FORUM

European Smallcaps GmbH

Memorandum

To : FORUM Staff

From : BW

Copy to :

Date : February 6th, 2019

Subject : Macro Dashboard Q IV 2018 V_1.0

A. Summary of Results

The key metrics we monitor in this Macro Dashboard have stayed largely unchanged since our last report:

a) **In Europe** the levels of profitability as well as equity valuations stay **largely close to their historical averages** - there are neither signs of either an inflated, non-sustainable level of corporate profitability or a valuation bubble. **Thus going forward we expect average returns.**

b) **In the USA** the **level of profitability is elevated by 20 – 40% above historical averages** resp. trend-line growth. More significantly equity valuations are significantly inflated and have gone up further. **Both valuation metrics we use stand at ca. 190% of their historical averages, implying standard deviations of 2,2x - 2,3x. This signals a full-fledged bubble.**

O**n the risk side** global economic and political risks appear have clearly increased, with Mr. Trump being the driver for both an emerging trade war and pressure on some targeted Emerging Markets resp. Russia. And the Central Banks have started a commitment to tightening the monetary policy.

We continue to be more worried than equity markets about the effect of long-term interest rates We are much more worried than the markets about an increase in the 10-year bond yield in the USA from 2% to 4 or even 5% - **such an increase will lay open a lot of risky financing structures which were not stress-tested for such an evolution.**

As a result we **maintain our recommendation of a tops-down portfolio structure:**

a) 20 – 25% cash

b) 10 – 15% short exposure.

B. Europe

1. Levels of Profitability

1.1 Introduction

When analyzing long-term series in Europe an apparent problem is that **a central statistical basis has only been built up since ca. 2000**, thus it is difficult to get long-term time series data. For longer time series we will therefore resort to the data of individual countries. We decided to **focus on Germany and France** as these countries:

a) have a **relatively small banking sector** - which can distort macro data. As FORUM does not invest in banks these data are particularly representative for our investment universe.

b) jointly account for **ca. 40% of the GDP of the Euro zone.**

1.2 Corporate Profits Germany

Appendix B.1.2.a. shows that in Q III 2018 German Gross Operating Surplus plus Gross Income as % of Gross Value-Added **decreased from 39,3% in Q I 2018 to 39,0%**. This is the 8th consecutive quarter of declining profitability.

The 19-year average for this metric is 42,4%. Thus in Q III 2018 this profit metric stood at **92% of its long-term average** – slightly down from 93% at the end of the previous quarter – a non-event.

The **second metric** we use for monitoring the level of profitability in Germany is the **time series for the last-twelve months ("LTM") eps of the DAX 30 German index. Appendix B.1.2.b** shows that **aggregate LTM eps in Q IV 2018** decreased from 965,0 in June 30th, 2018 to 868,6 as of December 30th, 2018 – a 11% decline.

A look at the graph suggests that the level of profitability is now just **slightly below the trend-line growth – once more a non-event.**

1.3 Corporate Profits France

In France we obtained a 66-year time series on the Corporate EBITDA as % of Gross Value Added - see **Appendix B.1.3.a**. In Q I 2018 this metric **declined slightly to 31,4%** (vs. 31,7% in Q IV 2017).

The 65-year average is 31,4%. Thus in Q I 2018 French Corporate EBITDA stood **at 100% of its long-term average (largely unchanged**). This corresponds with **0x standard deviations – down from 0,1x** from previous quarter.

The **second metric** for monitoring corporate profitability in France is the time series of LTM eps for the CAC All Tradeable index – **Appendix B.1.3.b.** The Appendix shows that **aggregate eps in Q IV 2018 increased slightly** from 225,1 on June 30th, 2018 to 245,5 on December 30th, 2018 – a 9% increase. A look at the graph shows that this profit metric continues to be just above right **on the trend-line - confirming the picture from Appendix B.1.3.a.**

Thus the conclusion on the level of corporate profits in France is that they are at their historical averages with little movements.

2. Valuation

2.1 Shiller´s CAPE

Shiller´s Cyclically-**A**djusted **P**rice **E**arnings Multiple **(or CAPE)** is a metric introduced by Robert Shiller 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.

2.1.1 Aggregate Europe

The primary source for this data is **Research Affiliates**. Our data is drawn from the JP Morgan Guide to Markets as a secondary source. **Appendix B.2.1.1** shows the 36-year evolution of this metric. The basis is the **MSCI Europe index.**

The 36-year average of CAPE Europe since 1980 stands at 17,7x**.** This implies that **current valuations** at 16,4x (December 31st, 2018) **stands at 93% of their long-term average – down from 102% in Q II 2018.**

2.2 Price to Earnings Ratio MSCI Industrial Europe (PER)

Please see Appendix B.2.2 for the evolution of **LTM P/E ratio for the MSCI Industrial Europe index** since 1995. As this index is only comprised of industrials it eliminates any distortions from the problems in the banking sector in 2009.

On December 30th, 2018 the TTM PER for the MSCI Industrial Europe index was **15,3x** – **down 12%** from the PER **of 17,7x** reported at the end of June 30th, 2018.

The 22-year average of PER for the MSCI Industrial Europe stands at **17,2x**. This implies that **current valuations stand at 89% of its long-term average** – down from **102%** at the end of the June 2018.

In terms of statistical significance this valuation implies a standard deviation of 0,6x – up from 0,6x at the end of June 2018.

2.3 Summary of Valuations in Europe

In summary valuations in Europe are very close to their historical averages – no sign for overvaluation or a bubble. Unchanged conclusion.

C. USA

1. Status of the Profit Cycle

1.1 US After-Tax Corporate Profits as % of GDP (Appendix C.1.1)

1.1.1 Total Profits

In Q III 2018 **US after-tax Corporate Profits** increased to 7,2% (vs. 7,1**%** in Q I 2018) 2017) **of GDP**.

The current level of profitability implies a **ratio of 129% of its 87-year average since 1929** which stands at 5,6%. **This corresponds with 0,9x standard deviations – slightly up from Q I 2018.**

1.1.2 Non-Financial Profits

In Q III 2018 **US revised after-tax Non-Financial Corporate Profits** – eliminating the volatility of banking profits – stayed at 5,4% vs. Q I 2018.

The 88-year average is 4,5%. Thus in Q I 2018 US after-tax Non-Financial Corporate Profits stood **at 120% of its long-term average** (unchanged from Q I 2018)**. This corresponds with 0,5x standard deviations** – again unchanged from the end of the previous quarter.

1.2 US Corporate EBITDA (Appendixes C.1.2.a and C.1.2.b)

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 C.1.2.a** in Q III 2018 Corporate EBITDA stood at 34,7% of Gross Value Added, slightly up from 34,3% in Q I 2018.

Appendix C.1.2.b shows that the share accounted for by **wages** as % of GDP decreaed slightly to 32,6% (vs. 32,7% in Q I 2018). Based on these data wage pressure continues not to be material: the growth of wages in Q III 2018 was 4,5% YOY (vs. 3,7% in Q I 2018). We should not read anything into this: the average growth in wages has been 4% over the last 20 quarters.

As the 88-year average of Corporate EBITDA stands at 29,1% of GDP, the latest level implies **a ratio of 119% of its historical average – unchanged from the previous quarter.**

The implied deviation from historical data corresponds to **1,4x standard deviations – also unchanged from 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.

1.3 S&P 500 – Earnings per Share (Appendix C.1.3)

In Q III 2018 TTM **statutory earnings per share** ("**eps**") of the S&P 500 stood at $ 137,20 – up 17% from $ 116,68 in Q I 2018.

Appendix C.1.3 shows that eps was growing strongly above its trend line after the financial crisis 2008/09. The main driver were the tax cuts, of course, thus date are not directly comparable. Currently eps is **roughly 70% above the level of profits implied by the trend-line growth rate** which is around an eps of $ 80,-. It is now above the 2 peaks reached in 2007 and 1998, both followed by fast reversion to the mean ("RTM").

1.4 FORUM Conclusions on Profitability

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	129%	0,9x SD
Non-Fin. Profits % of GDP	120%	0,5x SD
Corporate EBITDA Level	119%	1,4x SD
S&P 500 eps (vs. trend line)	170%	n.a.

We interpret the deviation between the first three metrics and the S&P 500 eps trend line as the difference between the total corporate sector – with many smaller companies having a domestic focus – and the larger corporate which derive a significant share of their profits from abroad. These corporations have been helped significantly by the lower US-$

In total one has to conclude, though, that the level of profits appears at the same level as in our last Dashboard.

2. Valuations

2.1 Cyclically Adjusted PE Ratios / Shiller´s CAPE (Appendix C.2.1.a)

Prof. Shiller reports **a CAPE of 28,3x for January 5th, 2019,** his latest update. On that date the S&P 500 stood at 2.531. This compares to a CAPE of 31,5x on July 5th, 2018

The long-term average of CAPE since 1871 stands at 16,9x**.** This implies that **current valuations stand at 167% of their long-term average – down from 189% from the latest letter.** In terms of statistical significance this valuation implies a **standard deviation of 1,7x, down from 2,2x**.

Thus we continue to see valuations which are the third-highest in history – comparable with the levels achieved shortly before the Great Recession in 1929. This is plainly worrying as there is lots of historical evidence that in the subsequent years returns to shareholders have been poor – see below.

2.2 US Equity Market Capitalization as % of GDP (Appendix C.2.2)

This is a metric which Warren Buffett cites often when discussing the level of valuations in equity markets. The numerator is the value of corporate equities as recorded on the balance sheet of the Fed.

Based on the Fed data for market capitalization and BEA data for GDP **US market capitalization as % of GDP increased to 151,0% at the end of Q III 2018** (vs. **132,7% at the end of Q I 2018)**.

As the 64-year average since the beginning of this time series in 1952 is 74%, this valuation implies **a level of 202% which corresponds to 2,7x standard deviations –up from Q I 2018 (181%, 2,2x).**

2.3 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 December 30th, 2018 for the USA**:

	% of LT Average	Standard Deviations
Shiller´s CAPE	189%	2,2x SD
US Equity Market Cap. as % of GDP	202%	2,7x SD[1]

Both metrics suggest that US equity markets are **overvalued by 90 - 100%** - up slightly from 80 - 90% in Q I 2018.

It is also worthwhile to point out that the standard deviation for both metrics is **above 2,0s standard deviations.** This is the level we define as a bubble as when this level was reached in the past the probability of significantly lower than average returns to shareholders in the subsequent 5-year period was very high.

"Very high" does not exclude a scenario whereby equity valuations continue to increase for many more years – **just the probabilities are against that.**

D. Comparison Europe : USA

The following table **summarizes the 2x2 matrix we have de-been facto talking about** (the figures are % relative to their long-term average):

	Europe	USA
Profits	90 – 100%	~ 120%
Valuation	~ 90%	~ 200%

Thus Europe appears perfectly in order. There is room for profit growth for some years without building up a bubble.

The "elephant in the room" is the massive overvaluation of US equities. If it corrects, this will also affect European valuations. But given the situation in the left side of the matrix we cannot afford to pull in our horn too much as valuations in Europe could well increase by 20 - 30% from money being re-directed from the USA to Europe. **Thus we will stay invested at a high degree.**

E. Risks

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

The analysis above shows that the **levels of profitability and valuation in Europe do not signal an elevated level of risk as they are close to their long-term averages.**

The risks we see for a potential impairment of the earnings power value of our portfolio **come either from other regions or from political issues, in particular**

a) **Trade war**
b) **Frictions between large political powers**

In addition Central Banks across the world are slowly withdrawing the accommodating conditions they have set in the last 8 years. **We are sure this risk is not priced into equity prices, many market participants have forgotten what tightening of money supply can do.**

F. Conclusions for the Tops-Down Portfolio Construction

1. Expected Market Returns

If one believes in the Mean-Reversion characteristics of valuation, the most likely assumption on expected returns on European equities in the next 5 – 10 years would be **returns in line with historical averages**

Conversely, expected returns from US equities are definitely below long-term averages. The expected return will depend on the time it takes for this **overvaluations to unwind. Appendix F.1 shows the expected market returns going forward.**

As history shows with such predictions, the actual outcome will most likely not be a linear development, **but the losses may come in very concentrated periods**. And the highest risk of a market correction by 10 – 20% is now – when valuations are highest!! **This describes the basis scenario which FORUM wants to position its portfolio for.**

2. Cash Level

Our traditional level of net cash is ca. 20% of net assets. Given our expectations for risks and returns we prefer to **hold a slightly higher level of cash, in the order of 20 – 25%.**

3. Shorting Exposure

We continue to want to have **a short exposure of 10 - 15%. But we will need names with a clear catalyst – not just overvaluations – otherwise the risk of being killed from momentum is too high.**

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

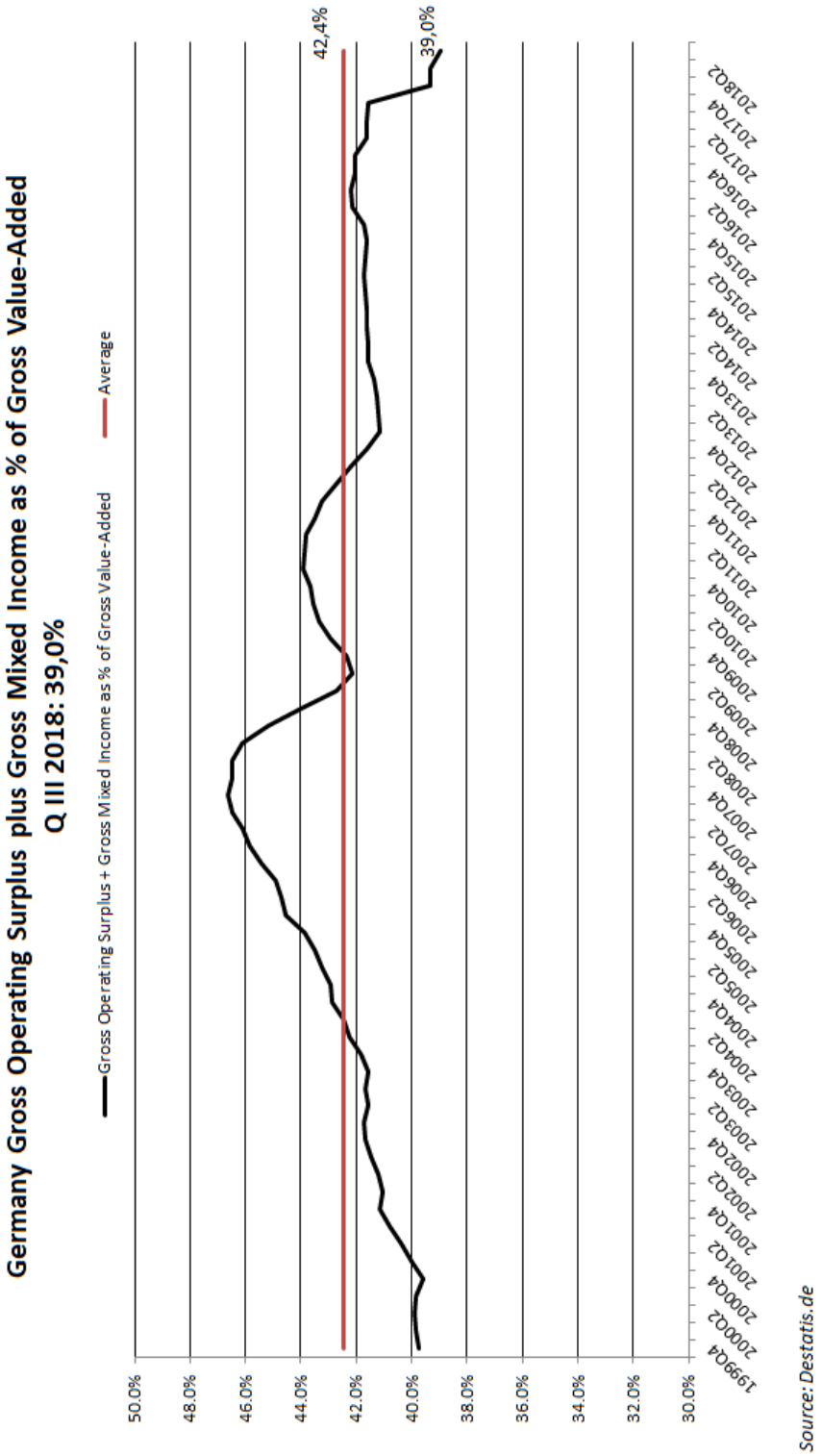
	Deviation from average as a # of standard deviations	# months	Nominal return 2 years	5 years	10 years
Negative deviations	Less than -3	1	14.5%	5.2%	9.9%
	Between -3 and -2	79	5.3%	4.8%	7.0%
	Between -2 and -1	294	7.8%	7.8%	4.6%
	Between -1 and -0.5	226	10.5%	6.8%	6.6%
	Between -0.5 and 0	159	7.8%	5.3%	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%

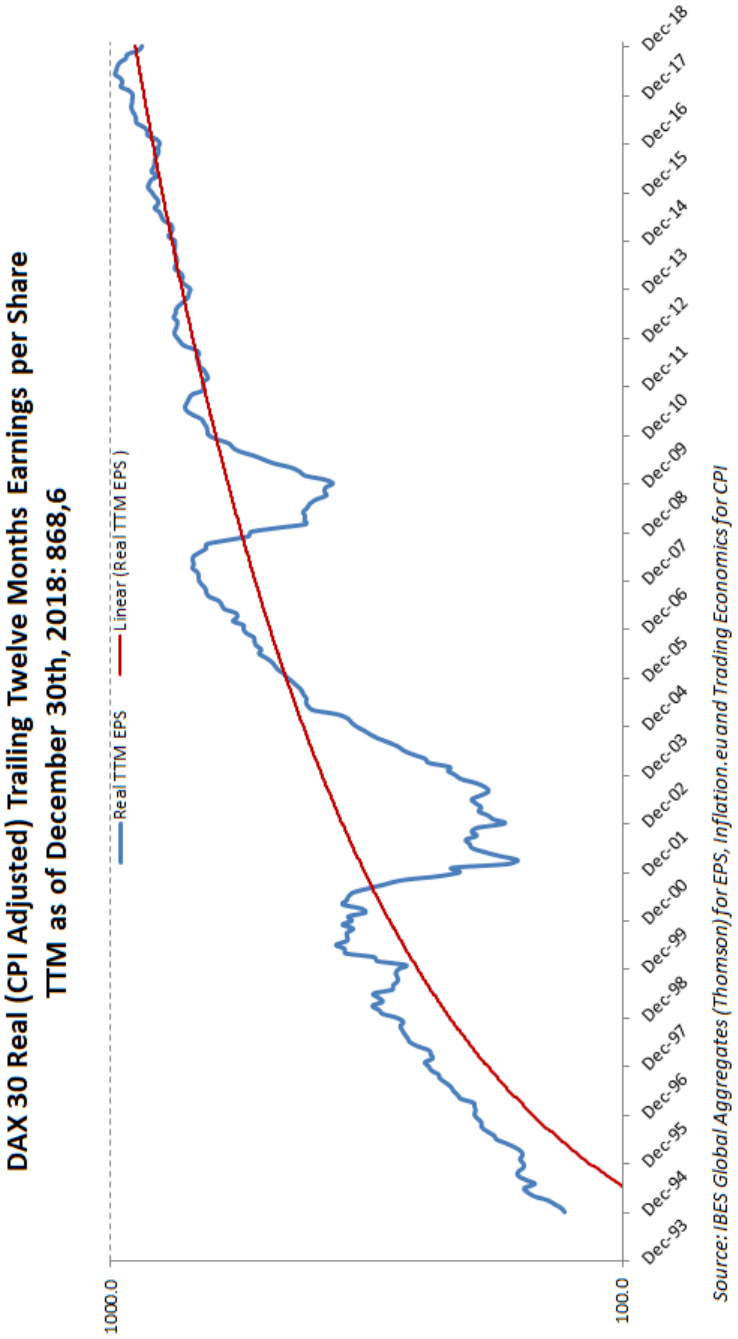
86%

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

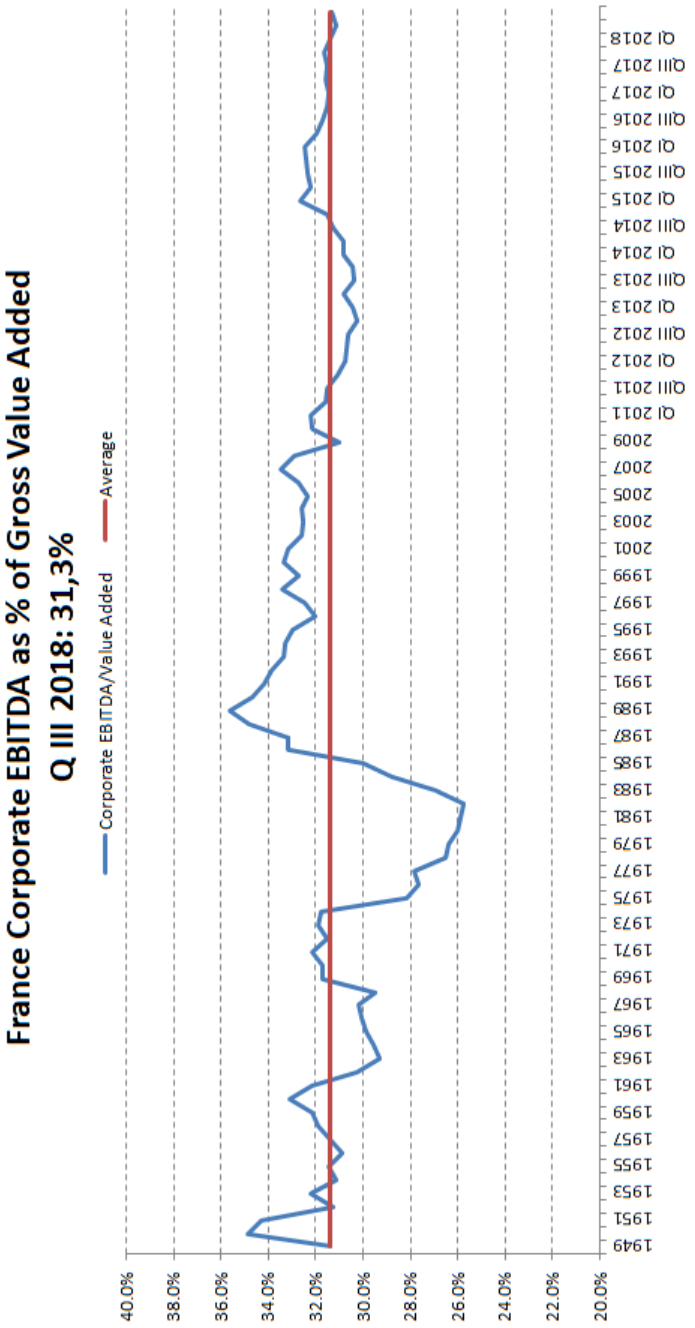
Appendix B.1.2.a – German Gross Operating Surplus plus Gross Income as % of Gross Value-Added



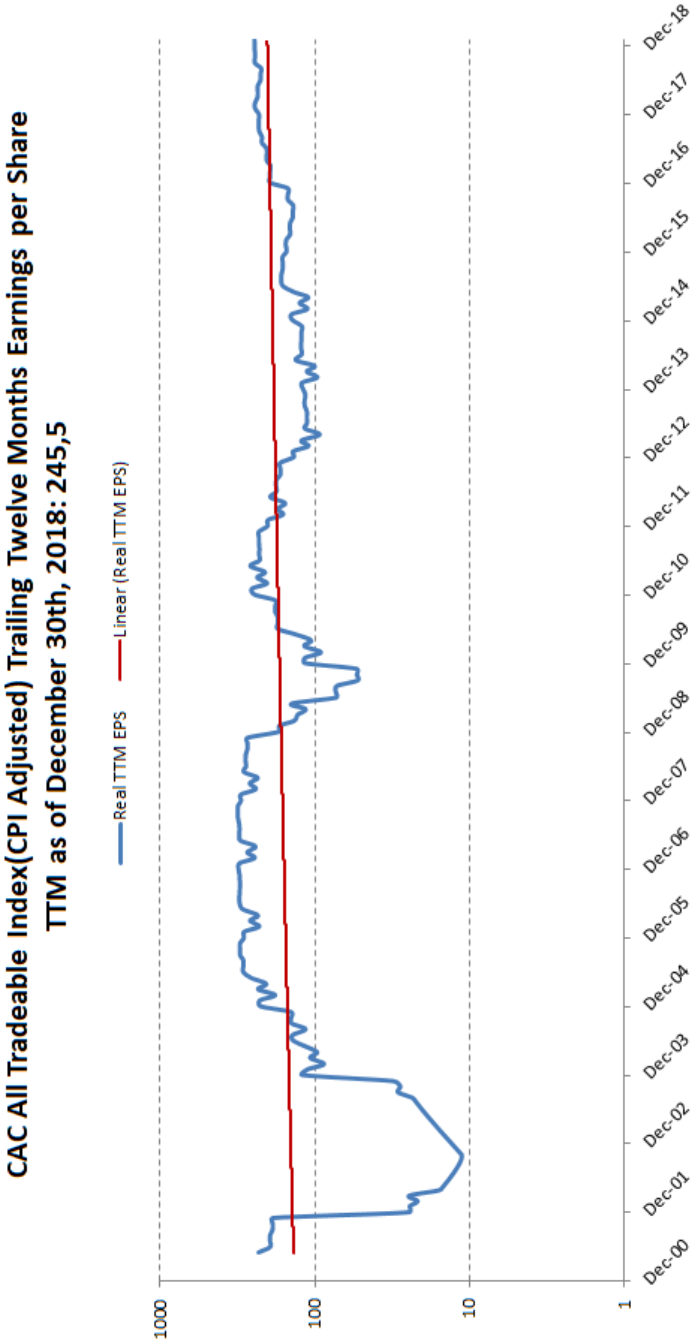
Appendix B.1.2.b – Real (CPI Adjusted) TTM EPS of DAX 30 Index (Germany)



Appendix B.1.3.a - France Corporate EBITDA as % of Gross Value Added



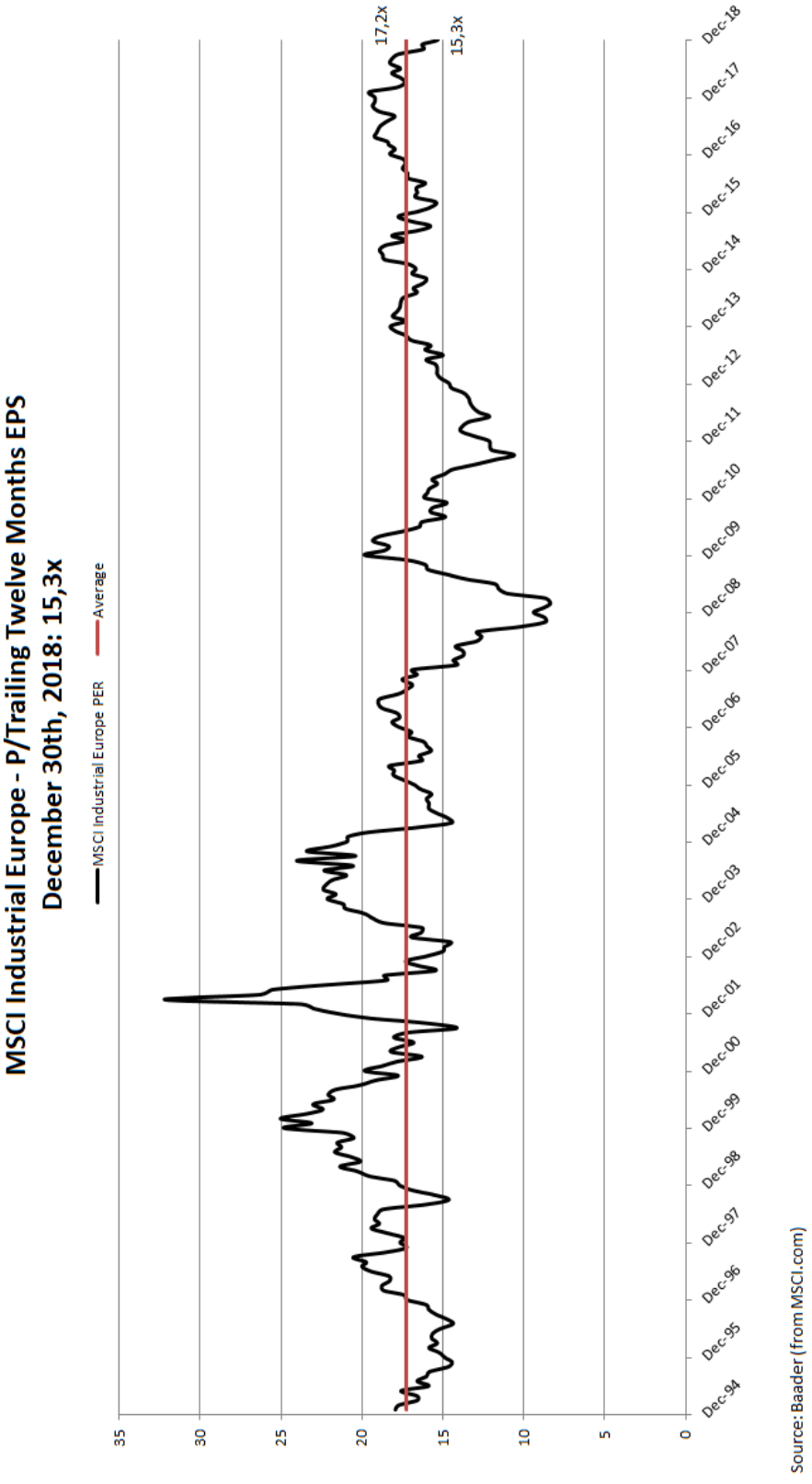
Appendix B.1.3.b – Real (CPI Adjusted) TTM EPS of CAC All Tradeable Index (France)



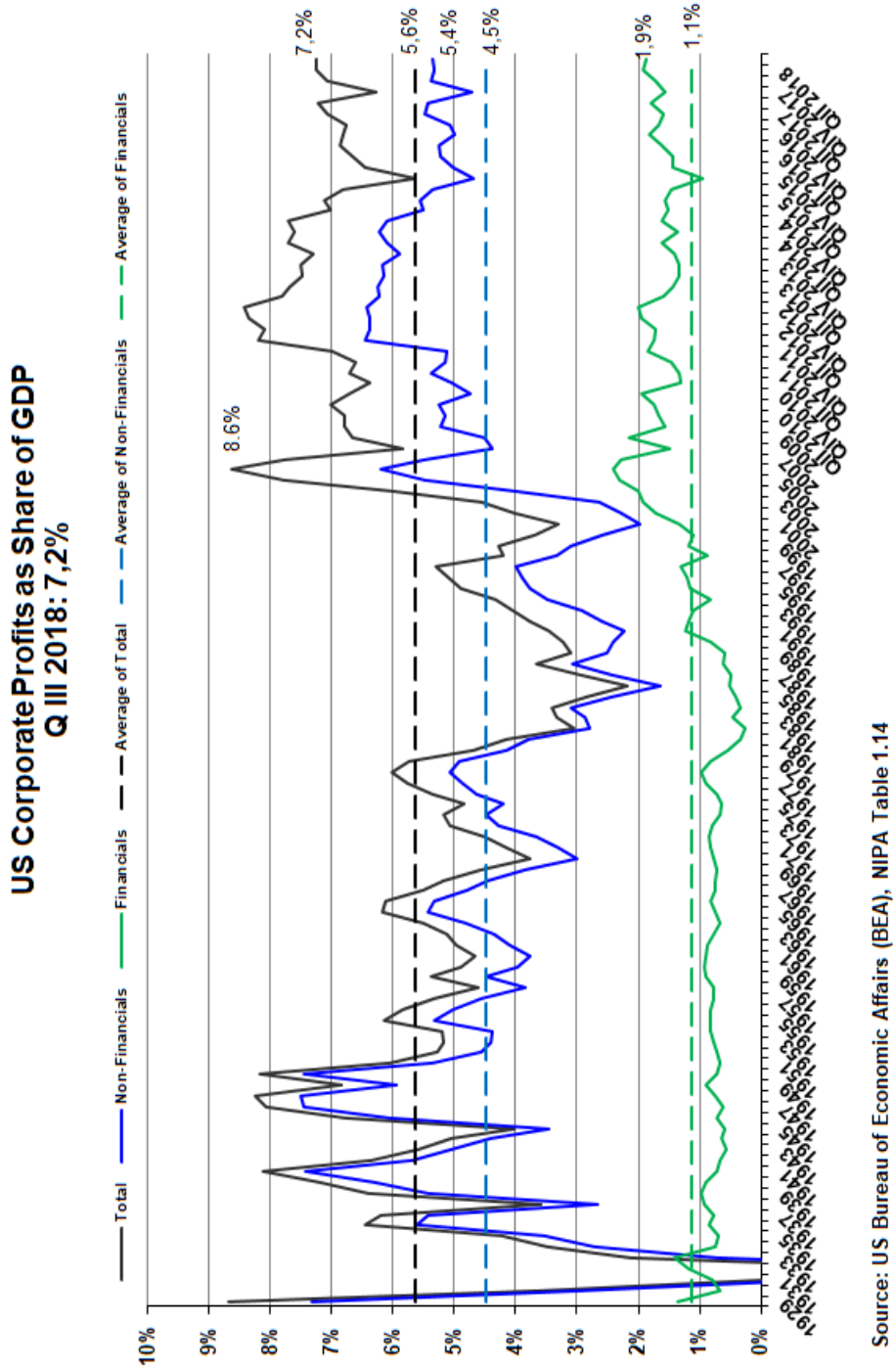
Appendix B.2.1.1 - MSCI Europe CAPE Ratio

Source: JPM Guide to Markets (as of December 31st, 2017)

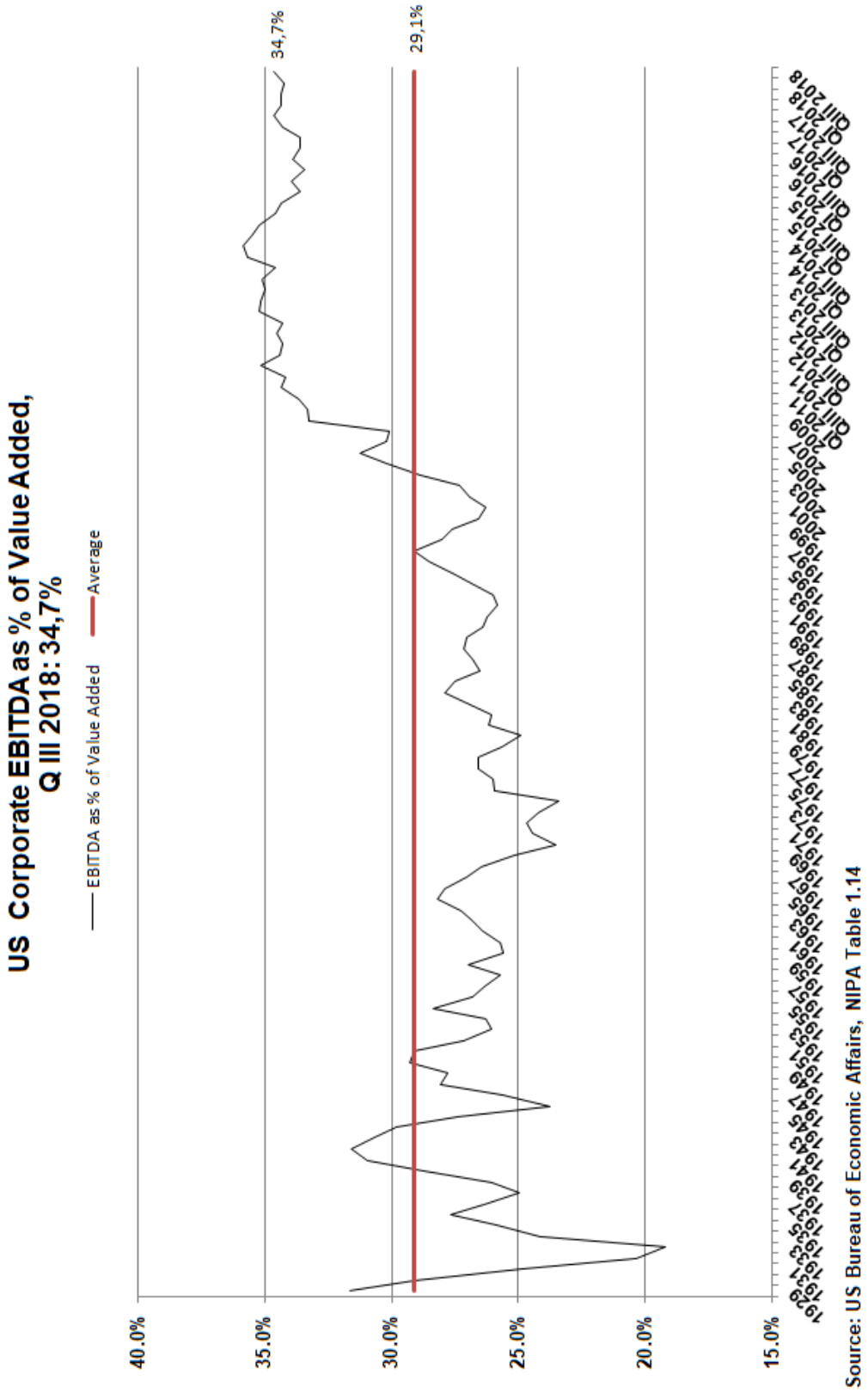
Appendix B.2.2 – MSCI Industrial Europe Index Price to Earnings Ratio



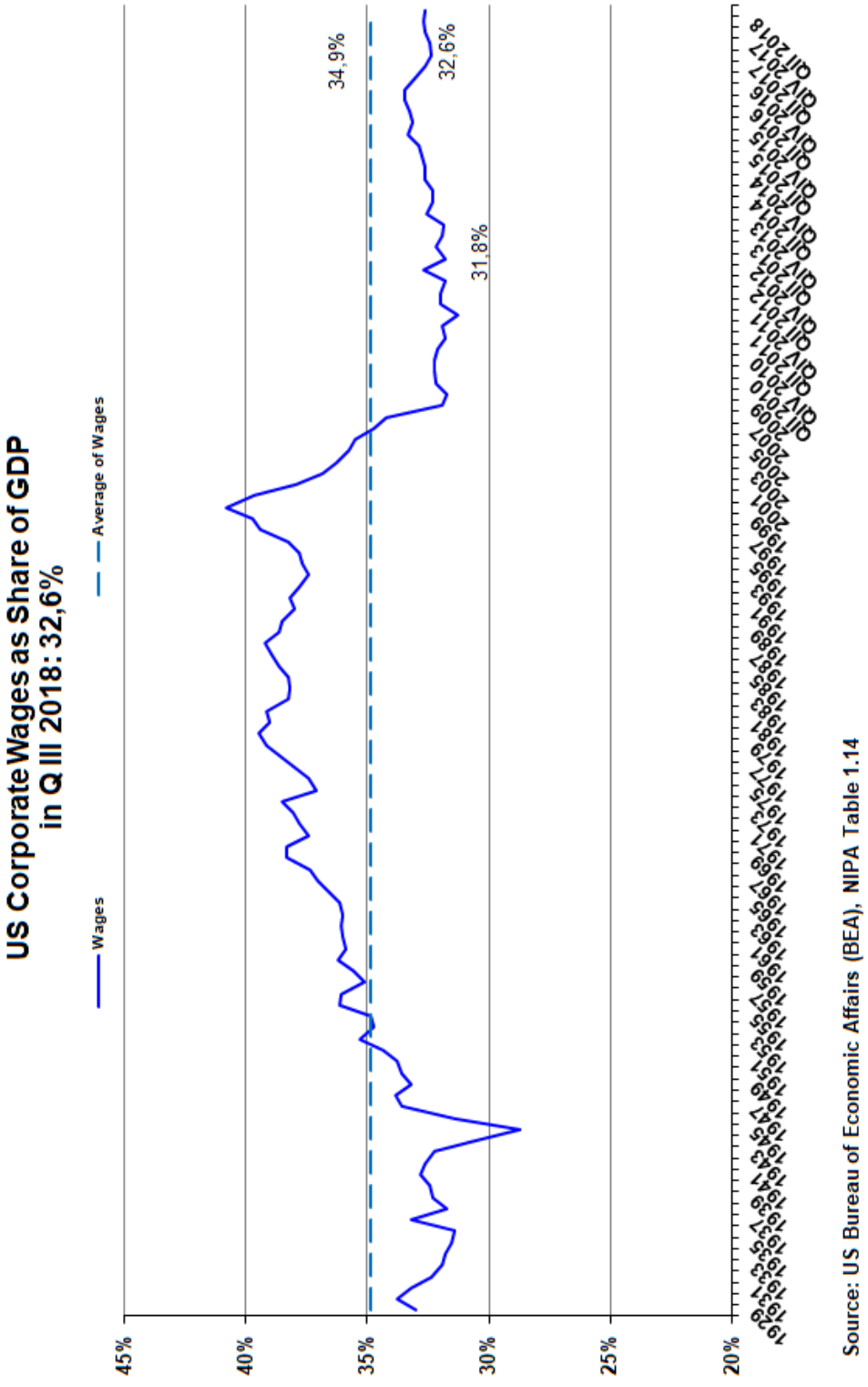
Appendix C.1.1 – US Corporate Profits as % of GDP



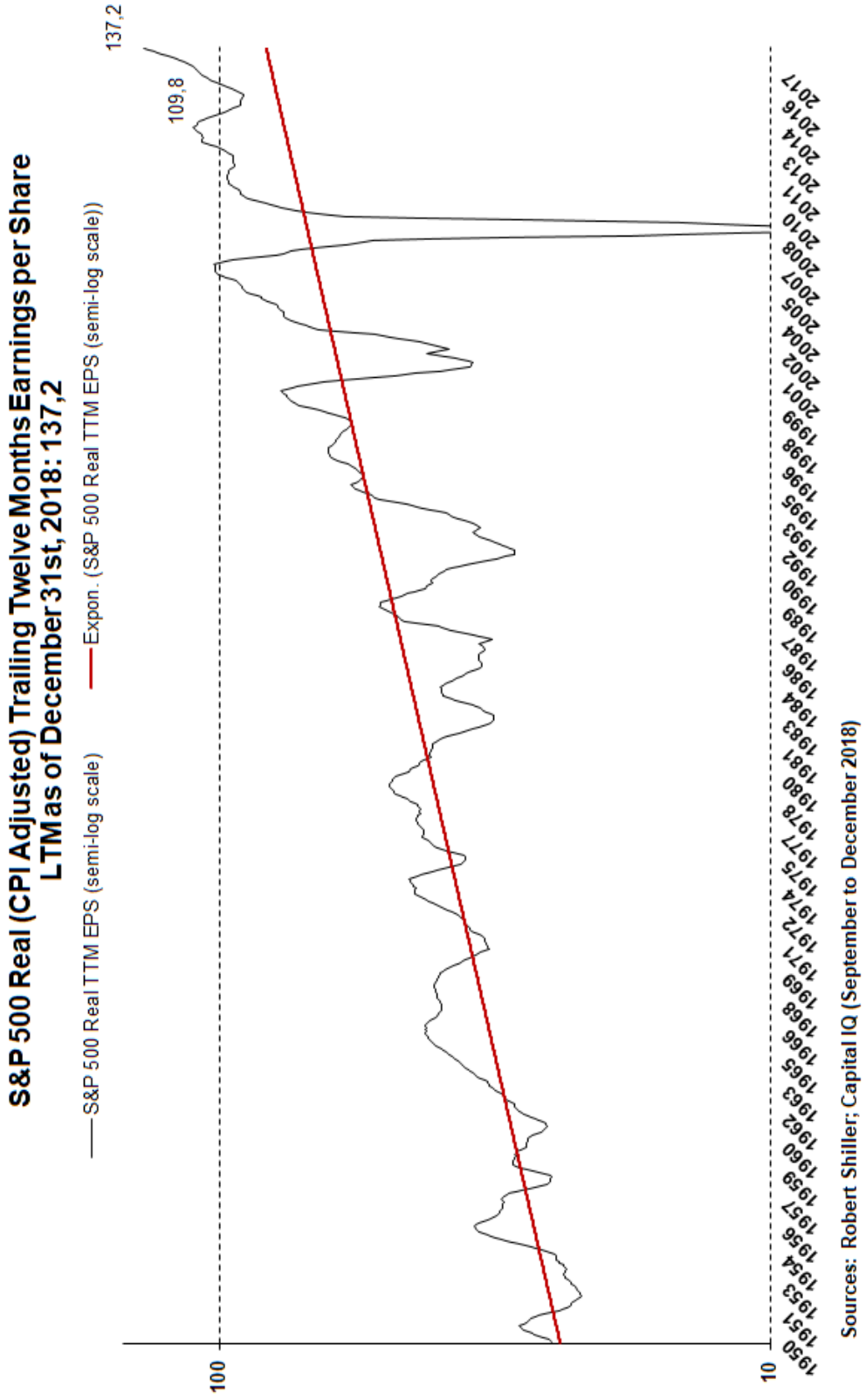
Appendix C.1.2.a - US Corporate EBITDA as % of Gross Value Added



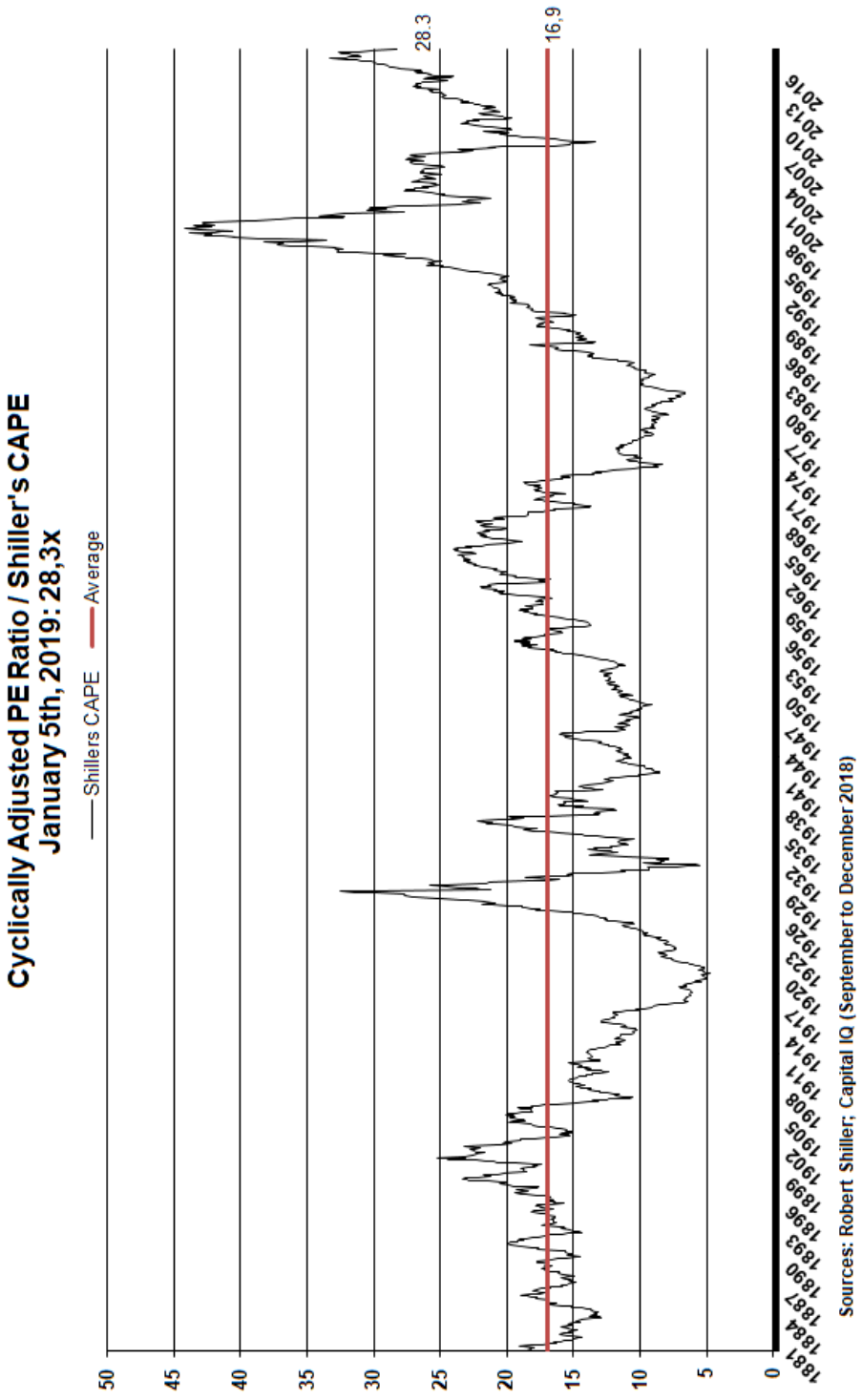
Appendix C.1.2.b - US Corporate Wages as % of GDP



Appendix C.1.3 - Real (CPI Adjusted) TTM EPS of S&P 500



Appendix C.2.1.a - S&P 500 Cyclically Adjusted PE-Ratios (Shiller`s CAPE)



Appendix C.2.1.b – CAPE Fear – where the past comes back to haunt investors (FT, Jan. 10th, 2018)

SMART MONEY

John Authers

CAPE Fear, where the past comes back to haunt investors

The reason to believe the US stock market is overvalued can be summed up in one four-letter word: CAPE. The cyclically adjusted price/earnings multiple used to do a job of signalling when the US stock market was excessively cheap or expensive. That signal was valuable; it did not help predict the timing of a peak or trough, but was very powerful in predicting returns 10 years into the future; the cheaper the market, according to CAPE, the stronger the 10-year returns.

At present, it suggests very clearly that US stocks are too expensive, and at its latest reading, last week, passed an ominous landmark. The benchmark calculation for the indicator, kept by the Yale University Nobel laureate economist Robert Shiller, compares share prices with the average of real earnings over the previous 10 years, and now shows the US stock market is even higher than it was on the eve of the Great Crash of 1929. Only the last two years of the dotcom bubble have seen comparable overvaluations.

On its face this is terrifying. But the market does not feel anything like as overblown as it was, by all historical accounts, in 1929. And CAPE has been signalling an expensive market almost uninterruptedly since 2010. Consequently, there is a thriving industry of academics and investment management research departments either knocking down CAPE, or adjusting it in various ways to show that markets are not that overvalued after all.

First, one important adjustment, suggested in a recent paper called CAPE Fear by Rob Arnott and others of Research Affiliates, is to note that the CAPE does have an upward trend over time. If we want a "fair value" for CAPE, we should get it by comparing the current number to an upwardly sloping line over time, rather than to the historic average. As Mr Arnott points out, the US has journeyed in the course of more than a century from being effectively an emerging market to being the largest economy. Of course the earnings multiple will have risen over time.

> Only the last two years of the dotcom bubble have seen such overvaluations

Using Mr Arnott's suggested trend line, the market shows up as significantly expensive, but not as expensive as in 1929 (where the market in turn now looks roughly as overblown as it did in the later dotcom bubble).

The most popular point made against CAPE is that it still includes the crash in earnings that followed the credit crisis. It was a brief and drastic fall, of more than 90 per cent, that was driven largely by writedowns taken by banks, meaning that it reflected a correction for prior years' earnings that had always been overstated, and was over in barely two years. The rap against CAPE is that once the dreadful earnings slump drops out of the 10-year total, the earnings in the denominator will rise sharply, and the

This is an appealing argument, but testing it with some arithmetic shows that is not as clear-cut as it might at first appear. The decline in earnings was drastic, but the recovery was equally swift. If we base a CAPE on earnings starting in June 2010, by which point earnings had completed their recovery, then the multiple is now only 27.3. This is far below the current official Shiller CAPE of 33.2, but it is still comfortably above Rob Arnott's trend line. It is also only enough to take the CAPE ratio back to where it reached, according to the Shiller calculations, at the end of 2016. It is almost exactly where the Shiller CAPE peaked in late 2007 before the collapse of the credit crisis.

> Earnings have been rising unsustainably fast and are due for a decline

Most startling of all, if we change the denominator to the average of seven years and six months of earnings (a period that excludes the post-crisis earnings slump completely), the CAPE now is 29.76, while its peak ahead of the Great Crash was 29.16. The terrifying finding that the market is as overpriced as it was before history's most damaging crash remains intact, even if we ignore the 2008-10 earnings slump altogether.

And in any case, earnings appear to have been rising unsustainably fast, and are due for a decline. It is after all precisely this effect that led Shiller and others to use CAPE as a metric in the first place

None of this means that CAPE is telling us that the market will crash tomorrow. To quote Mr Arnott: "Most of us who use CAPE as a valuation tool readily accept that CAPE is only one measure of valuation, and that — as American investor Stan Druckenmiller likes to point out — capital flows drive short-term market behaviour far more powerfully than valuation."

A final complaint is that CAPE does not include interest rates. If rates are low, discounted future earnings are higher, and it is reasonable to pay more for stocks. Rates are of course very low now, and this justifies a higher earnings multiple than usual.

This is true, but nobody is advocating using CAPE completely in isolation. Mr Shiller's own presentation of the metric is on a chart that also includes long-term bond yields.

Many have persuaded themselves that CAPE does not matter and that the bond bull market will continue. They should at least consider the possibility that these judgments are wrong.

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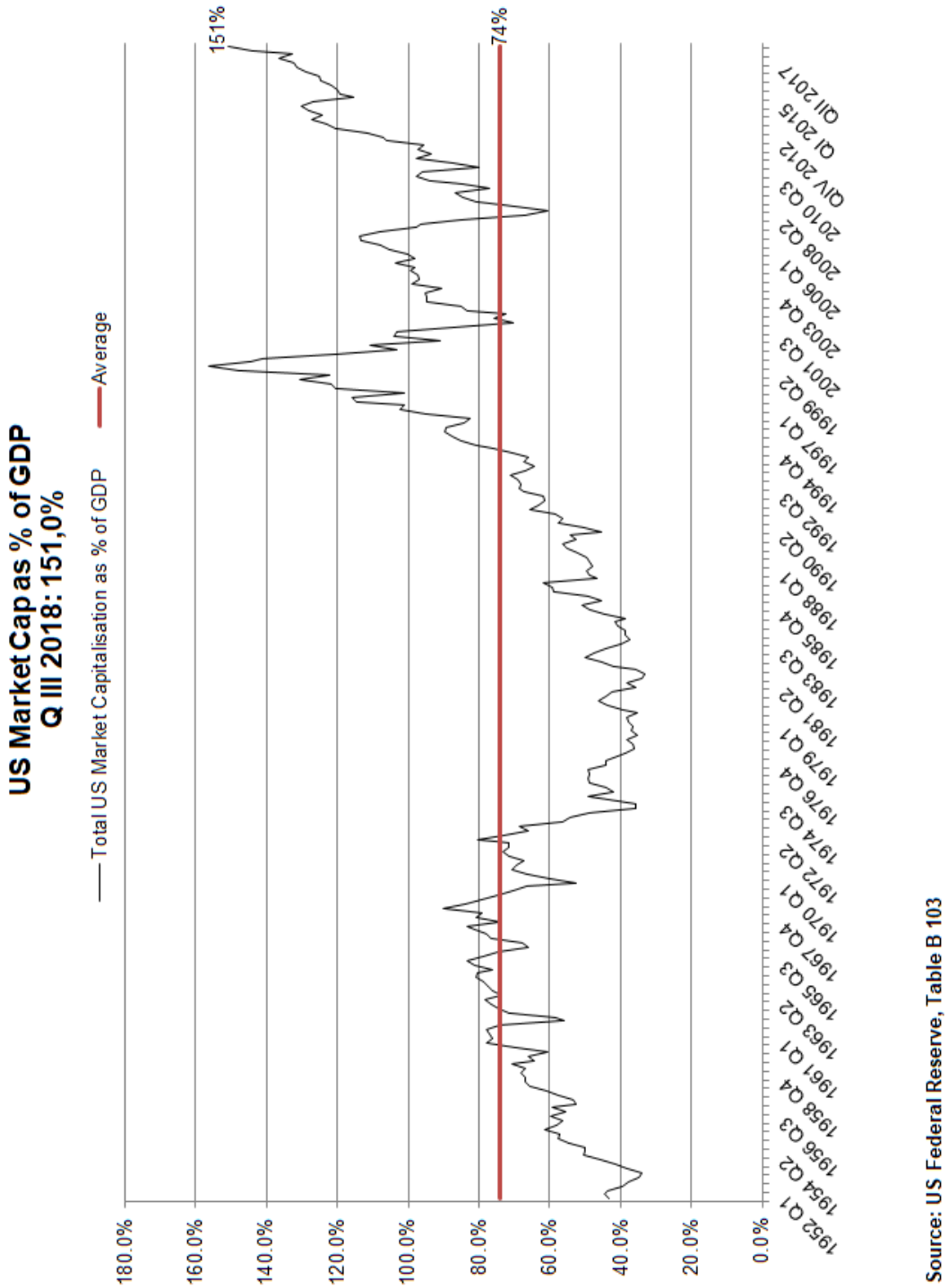
Appendix C.2.2 - Capitalization of US Companies as % of GDP



Source: US Federal Reserve, Table B 103