



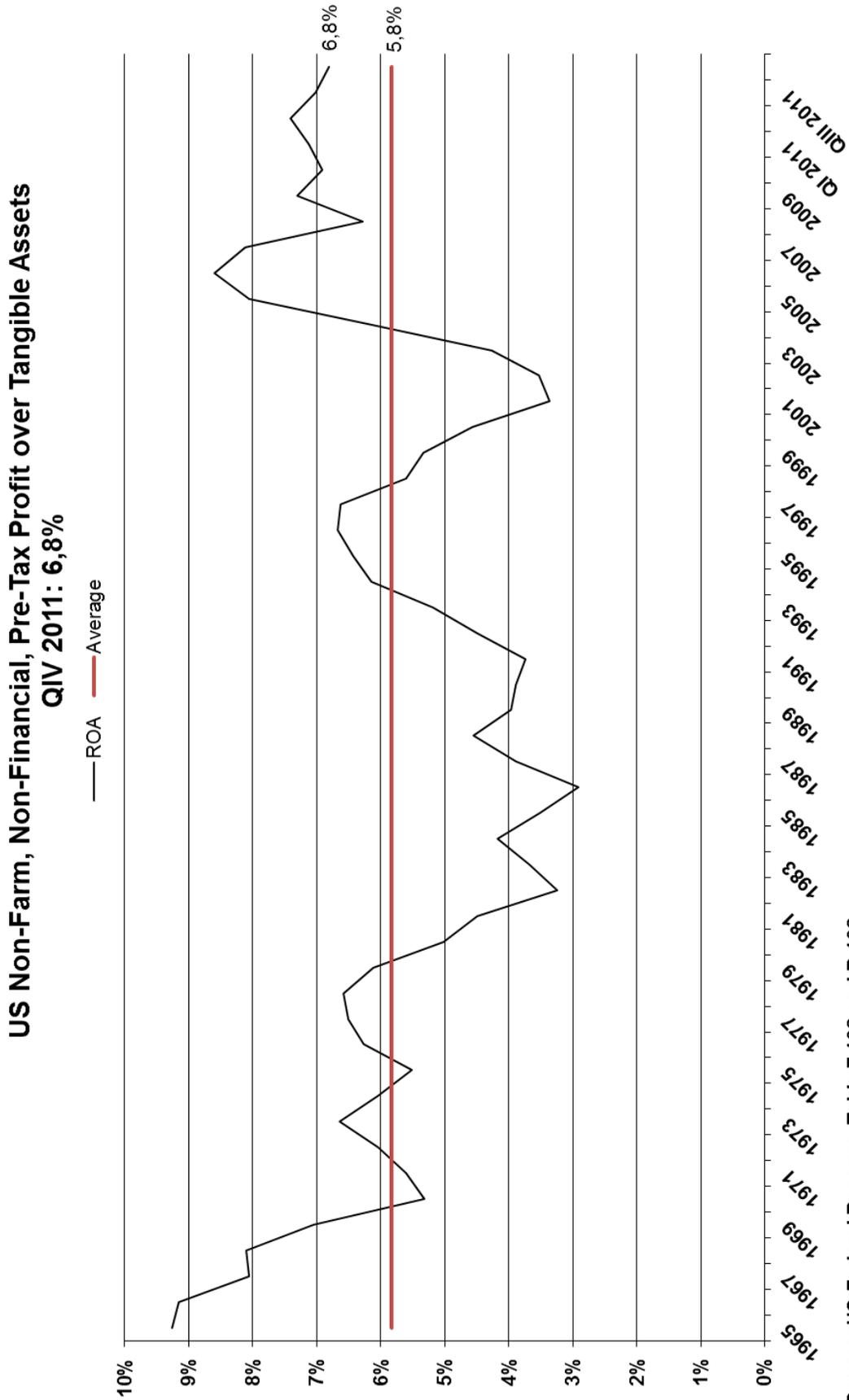
Source: US Bureau of Economic Affairs (BEA), NIPA Table 1.14

Appendix 2.2: Corporate EBIDTA

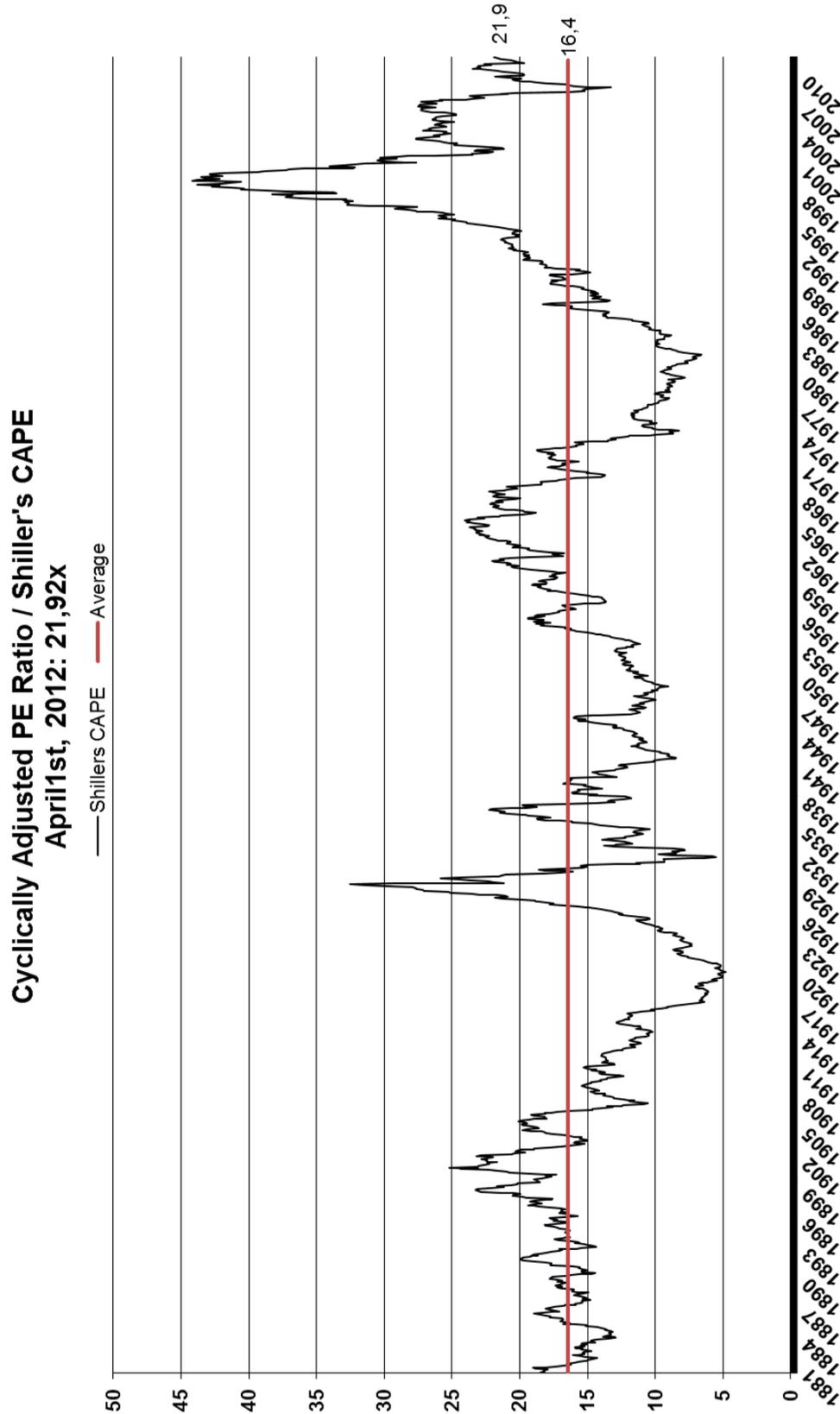


Source: US Bureau of Economic Affairs, NIPA Table 1.14

Appendix 2.3: Corporate Profitability Measured as ROA

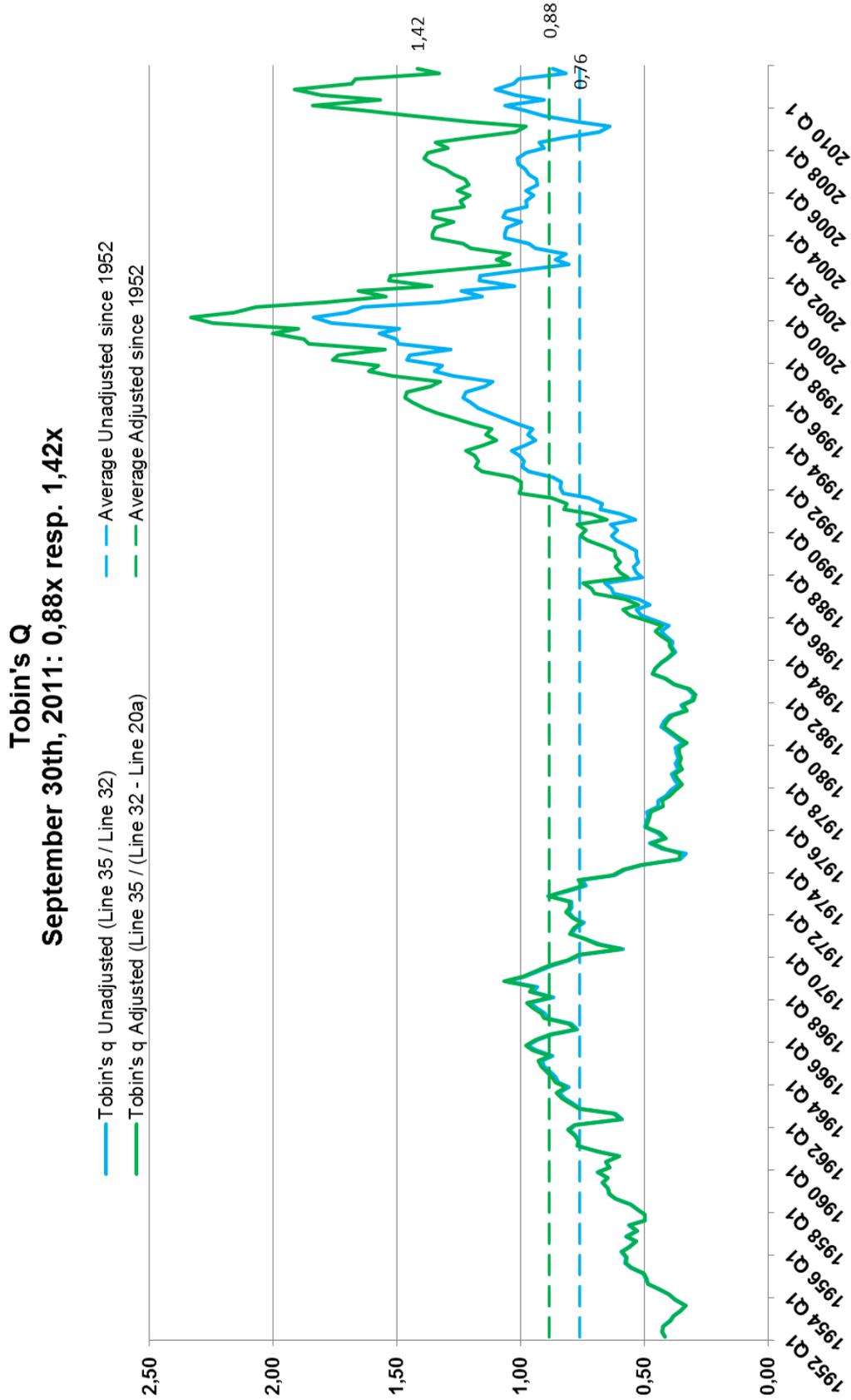


Appendix 3.1: Cyclically Adjusted PE Ratios/Shiller's CAPE



Source: Robert Shiller

Appendix 3.2 – Tobin's Q



Source: US Federal Reserve, Table B 102, R 102 Line 20

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Appendix 3.3 – Capitalization of US companies as % of GDP

