FORUM

European Smallcaps GmbH

Memorandum

To	:	FORUM Staff
From	:	BW
Copy to	:	
Date	:	July 8th, 2015
Subject	:	Macro Dashboard Q II 2015_V_1.1

---

1. Summary of Results

1.1 Profits and Valuations

In Q I 2015 the level of **US Corporate profitability continued to increase again and for three of the four metrics we follow:**

a) **at 21 – 57%** above the historical mean with an interpolated **median at 45% above the mean**

b) **slightly up** from the positive deviation at the end of Q IV 2014 which amounted to 38% at the median level.

Valuations in Q I 2015 stayed largely unchanged: at the end of the quarter the positive deviation from the median stood at:

a) **38 - 83%** with the interpolated **median at 61%**[1]

b) largely unchanged from a range of overvaluations by 41 – 82% with the **median of 68% at the end of Q IV 2014.**

Market cap as % of GDP has stayed at the level of 2,0 standard deviations. The interpolated median of all metrics (excl. Tobin's q adjusted) now stands at ca. 1,5 standard deviations.

---

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

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. -4% to 0% p.a. over the next 5 – 10 years in the USA.**

1.2 Risks

We still see most of the general risks we have been pointing towards in past newsletters, most importantly **structural weaknesses in consumer income and spending in the USA, the China investment bubble and the €-crisis.**

At present the Greek debt crisis is unfolding. Consensus is that there will be no contagion with other parts of Europe. We are unsure - at some point some people will realize that the French model for operating an economy is as unsustainable as the Greek - although they do it with much more charm, diplomacy and demonstrations of grandeur.

1.3 Range of Outcomes

We feel that due to the continuation – and in some parts even acceleration - of easy money **negative tail-end risk has increased.**

We will respond to this change in our 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 I 2015 **US after-tax Corporate Profits** increased again to **8,7%** (Q IV 2014: **8,3%) of GDP**. Thus it got back to the All-Time High reached already in Q I 2014.

This implies a **ratio of 157% of its 85-year average since 1929** which stands at 5,6%. **This corresponds with 1,6 standard deviations –** up from 1,4 at the end of the previous quarter.

2.1.2   Non-Financial Profits

US after-tax Non-Financial Corporate Profits – eliminating the volatility of banking profits – **showed the same pattern:** they increased to **6,8% of GDP –** up from 6,5% at the end of Q IV 2014. Again, this level is **close to the All-Time High of 6,9%** reached in Q I 2014.

The 85-year average is 4,4%. Thus in Q I 2015 US after-tax Non-Financial Corporate Profits stood **at 154% of the long-term average. This corresponds with 1,3 standard deviations –** up 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 I 2015 **Corporate EBITDA dropped back slightly to 34,4% -** down from 35,2% in the previous quarter.

b) As the **85-year average stands at 28,3%, the latest level implies a ratio of 121% of the historical mean.**

The implied deviation from historical data corresponds to **1,7 standard deviations, down from 2,0 standard deviations in the previous quarter**. Thus it dropped back slightly from what we have defined as "bubble territory", i.e. metrics above 2,0x.

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 I 2015 **increased from 7,5% to 7,9% of GDP**.

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. 135% of its long-term average** – in line with the other two profit metrics outlined above. **This corresponds with 1,3 standard deviations.**

2.4 FORUM Conclusions on Profitability

In Q I 2015 three of the four profit metrics we follow resumed their increase again - only EBITDA came down a bit. All four metrics are at their All-time Highs or very close to it.

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	157%	1,6x SD
Non-Fin. Profits % of GDP	154%	1,3x SD
Corporate EBITDA Level	121%	1,7x SD
Non-Financial ROA	135%	1,3x SD

When viewed together, the four metrics for corporate profitability in Q I 2015 show **a wide range of positive deviations ranging from 21 to 57% above their averages with the median positive deviation at ca. 45%.** Three of the four metrics increased.

In terms of **standard deviations** the different metrics have also increased again with the median at **ca. 1,45 standard deviations**. This implies **a positive deviation in the profit cycle - but is mostly below the two standard deviations we use to define a bubble - a profit bubble in this case.**

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 26,7x for June 8th, 2015,** his latest update. On that date the S&P 500 stood at 2.079. This is a slight decrease from a CAPE of 27,9x reported as of March 15th, the time of our latest report with the S&P 500 at 2.115 points.

The long-term average of CAPE since 1871 stands at 16,6x. This implies that **current valuations have been creeping up to 161% of their long-term average.** In terms of statistical significance this valuation implies a **standard deviation of 1,5x** – down from 1,7x at the time of our latest report.

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.**

4

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 March 31st, 2015 **the non-adjusted ratio has dropped slightly to 1,06** (1,10 as of December 31st, 2014).

The non-adjusted average observed since 1900 based on our calculations is 0,77, **thus q is at 138% of its long-term average.** This corresponds with **1,0 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 I 2015 **q ex-statistical discontinuities (line 20 of Table R 102) stood at 1,79** slightly down from 1,86 at the end of Q IV 2014. Based on the long-term average of 0,91 this implies **a level of 197% of its long-term average resp. 1,9x 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 153%** at the end of Q I 2015, up slightly from 151% at the end of Q IV 2014[3].

---

[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.

[3] The Fed stopped reporting the US Market Cap in Q4 2013. Hence from Q3 2013 on we will use the quarter-over-quarter change in the Value of the S&P 500 index as a yardstick for the change in the Market Cap of US companies.

As the 62-year average since the beginning of this time series in 1952 is 83%, this valuation implies **a premium of ca. 83% which corresponds to 2,0x standard deviations – unchanged from the time of our last Macro Dashboard.**

3.4 Qualitative Indicators for Overvaluations

In the USA we see a lot of enthusiasm for technology - there is a mania about picking the next netflix and the next Twitter. The sectors with **valuations clearly in bubble territory are mainly internet and biotechnology.**

In Europe we continue to see IPOs of companies which were not able to float a few quarters ago: early internet companies, Europcar with its ongoing IT problems and some secondary placings. It fits this picture that PE companies are trying to unload a lot of mature investments right now.

The biggest indication for bubble-type behavior comes clearly from **China:** you have all read the press articles about the run-up in share prices and valuations, mostly driven by retail investors. Most importantly, there is considerable margin lending involved. Goldman Sachs estimates that the amount of margin-financed position is equivalent to ca. 12% of the free float of the equity market. That is a level which was last reached in the USA in the mid-1920s.......

3.5 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 March 31st, 2015 for the USA**:

	% of LT Average	**Standard Deviations**
Shiller´s CAPE	161%	1,5x SD
Tobin´s q non-adjusted	138%	1,0x SD
Tobin´s q adjusted for discontinuities	197%	1,9x SD
US Equity Market Cap. as % of GDP	183%	2,0x SD[4]

Eliminating Tobin's q adjusted as an outlier, these data on equity valuation suggest that US equity markets are **overvalued by ca. 40 – 80%**. **The interpolated median of these metrics is an overvaluation by ca. 61%.** This is largely unchanged from last quarter.

---

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

What appears more remarkable is that with market cap as % of GDP – the fourth valuation metric - has continued to stand at 2,0 standard deviations. The interpolated median of all metrics (excluding Tobin's q adjusted) now stands at ca. 1,5 standard deviations.

This is the second quarter that our valuation metrics send clear warning signs. **If CAPE reaches bubble territory as well we would be very worried.**

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 72% to unwind:**

Years for Unwinding	Real Return p.a.
2	negative
5	- 4 to - 1%
10	**-2 to 0%.**

3.6 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 June 30th, 2015, **expects real returns of:**

a) **-3,0%** (March 31st, 2015: -2,9%) p.a. for US Small Caps

b) **-2,3%** (March 31st, 2015: -1,8%) p.a. for US Large Caps.

This is **even more negative than 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.**

3.7 European Valuations

In the last Macro Dashboard we explained why the European CAPE is distorted due to the massive capital increases of European banks post-2009: based on CAPE European shares look much cheaper than in the USA, but are not on a per-share basis.

We are in the process of defining a crude correction factor - or finding an alternative metric like market cap as % of GDP. We hope to present a solution in the next Macro Dashboard.

4. Risks to US Profits and US 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) **Decreasing real median household income** – most of the additional income created in the last decade has gone to the top 1 – 5% of top earners - leaving the median household income stagnant when adjusted for inflation.

   According to a study from the US Census Bureau, the real median annual household income in the US has decreased from $ 56,8k in 2000 to $ 51,9k in 2013. This implies a decline of 0,7% p.a. and return to the levels of 1994/95 (see **Appendix 3.4**).

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 I 2015 the level of household debt/GDP stayed largely unchanged at 76,3%[5]. This level is ca. 1/5 below the peak of 97,9% (non-adjusted) reached at the end of 2006.

d) **In Q I 2015 total debt of all sectors increased slightly to 334% (Dec. 31st, 2014: 331%) of GDP**. There has been a change in methodology between Q II and Q III 2014 eliminating ca. 13 points from this count. After adjusting for the current level it is still **largely unchanged from the all-time peak level of 360%** at the end of 2009 when the financial crisis had reduced GDP.

5. Other Risks

5.1 Overview

In the last Macro Dashboards we discussed the following risks:

a) **Sovereign Debt:** this risk is presently materializing in Greece. We do not believe Greece will stay the only country getting into problems. **Sooner or later** France and Italy will follow; one cannot continue to run a sclerotic, static society by adding more and more debt, just buying time until the next election.

   And then we still have Japan with the highest level of debt and a society which is shrinking now at an accelerating pace - increasing debt per capita even faster.

---

[5] The US Government in Q II 2013 started to change the calculation of GDP by including R&D. This led to higher reported GDP and therefore lower debt to GDP levels. We adjusted earlier figures to warrant comparability of the data.

b) **China investment bubble**: history suggests strongly that any long period of expansion based on a share of investments as % of 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**. Again, some recent signals we are getting signal that the bubble may be beginning to unwind.

5.2 FED Tapering Coming to an End

Forward looking it is very likely that the US Federal Reserve will **reduce its monetary stimulus** by phasing out its quantitative easing (i.e. tapering) program. Possible consequences might be:

a) Higher **volatility returning to US stock markets**. The **primary effect** would be a possible correction in US stock market valuations – analogous to the mini-crash experienced in October when the Fed changed the wording of its outlook for interest rate for the first time.

b) The **secondary effect** may well be **capital outflows from Emerging Countries** – as the implied risk premium would be lowered. This effect will most likely be strongest in Emerging Markets which have a combination of high government debt and a negative current account.

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 lasted from 2003 – 2008.

b) **Based on valuations of equity markets, equity returns in the next 5 – 10 years** in the mature economies should be assumed to be **plainly negative!**

6.2 Range of Potential Outcomes

The spread of potential outcomes remains wide:

a) The **liquidity** generated from the joint actions of Central Banks and governments worldwide increases the **risk of bubbles in more and more asset classes and regions being inflated to ever higher levels.** It is striking how much risk is neglected in this process.

b) At some point this **liquidity will have to be taken out of the system**. A change in liquidity supply at this level has not been executed in most countries for several decades and entails unknown risks.

Thus we conclude that the **range of possible outcomes** has increased significantly: stock markets **could evolve further into bubble territory or correct significantly before year-end. And as always it will be impossible to time any of these directions.**

7. Recommendations for the Tops-Down Portfolio Construction

This is the second consecutive Macro Dashboard which signals that valuations of stock markets are getting into dangerous territory. We are therefore deviating from our default allocation and recommend starting building up hedges against a major correction in the stock markets.

FORUM

European Smallcaps GmbH

Table of Appendices

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
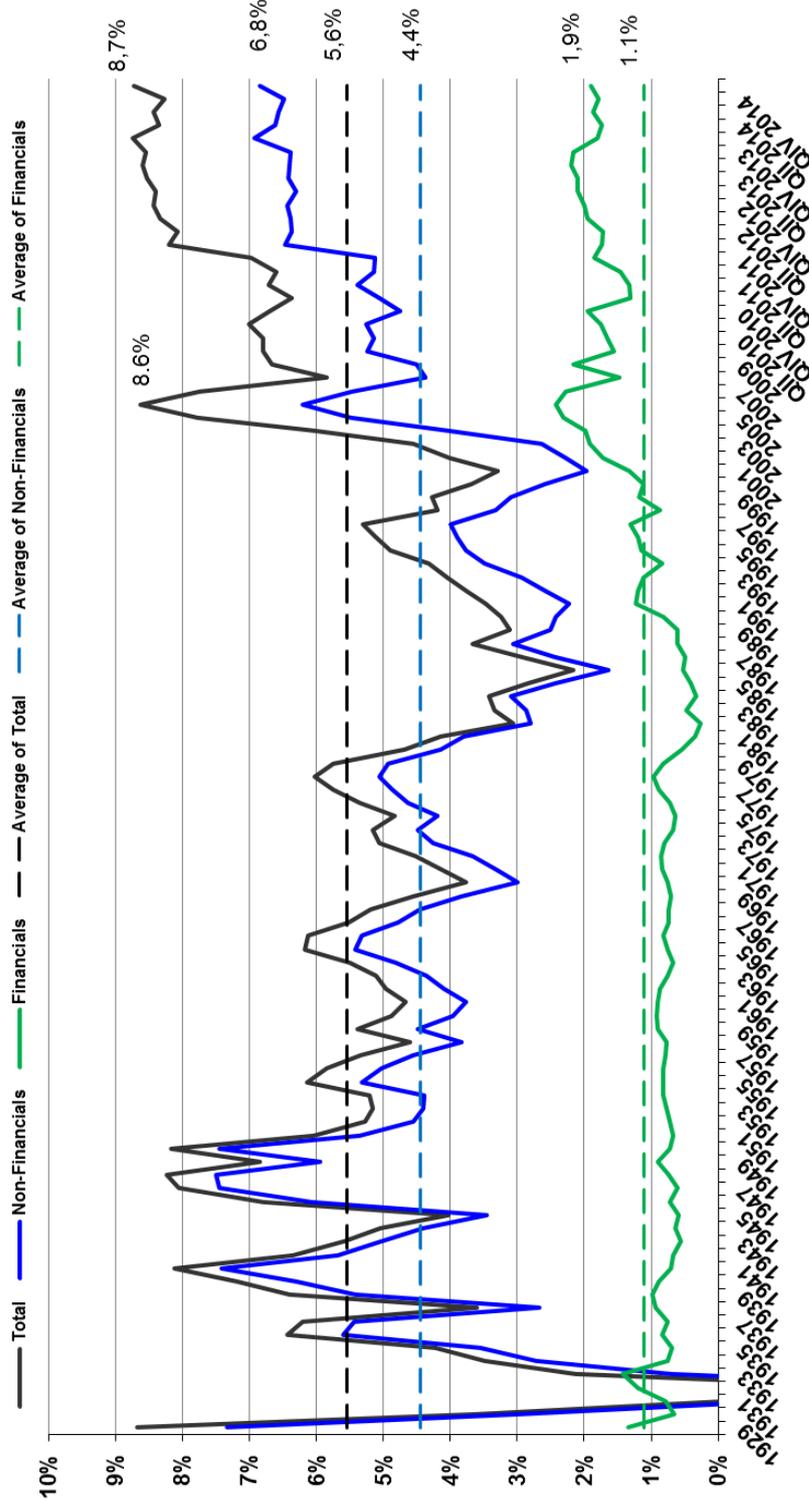
Status as of November 2nd 2010

	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%   86%

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

Appendix 2.1: US Corporate Profits as % of GDP

US Corporate Profits as Share of GDP
QI 2015: 8,7%

Legend: Total — Financials — Average of Total — Average of Financials — Non-Financials — Average of Non-Financials

8,7%
6,8%
5,6%
4,4%
1,9%
1.1%
8.6%

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

Appendix 2.2: US Corporate EBITDA

US Corporate EBITDA as % of Value Added, QI 2015: 34,4%

Source: US Bureau of Economic Affairs, NIPA Table 1.14

Appendix 2.3: US Corporate Profitability Measured as ROA

US Non-Farm, Non-Financial, Pre-Tax Profit over Tangible Assets
QI 2015: 7,9%

—— ROA   —— Average

7,9%

5,9%

Source: US Federal Reserve, Table F 102 and B 102

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

Cyclically Adjusted PE Ratio / Shiller's CAPE
June 8th, 2015: 26,7x

——Shillers CAPE   ——Average

26,7

16,6

Source: Robert Shiller

16

Appendix 3.2 – Tobin's Q

Tobin's Q
QI 2015: 1,06x resp. 1,79x

— Tobin's q Unadjusted (Line 35 / Line 32)
— Tobin's q Adjusted (Line 35 / (Line 32 - Line 20a)
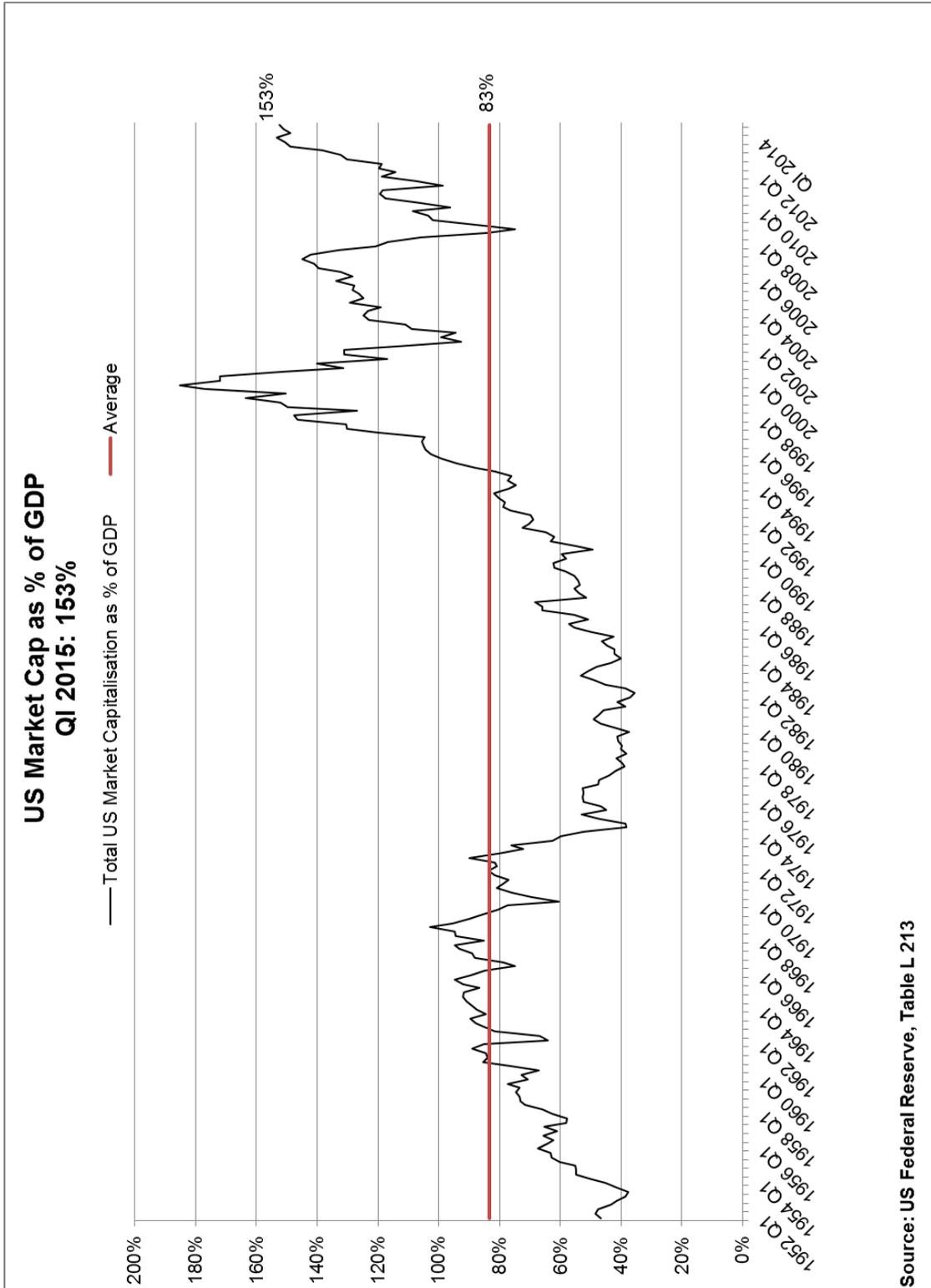- - - Average Unadjusted since 1952
- - - Average Adjusted since 1952
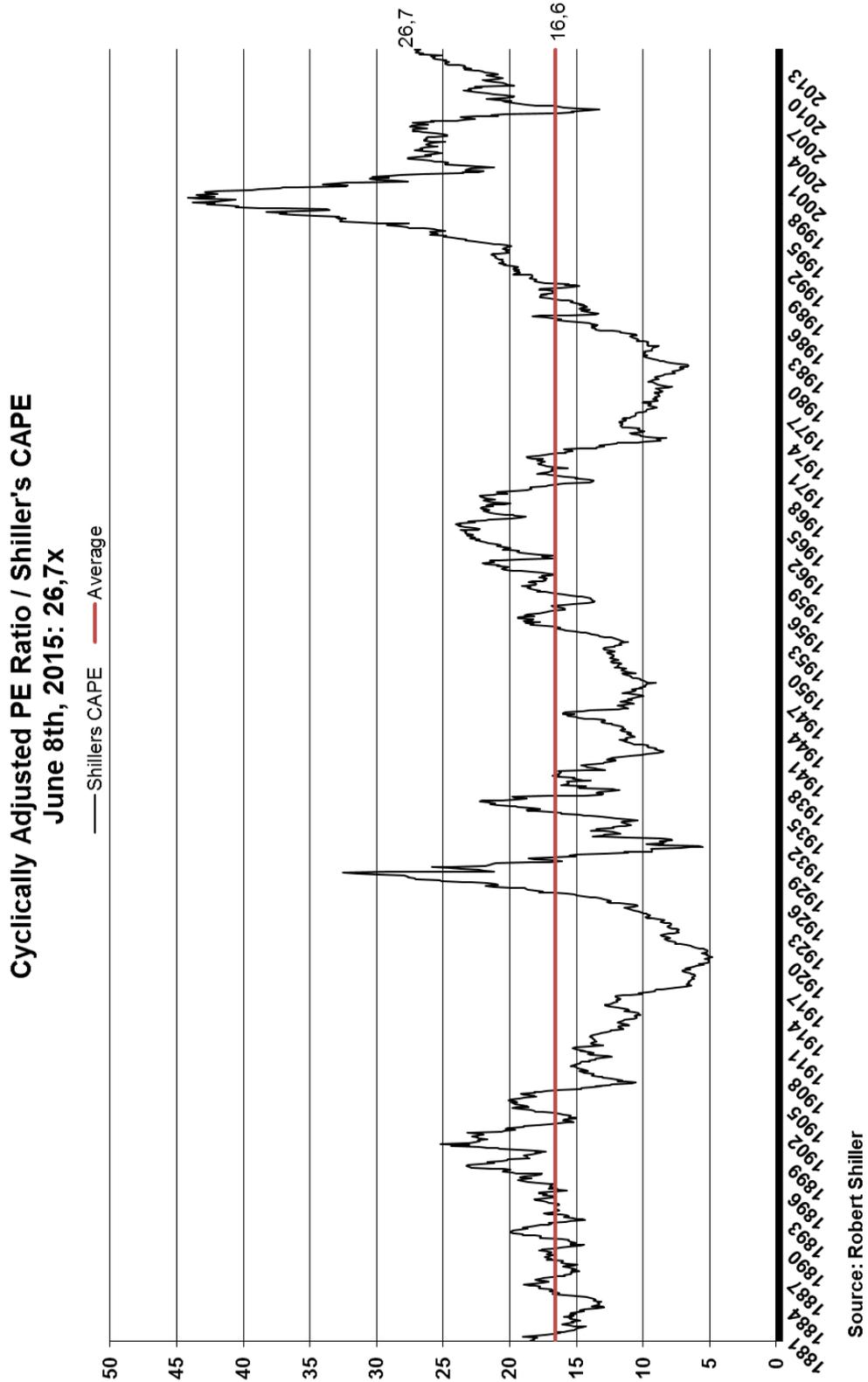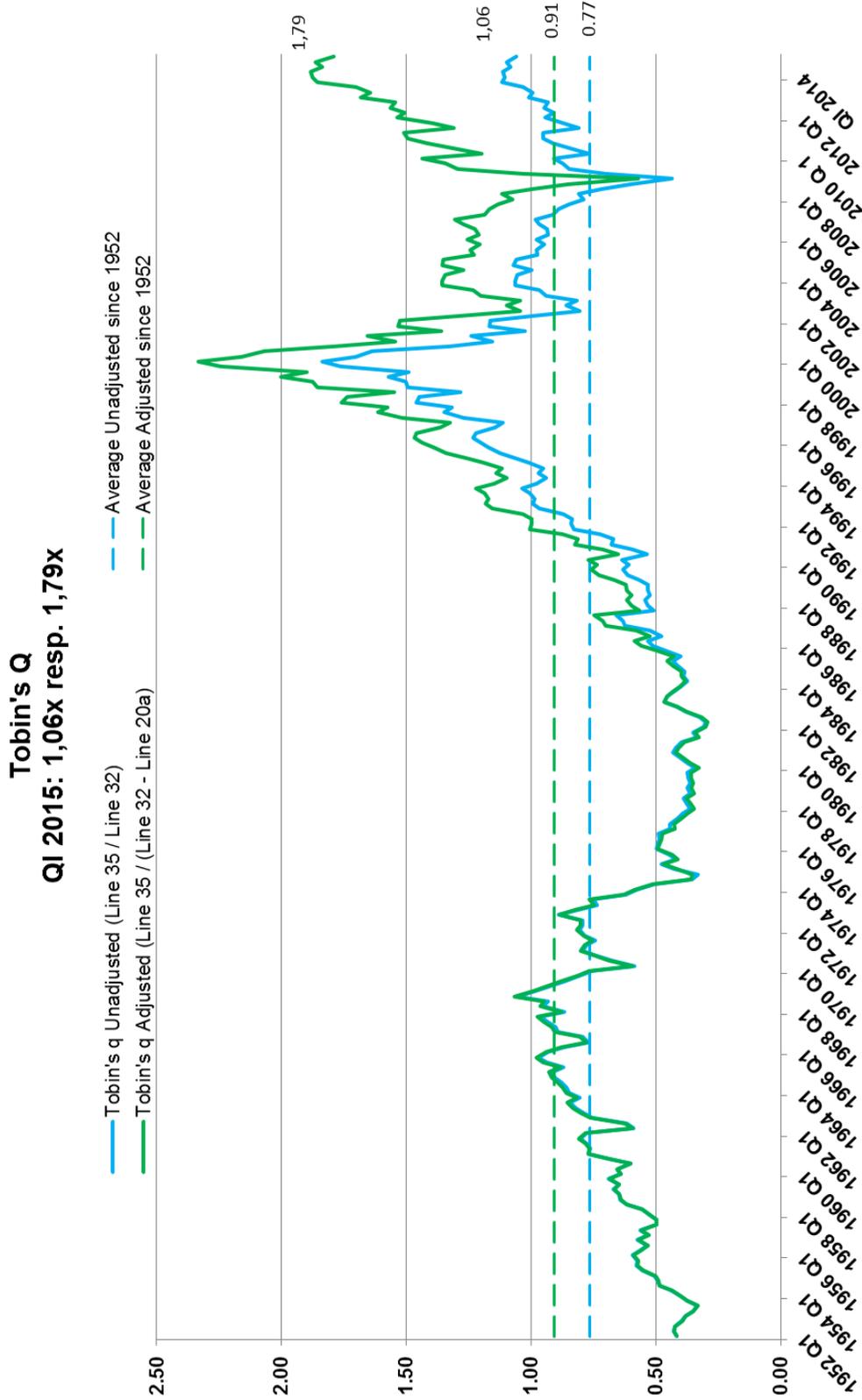
Source: US Federal Reserve, Table B 102, R 102 Line 20

Appendix 3.3 – Capitalization of US companies as % of GDP

US Market Cap as % of GDP
QI 2015: 153%

— Total US Market Capitalisation as % of GDP
— Average

153%

83%

Source: US Federal Reserve, Table L 213

FORUM

European Smallcaps GmbH

Appendix 3.4 – Real Median Household Income in the US (1967 – 2013)

Real Median Household Income by Race and Hispanic Origin: 1967 to 2013

2013 dollars

Recession

- Asian — $67,065
- White, not Hispanic — $58,270
- All races — $51,939
- Hispanic (any race) — $40,963
- Black — $34,598
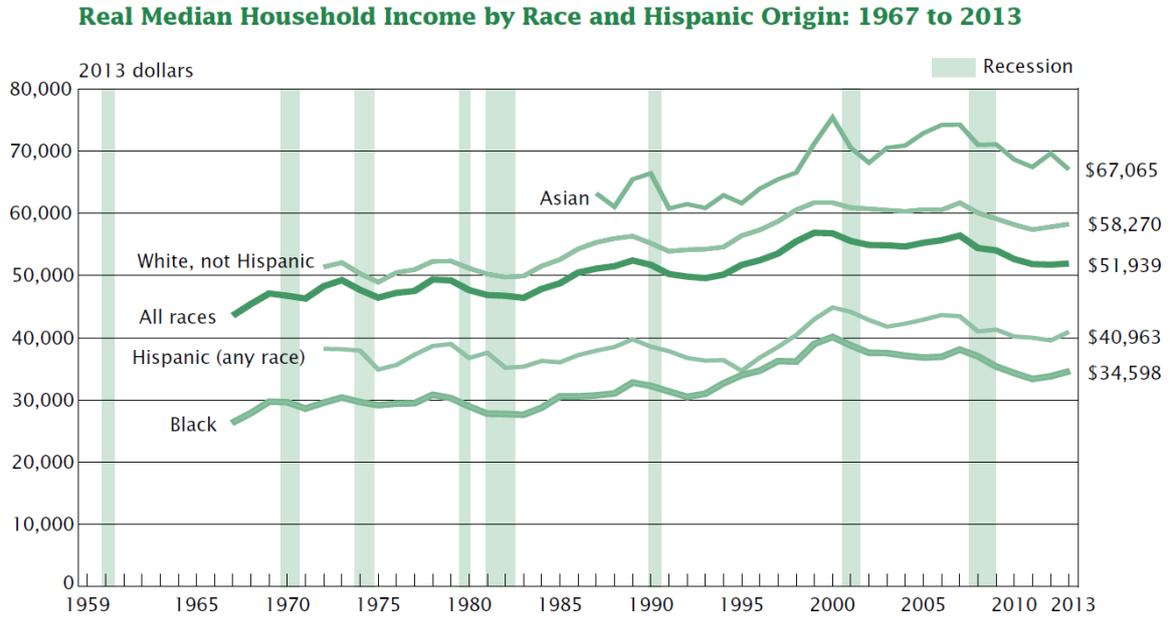
Source: U.S. Census Bureau, Survey September 2014