FORUM

European Smallcaps GmbH

Memorandum

To : FORUM Staff

From : BW

Copy to :

Date : December 23rd, 2015

Subject : Macro Dashboard Q IV 2015_V_2.1

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1. Summary of Results

1.1 Profits and Valuations

In Q III 2015 the level of **US Corporate profitability** has come down slightly - bringing the level of earnings more in line with their historical averages. In Q III 2015 profit levels are:

a) **20 – 44%** above the historical mean with an interpolated **median at 33% above the mean**

b) **slightly down** from the positive deviation at the end of Q I 2015 which amounted to 36% at the median level. In the quarter before that it stood at 45%.

Thus we are seeing a major correction in the level of profitability - as shown in stagnating or even decreasing earnings for most indices.

Valuations in Q III 2015 came down once more as shown in the three metrics based on share prices as of September 30th, 2015. Yet Shillers´s Cape increased as it measures the ensuing run-up in the S&P up to December 15th, 2015: at that date it stood at 26,0x, implying a positive deviation of 1,4 Standard Deviations.

Taken together our four metrics for valuation show a positive deviation of

a) **22- 65%** with the interpolated **median at 56%**[1]

b) down from a range of overvaluations by 35 – 80% with the **median of 46% at the end of Q II 2015.**

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[1] The median values exclude Tobin's q adjusted as an outlier

The interpolated median of all metrics (excl. Tobin's q adjusted) now stands at ca. 1,2 standard deviations – unchanged from the previous quarter.

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 ca. -2% to 0% p.a. over the next 5 – 10 years in the USA.**

1.2 Risks

In the last few months we have observed some metrics - appearingly non-correlated - to indicated higher levels of risk, mainly commodity prices, the price for oil, freight rates and the credit spreads in the USA. Some of these indicators were early warning signals for the financial crisis 2009, thus they confirm our attitude to keep some of our powder dry.

1.3 Range of Outcomes

We will respond to this assessment of the situation by **staying cautious –keeping some of our powder dry.**

2. Status of the Profit Cycle

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

2.1.1 Total Profits

In Q III 2015 **US after-tax Corporate Profits** decreased slightly to **7,8%** (Q II 2015: **8,0%) of GDP**. Looking back for 5 - 8 years this profit metric is at a high level, but not at an All-Time High as implied by the previous set of data.

This implies a **ratio of 142% of its 85-year average since 1929** which stands at 5,5%. **This corresponds with 1,2 standard deviations –** down from 1,3 at the end of the previous quarter.

2.1.2 Non-Financial Profits

In Q III 2015 **US revised after-tax Non-Financial Corporate Profits** – eliminating the volatility of banking profits – **showed the same pattern:** they decreased to **6,4% of GDP –** down from a revised 6,5% at the end of Q II 2015. This level is close to the **All-Time High of 6,5%** reached in Q I 2012.

The 85-year average is 4,4%. Thus in Q III 2015 US after-tax Non-Financial Corporate Profits stood **at 144% of the long-term average. This corresponds with 1,1 standard deviations** – down from 1,2x in the previous quarter.

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** this metric stayed relatively flat:

a) In Q III 2015 **Corporate EBITDA decreased slightly to 34,2% -** down from 34,5% in the previous quarter.

b) As the **85-year average stands at 28,5%, the latest level implies a ratio of 120% of the historical mean.**

The implied deviation from historical data corresponds to **1,6 standard deviations, slightly down from 1,7 at the end of the previous quarter**.

Historically US Corporate EBITDA has varied within a much tighter range (23-36%) than the rest of the metrics discussed in Chapter 2.1, e.g. US after-tax Corporate Profits ranged from 2% to 8,5%. This is due to EBITDA being "higher up" in the profit funnel, with **less exposure to the operating gearing** from depreciation, interests, and taxes which magnify the relative rate of changes.

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

Pre-Tax Return on Tangible Assets ("ROTCE") of the US Non-Farm, Non-Financial sector (as reported by the Federal Reserve) in Q III 2015 **decreased slightly from 7,4% to 7,2%**.

The long-term average since the first publication of this time series in 1965 is 5,9%. Thus this measurement of **corporate profitability stood at ca. 123% of its long-term average** – in line with the other two profit metrics outlined above. **This corresponds with 0,8 standard deviations.**

2.4 FORUM Conclusions on Profitability

In Q III 2015 all four profit metrics we follow **dropped again slightly**.

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

Metric	% of LT Average	Standard Deviations
Total Profitability as % of GDP	142%	1,2x SD
Non-Fin. Profits % of GDP	144%	1,1x SD
Corporate EBITDA Level	120%	1,6x SD
Non-Financial ROA	123%	0,8x SD

When viewed together, the four metrics for corporate profitability in Q III 2015 show **a wide range of positive deviations ranging from 20 to 44% above their averages with the median positive deviation at ca. 33%.**

In terms of **standard deviations** the different metrics have come down with the median at **ca. 1,15 standard deviations**. All this signals a high valuation, but no clear bubble.

3. Valuations

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

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 **C**yclically-**A**djusted **P**rice **E**arnings Multiple **("Shiller´s CAPE" or just "CAPE").**

Prof. Shiller reports **a CAPE of 26,0x for December 15th, 2015,** his latest update. On that date the S&P 500 stood at 2.043. This is a clear decrease from a CAPE of 24,3x reported as of September 4th, 2015 the time of our latest report with the S&P 500 at 1.921 points.

The long-term average of CAPE since 1871 stands at 16,7x. This implies that **current valuations have been creeping up to 156% of their long-term average - up from 146% at the latest letter.** In terms of statistical significance this valuation implies a **standard deviation of 1,4x** – up from 1,2x at the time of our latest report.

As you will see below Shiller´s Cape is the only metric showing an increase in valuation multiples in the last quarter.

3.2 Tobin´s q (Appendix 3.2)

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 September 30th, 2015 **the non-adjusted ratio has dropped to 0,93** (1,03 as of June 30th, 2015).

The non-adjusted average observed since 1900 based on our calculations is 0,77, **thus the non-adjusted Tobin's q is at 122% of its long-term average.** This corresponds with **0,6 Standard Deviations**[2].

3.2.2 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 III 2015 **q ex-statistical discontinuities (line 20 of Table R 103) stood at 1,57** - down from 1,75 at the end of Q II 2015. Based on the long-term average of 0,91 this implies **a level of 172% of its long-term average resp. 1,4x standard deviations.**

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

This is a metric which Warren Buffett cites often when discussing the level of valuations in equity markets.

Based on the Fed data **US market capitalization as % of GDP stood at 139%** at the end of Q III 2015, down slightly from 150% at the end of Q II 2015.

[2] 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.

As the 62-year average since the beginning of this time series in 1952 is 84%, this valuation implies **a premium of ca. 65% which corresponds to 1,6x standard deviations – down from 1,9x at the time of our last Macro Dashboard.**

3.4 Summary and Conclusions

3.5.1 Summary of US-based Data

Below please find below a summary of the level of the valuation metrics compared with their long-term averages and standard deviations **as of June 30th, 2015 for the USA**:

	% of LT Average	Standard Deviations
Shiller´s CAPE	156%	1,4x SD
Tobin´s q non-adjusted	122%	0,6x SD
Tobin´s q adjusted for discontinuities	172%	1,4x SD
US Equity Market Cap. as % of GDP	165%	1,6x SD[3]

Eliminating Tobin's q adjusted as an outlier, these data on equity valuation suggest that US equity markets are **overvalued by ca. 22 – 65%**. **The interpolated median of these metrics is an overvaluation by ca. 56% -** this is up from 46% in the previous quarter.

Thus the metrics based on share prices at the end of September 30th, 2015 have come down for the second quarter in a row. Conversely, Shiller´s CAPE - which captures the increase in the S&P since then - has gone up slightly. Yet even with this metric the standard deviation are not yet getting close to bubble territory.

3.5.2 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 expected return will depend on the time it takes for this **overvaluation by a median of ca. 39% to unwind. In the calculation we have assumed a real profit growth of ca. 2% p.a. - in line with real GDP:**

Years for Unwinding	Real Return p.a.

[3] All SD calculations are based on end of previous quarter numbers.

2	negative
5	- 5%
10	**-2 to -1%.**

3.5 Calibration against other Authors

GMO – an asset manager whose approach we share in many respects – in their **7-year Asset Class Return forecast** as of November 30th, 2015, **expects real returns of:**

a) **-0,8%** (Sept. 30th, 2015: -1,2%) p.a. for US Small Caps

b) **-2,1%** (Sept. 30th, 2015: -1,1%) p.a. for US Large Caps.

This is largely in line with **our forecasts.**

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.**

3.6 European Valuations

With regard to CAPE, **European valuations as of December 30th, 2015, differ materially from the US Market**. Based on Shiller's CAPE valuation and expected returns compare as follows:

	Current CAPE	**Hist. Average**	**Dividend Yield**	**Expected return over 10Y**
USA	26,0x	16,7x	1,8%	-2 - 0% p.a.
Europe	15,5x	16,0x	3,0%	6 - 7% p.a.
Emerging Markets	13,5x		3,1%	7 - 8% p.a.

Hence the European Market:

a) is relative to the US more attractively valued based on CAPE

b) but when put into historical context – namely the average for the period 1979-2013 – appears fairly valued

c) based on actual earnings Europe trades at a PER of 23,5x – another indicator that Europe is at least not undervalued – also because the cyclically adj. PE includes the artificially high profits made in 2006-08 especially in the banking sector (see quarterly Macro Dashboard of Q I 2015 for an illustration of this so called "dilution distortion").

3.6.1 Individual Countries within Europe

The valuations in individual European countries differ materially:

Country	CAPE	Hist. Average	Expected 10Y Return	P/E 2015
Germany	18,2x	18x	5 - 6%	21x
France	16,6x	19x	6 - 7%	22x
Italy	12,7x	17x	7 - 8%	75x
Spain	11,3x	17x	8 - 9%	17x
UK	12,7x	15x	7 – 8%	29x
Norway	11,7x	14x	8 – 9%	43x

As can be seen from the table **Germany appears to be the most ambitiously valued country on Shiller's CAPE** – likely given its relatively higher competitiveness when compared to the periphery.

The periphery conversely appears overvalued on current earnings but cheap on CAPE – with the caveat that the past earnings of the banking sector are distorting CAPE so that it is artificially low (see quarterly Macro Dashboard from Q I 2015).

4. Risks to Profits and Valuations

In the last few months we are increasingly worried about **some signals from certain segments of world markets which we interpret as risk signals:**

a) Prices of **hard commodities** continue to fall. Copper and iron ore have reached multi-year lows.

b) The **shipping rates for the major shipping segments** - containers, bulk and tankers - continue to show weakness with rates dropping to also multi-year lows.

c) The **credit spread** of non-investment grade bonds over Treasuries has shot up massively in the last 6 months. The credit markets are pricing in an increased risk of

insolvencies/reduced recovery rates while equity markets continue to operate at very elevated levels.

Some of these phenomena also occurred in 2007/08 before the financial crisis in the USA became apparent. We will observe these - and other - indicators **as they warn us to keep our liquidity up in case there is a correction.**

5. Conclusions

5.1 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 not be as good as it was in the last up-cycle which lasted from 2003 – 2008.

b) Based on valuations of equity markets, equity returns over the next 5 – 10 years in the mature economies should be assumed nil or even slightly negative**!**

5.2 Range of Potential Outcomes

The spread of potential outcomes remains wide:

a) stock markets could evolve further into bubble territory

b) or correct significantly before year-end.

And as always it will be impossible to time any of these directions.

6. Recommendations for the Tops-Down Portfolio Construction

Profit levels have come down a bit by historical standards. From the point of view of a long-term perspective this appears healthy as it avoids wrong capital allocation in trying to caputre more of this high profit pie. Yet it implies that earnings per share are stagnating - making multiples look stretched.

In terms of valuation the correction up to the end of the summer was healthy - bringing most multiples more in line with their historical averages. But the stock market increase since then makes valuations look stretched again - in particular against the perspective of stagnating profits.

Thus we **keep our top down asset allocation recommendation unchanged:**

a) a cash level of ca. 20% of AUM to be able to take advantage of corrections

b) a short book of 10 - 15% to reduce net long exposure.

In any case we at FORUM will act opportunistically on a bottoms-up philosophy - acting on the specific opportunities the stock market will be offering us.

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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

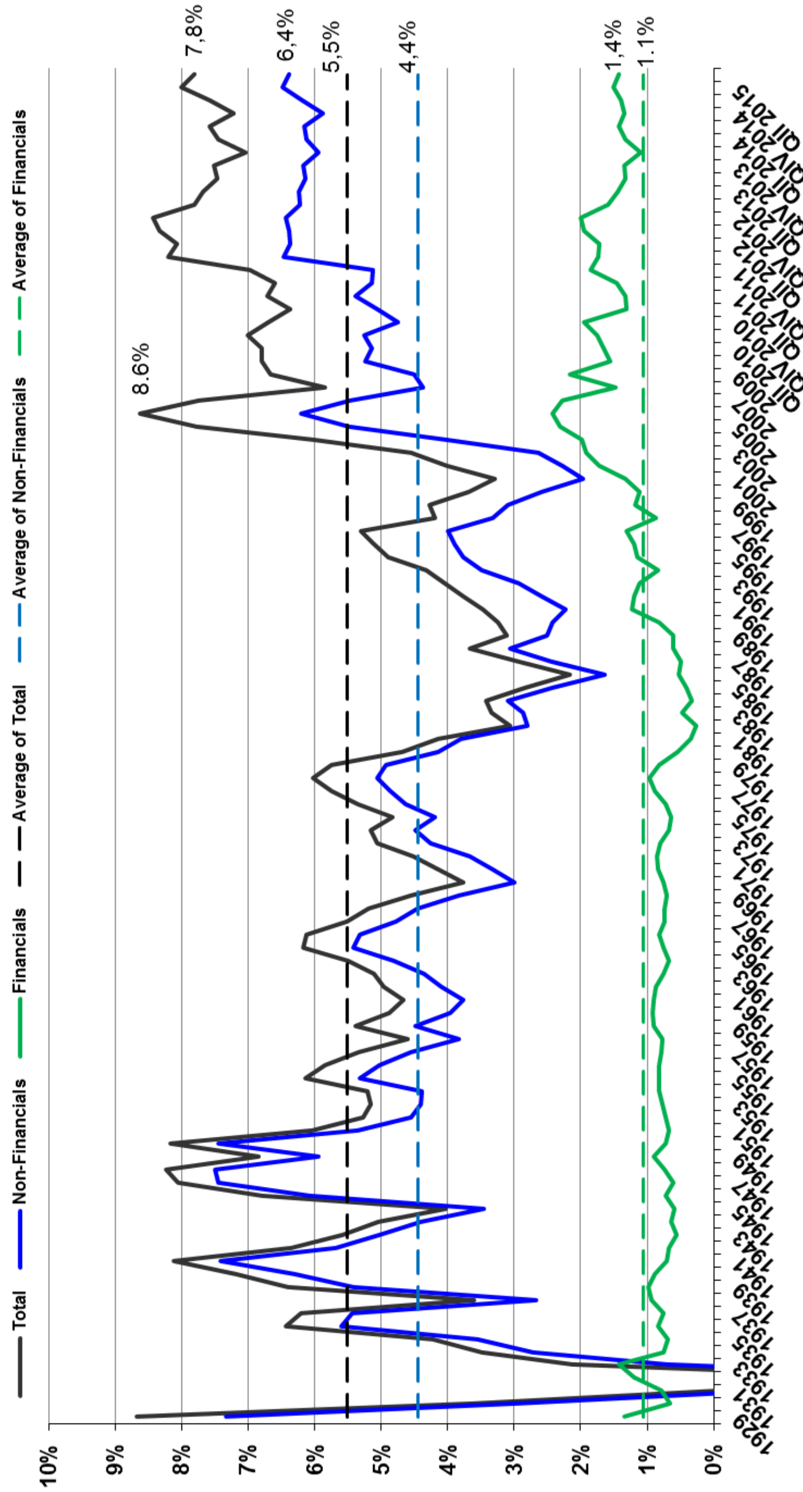
Status as of November 2nd 2010

	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%

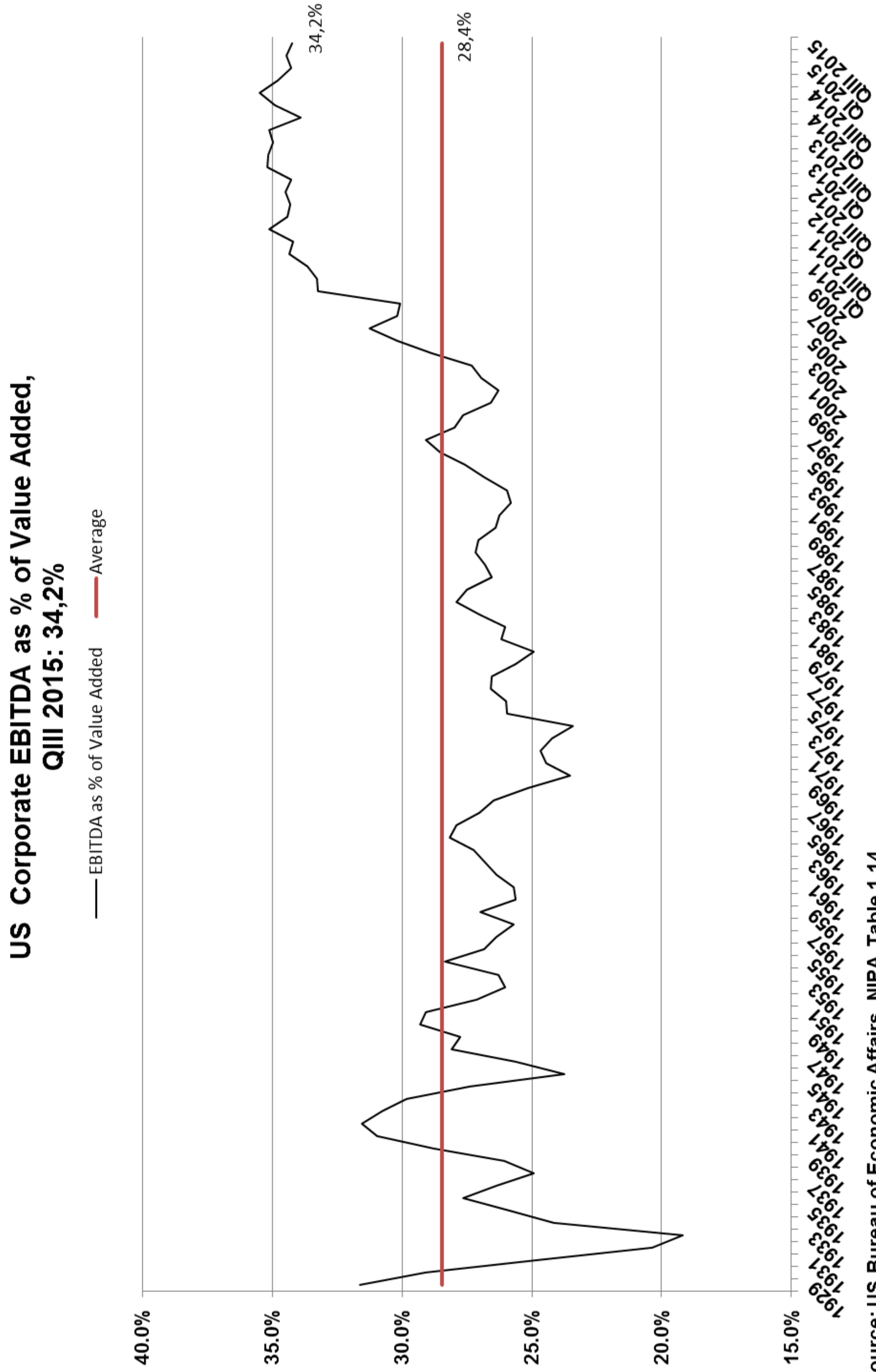
48% (Between -1 and 1)
86% (Between -2 and 2)

Period covered: 1881-2010
Source: Shiller, FORUM Research

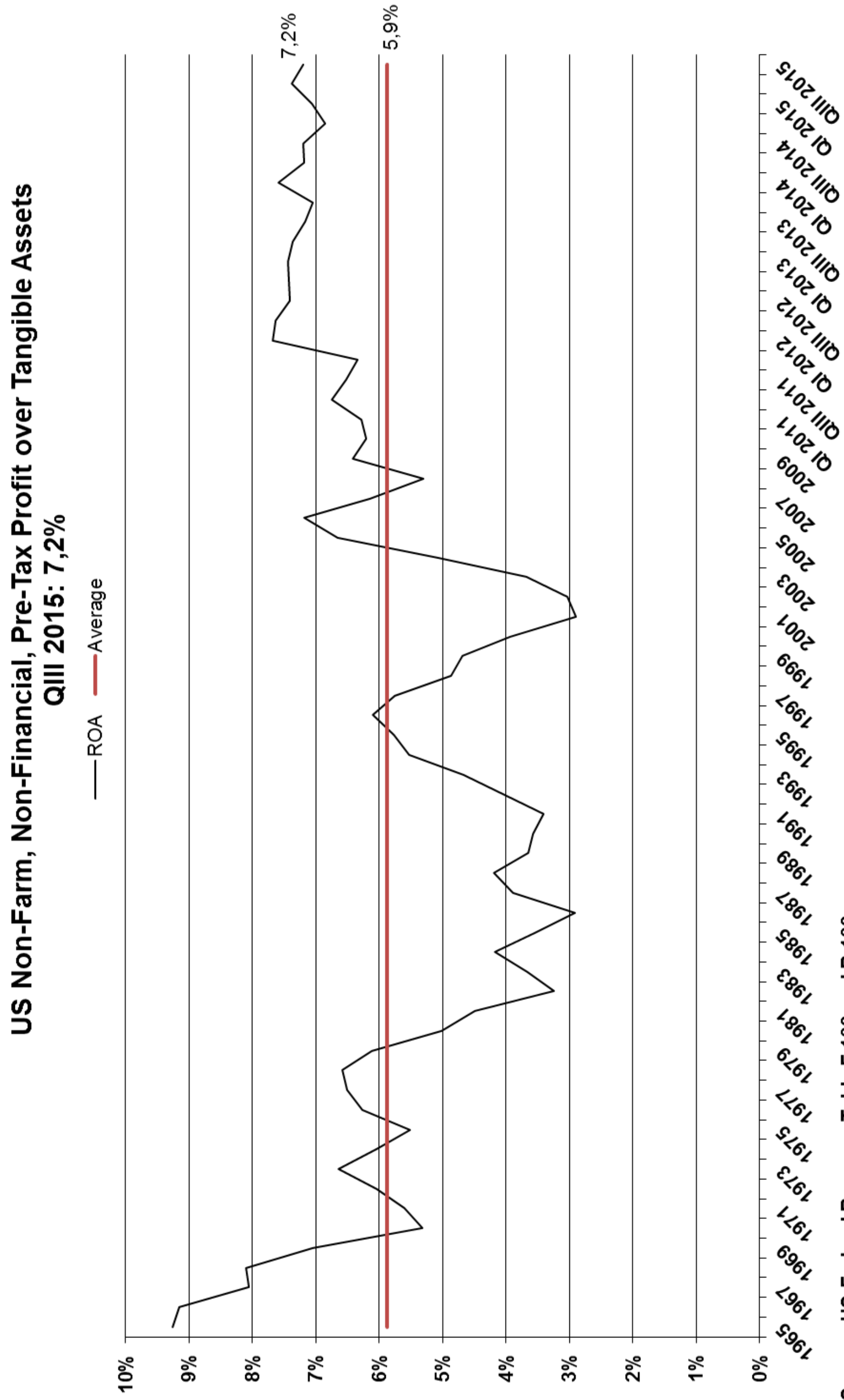
Appendix 2.1: US Corporate Profits as % of GDP



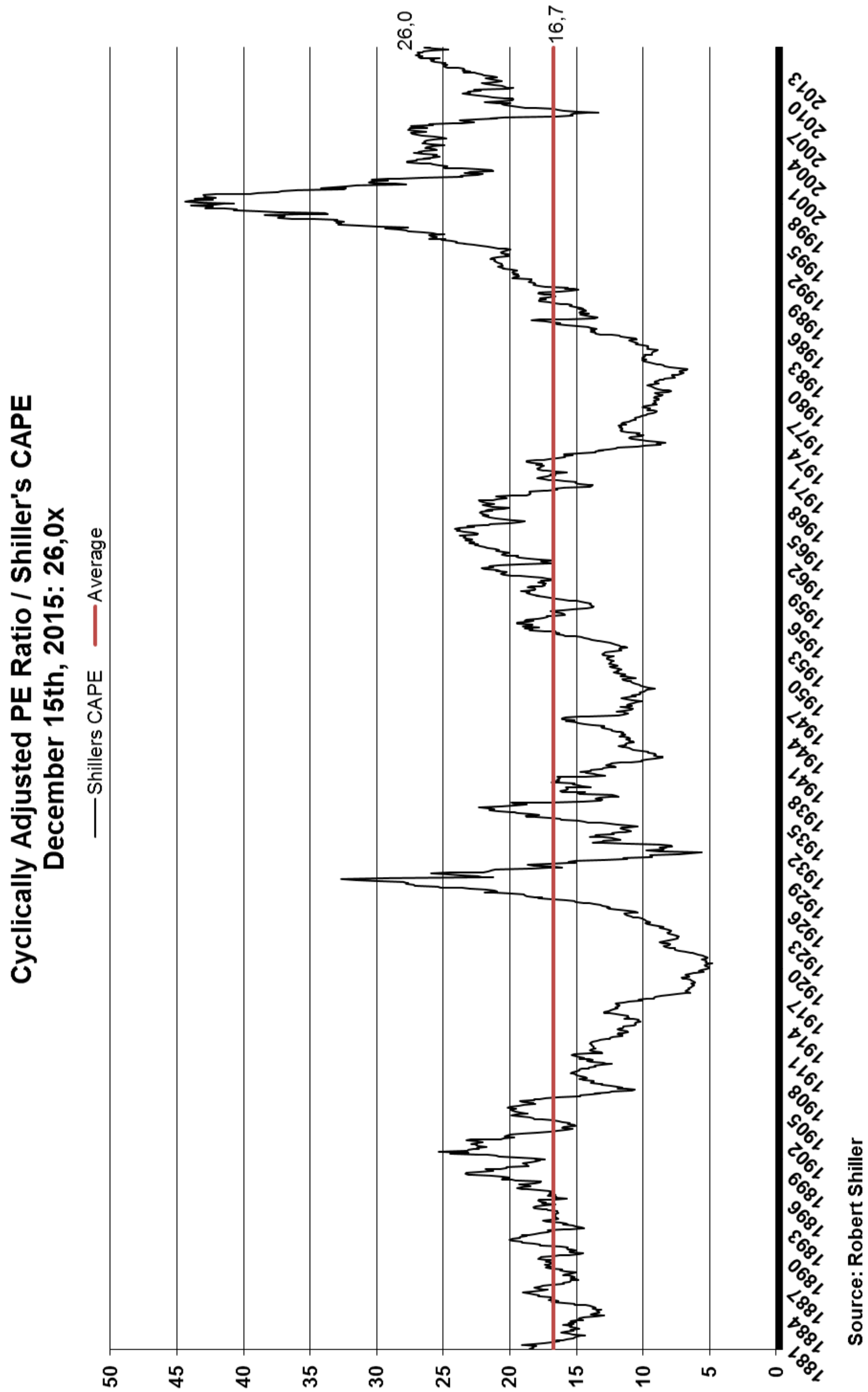
Appendix 2.2: US Corporate EBITDA



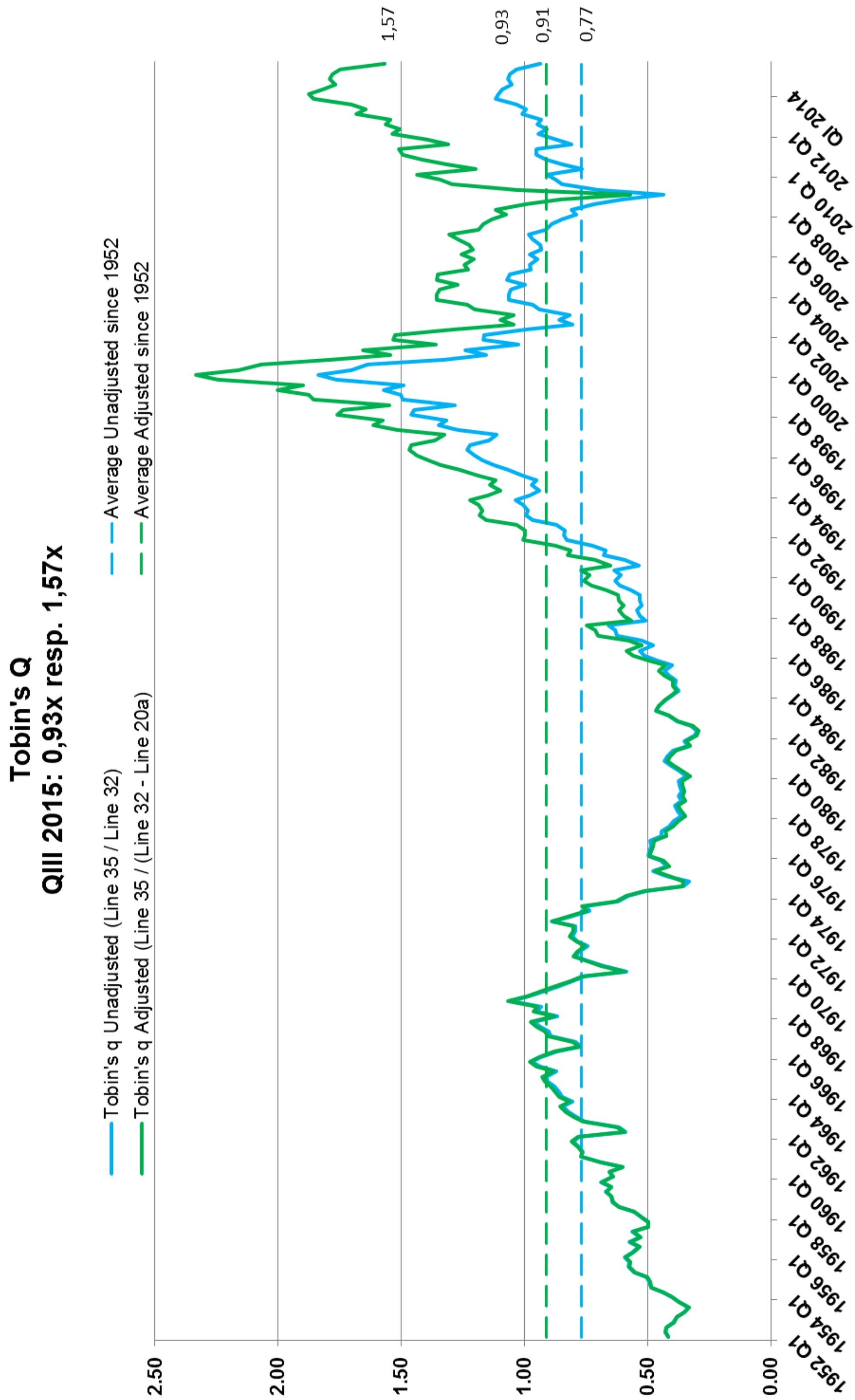
Appendix 2.3: US Corporate Profitability Measured as ROA



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



Appendix 3.2 – Tobin's Q



Appendix 3.3 – Capitalization of US companies as % of GDP