

# Memorandum

To : FORUM Staff  
From : BW  
Copy to :  
Date : July 17th, 2013  
Subject : Macro Dashboard Q II 2013

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## 1. Summary of Results

### 1.1 Profits and Valuations

In Q I 2013 the level **US Corporate profitability continued to stay significantly above its long-term average:**

- a) **at 20 – 60%** above the historical mean with an interpolated **median at +40% above the mean**
- b) largely unchanged from the positive deviation at the end of Q IV 2012.

**Valuations** in Q I 2013 have stayed largely unchanged as well: at the end of Q I the positive deviation from the median stood at:

- a) **21 - 51%** with the interpolated **median at 40%**
- b) slightly down from 24 – 54% with an interpolated **median of 40%** at the end of Q IV 2012.

Standard deviations range from 0,8 - 1,5x with an **interpolated mean of ca. 1,1 standard deviations**. Once more, there have been no changes, either.

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

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## 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.**

We expect that the €-crisis will continue to come back - **until the debt problem has been structurally solved.** In the meantime politicians have used the leeway provided by the Central Banks in securing new debt to delay required structural reforms in their countries. This is leading to a vicious cycle: the longer the crisis lasts the less prepared is the electorate to support structural change which is required to re-ignite long-term growth.

The **introduction of “Abenomics”** has added another risk to our watchlist. If this courageous experiment to finally terminate the triple problem of deflation, underinvestment and a loss of international competitiveness fails the negative consequences in the second largest economy will endanger the stability of the global financial system.

## 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 **becoming even more cautious.**

**Most importantly** we will not join the call for investing in equities based on the claim that they are cheap relatively to bonds.

## 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 2013 **US after-tax Corporate Profits** stayed at 8,2% of GDP - nearly unchanged from the level of 8,3% which prevailed in the six months since Q III 2012. The highest level historically was reached in 2006 with 8,6% and before that a level of 8,0% or more was last reached in 1950. Thus in the historical context US after-tax corporate profits are still at a high level.

This implies a **ratio of 155% of its 83-year average since 1929** which stands at 5,3%. **This corresponds with 1,5 standard deviations.**

#### 2.1.2 Non-Financial Profits

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**US after-tax Non-Financial Corporate Profits** – eliminating the volatility of banking profits – **showed the same pattern at 5,9% of GDP** - after they had stayed at 6,0% of GDP in the previous six month-period. At this level it is still close to the All-Time High of 6,2% reached in 2006.

The 83-year mean is 4,2%. Thus in Q IV 2012 US after-tax Non-Financial Corporate Profits stood at **139% of the long-term average** – **indicating a significant positive deviation. This corresponds with 1,0 standard deviations.**

## 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 I 2013 **Corporate EBITDA stood at 32,9% - unchanged from Q IV 2012.**
- b) As the **83-year average stands at 27,6% the latest level of 32,9% implies a ratio of 119%.**

The implied deviation from historical data corresponds to **1,8 standard deviations.**

## 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 2013 decreased slightly to 7,8% - down 7,9% in Q IV 2012. The picture here is similar to the profit metrics discussed above. The level in Q I 2013 is still close to the all-time high of 8,6% reached in 2006 – and is at the levels seen in both 2005 and 2007, i.e. when the non-sustainable credit binge of the private sector was still underway.

The long-term average since the first publication of this time series in 1965 is 6,0%. Thus this measurement of **corporate profitability stood at ca. 129% of its long-term average** – in line with the other two profit metrics outlined above. **This corresponds with 1,0 standard deviations.**

## 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	155%	1,5x SD

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Non-Fin. Profits % of GDP	139%	1,0x SD
Corporate EBITDA Level	119%	1,8x SD
Non-Financial ROA	129%	1,0x SD.

When viewed together, the four metrics for corporate profitability in Q I 2013 show a **reasonably consistent picture of a positive deviation of 20 – 60% from their averages with the median positive deviation at ca. 34%**. This is largely unchanged from the last quarter when the range of overvaluations was also at 20 – 60% and the median stood at 38%.

In terms of **standard deviations** the different metrics have also change largely unchanged with the median at **ca. 1,3 standard deviations**. This implies a **slight positive deviation in the profit cycle - but is still clearly away from 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 Cyclically-Adjusted Price Earnings Multiple ("**Shiller's CAPE**" or just "**CAPE**").

Prof. Shiller reports a **CAPE of 23,6x for June 30th, 2013**, his latest update. On that date the S&P 500 stood at 1.606,28 points. This is a slight increase from a CAPE of 22,3x reported as of March 31st, 2013, the time of our latest report with the S&P 500 at 1.554 points.

**The long-term average of CAPE since 1881 stands at 16,5x**. This implies that **current valuations are at 143% of their long-term average**. In terms of deviation from the past this valuation implies a moderate **standard deviation of 1,1x** – up slightly from 0,9x in our latest report.

### 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. 2<sup>nd</sup> 2003 edition of The Journal of Investing. Please note that **q is only calculated on non-financial companies**.

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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 31<sup>st</sup>, 2012 **the non-adjusted ratio has increased slightly to 1,01 at the end of Q I 2013**, up from 0,92 as of December 31st, 2012.

The non-adjusted average observed since 1900 based on our calculations is 0,76, **thus q is at 132% of its long-term average**. This corresponds with **0,8 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.)

### 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 IV 2012 **q ex statistical discontinuities (line 20 of Table R 102) stood at 1,53**, down slightly from 1,53 at the end of Q IV 2012. Based on the long-term average of 0,89 this implies **a level of 188% of its long-term average resp. 1,7 standard deviations**.

### 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 135%** at the end of Q I 2013, up slightly from 123% at the end of Q IV 2012.

As the 60-year average since the beginning of this time series in 1952 is 81%, this valuation implies **a premium of ca. 65% which corresponds to 1,6x standard deviations**.

### 3.4 Qualitative Indicators for Overvaluations

In Q II 2013 stock markets moved as follows:

	Change in Q I 2013	Change in Q II 2013
a) S&P 500:	+9%	+5%

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- b) Stoxx Europe 600: -1% +5%.

Thus in Q II 2013 the good mood in the stock market continued its course. The main reason was the combination of

- a) **ongoing accomodating policies of the central banks** on a global level driving investors into risk assets
- b) **ongoing deficit spending by governments** to make up for the deleveraging of the private sector. Contrary to popular reception this is true both for the USA and Europe - Europe talks about budget consolidation but acts with the will for procrastination.

Here is a short review of some metrics we monitor to get a sense of market sentiment as well:

- a) **IPO activity in Europe** increased in Q II. The valuation of the European IPOs is slowly increasing, yet investors are happy to take up new issues.
- b) There were few successful IPOs of **PE firms and other asset managers**. 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) During Q II 2013 **volatility** in global equity markets stayed at relatively low levels. There was a short spike when the US Fed announced that it was considering “tapering” - but eventually markets shrugged off the fear of this process happening.

We view the VIX as a contra-indicator and thus the new multi-year low worries us - it signals that market participants view risks to financial markets as historically low - **which is not in line with our analysis of the world situation.**

## 3.5 FORUM Summary and Conclusions

### 3.5.1 Summary of US-based Data

Below please find a summary of the level of valuation metrics compared with their long-term averages and standard deviations **as of December 31st, 2012 for the USA:**

	<b>% of LT Average</b>	<b>Standard Deviation</b>
Shiller’s CAPE	143%	1,1x SD
Tobin’s q non-adjusted	132%	0,8x SD
Tobin’s q adjusted for discontinuities	171%	1,7x SD

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US Equity Market Cap. as % of GDP                      165%                      1,6x SD<sup>1</sup>.

These data on equity valuation suggest that US equity markets are **overvalued by 32 – 65%** (eliminating Tobin's adjusted q as an outlier). **The interpolated mean of all four metrics is an overvaluation by ca. 52%**. This is clearly up from the 21 – 54% overvaluation reported for last quarter.

**Standard deviations have also increased, with the interpolated median of all four metrics now at ca. 1,3x, up from 1,1x.** By our definition this implies that markets are in a zone of “mild overvaluation”.

## 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 most likely expected return will depend on the time it takes for this **overvaluation of with a mean of ca. 40%** based on the four metrics analyzed above to unwind:

Years for Unwinding	Real Return p.a.
2	negative
5	-1 - 1%
10	1 – 3%.

Based on a standard deviation of 1,1x 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 the S&P 500 (which does not include dividends) of**

- a) **ca. 3,6% p.a.** in the next 5 years
- b) **ca. 2,3% p.a.** in the next 10 years.

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. ca. 3% p.a.**

**GMO** – an asset manager whose approach we share in many respects – in their 7-year Asset Class Return forecast as of June 30th, 2013 **expect real returns of**

- a) -2,7% (March 31st: -1,1%) p.a. for US Small Caps
- b) -1,2% (March 31st: -2,4%) p.a. for US Large Caps.

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<sup>1</sup> All SD calculations are based on end of previous quarter numbers.

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.**

### 3.5.3 European Valuations

With regard to CAPE, European valuations as of May 31<sup>st</sup>, 2013 differ materially from the US market. Please see Appendix 3.5.3 for an overview over valuations based on

- a) CAPE as of May 31<sup>st</sup>, 2013
- b) Market to Book Ratio as of December 31<sup>st</sup>, 2012.

The key take-home points for us are:

- a) The **average of Europe** is significantly cheaper with a CAPE of ca. ca. 14x against the 23x for the US S&P 500.
- b) Valuations in Europe show strong variations with the central countries – i.e. Germany and the UK more richly valued than countries at the periphery.
- c) **Valuations in Southern Europe**, i.e. Italy and Spain, are significantly below the European averages. **Valuations in Southern Europe are depressed** as actual - i.e. TTM - earnings for Southern Europe **are below their 10-year averages.**

For an investor believing in a **Reversion to a Mean in corporate profits above the 10-year average** this constitutes an **attractive valuation discrepancy**, favoring the investor with a long-term perspective.

Thus overall Europe is clearly valued significantly lower than the US.

## 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) **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.

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- 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 2013 the level of household debt/GDP continued the process of slow deleveraging to 79,8% from **80,9% at the end of Q IV 2012**. The new level is ca. 1/5 below the peak of 97,9% reached at the end of 2006.

**Total debt of all sectors stayed largely unchanged at 356,6% (Dec. 31st: 354,8%) of GDP**. It remains to be seen whether this increase is a reversion in the trend downwards of the last few quarters. In any case this level is still **largely unchanged from the all-time peak level of 362%** at the end of 2009 when the financial crisis had reduced GDP.

We are still worried that the US economy is trading water by substituting government debt for household debt. The margin expansion from 2000 to 2007 was accompanied by an expansion of total debt from 276% of GDP to 354%, **i.e. a net stimulus of ca. 10% p.a.** With the required deleveraging of the private sector this stimulus will lack for the next few years. 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 Japan as well if the experiment of Abenomics does not work.

Articles in the Anglo-Saxon press suggest that Europe is de-leveraging too fast. The opposite is true: between the end of Q I 2012 and Q I 2013 government debt as % of GDP in the Eurozone increased from 88% to 92. In peripheral countries like Greece it has now reached 160% and 130% in Italy. It is clear that this debt burden will have to be restructured - at the latest when nominal interest rates begin to increase again.

- b) **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.

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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 with little indication of an escalation evolving**.

## **5.2 An Update on the China Investment Bubble Risk**

One of our analysts took some time to find facts on the China investment bubble risk evolving. As a result he produced **Appendices A 5.2 a) to c)**. Here are comments on these charts:

### **5.2.a China: Fixed Asset Investment as % of GDP**

As you can see on the Chart China has increased its **share of investments** from 32% of GDP in 1998 **to more than 70% of GDP in 2010** – despite the relative measure “GDP” increasing sixfold during this timeframe (from 1 trillion to 6 trillion USD). This compares to a share of investments of ca. 20% of GDP for the average developing and developed economies.

This is evidence of “a good thing taken too far”: When there is little infrastructure in place every invested dollar has a high return – e.g. building a road to connect two large cities fosters trade and exchange.

Building a highway on top of that might still make good economic sense but the return on investment will already be lower: China is right now underway of moving from 4 to 8 way highways.”

### **5.2.b China: Residential Housing Value Relative to GDP**

As you can see in the chart the **Chinese house prices have appreciated even faster than GDP** with **the value of residential housing stock relative to GDP** reaching a level of ca. 350% of GDP - a level only seen in the Japanese housing bubble in the late 1980s – and already far beyond the US housing bubble peak.

In the largest Chinese cities speculation has taken the **Price-to-Income ratio** (comparing the average house price with the average yearly labor income) **to a 20x multiple**: This means the “average worker” would need to work twenty years to buy an “average home” in Beijing! This **compares to a factor of 10 - 12x in the US prime cities** at the peak of the most recent bubble.

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“All goes up will come down” and house prices cannot stay at these elevated levels when at the same time vacancy rates are high, indicating oversupply at current prices. I.e. this bubble will burst once the Chinese will realize that housing prices are no “one way street.”

## **5.2.c China: Total Credit Outstanding as % of GDP**

Now please take a look at the **Appendix "Credit outstanding as % of GDP"**: at currently 240% of GDP the total debt equals close to USD 20 trillion – this compares to currency reserves of USD 3,4 trillion.

The problem with the debt is twofold:

- a) A lot of it has been **taken out by small municipalities** which had planned to pay it back with the sale of real estate, mostly land. When this mechanism does not work - because real estate prices drop - these credits will be at risk.
- b) Secondly, China has a large **shadow banking system** which is not regulated by the Bank of China. These lenders seek sub-prime risk and charge sub-prime rates. The economy has never undergone a major recession in the last decade, thus human experience suggests that the estimates of default rates made by these lenders will tend to be on the optimistic side.

Both of these aspects of the credit bulge are probably based on mechanisms which are non-sustainable.

In summary - as with all bubbles - we do not pretend to know when and to what extent such a bubble may burst, indeed it may go on for many years. **All we can do is to position our portfolio exposure in a way which allows us to take advantage from such an event, based on probabilities.**

## **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 below their long-term averages. An expectation of equity returns of

- **0 - 2% p.a. in real terms**

- **2 – 4% p.a. in nominal terms (assuming LT levels of inflation)**

appears realistic.

## 6.2 Range of Potential Outcomes

The spread of potential outcomes has remains wide:

- a) The **liquidity** generated from the joint actions of Central Banks and governments worldwide increase the risk of major bubbles in financial markets. As expected real returns of most asset classes are negative, this induces a search for risk.
- b) At some point this **liquidity will have to 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. Alternatively we could finally see a resumption of goods inflation - although due to slack capacity in most developed nations this is the more unlikely scenario for us - at least for the moment.

Thus we conclude that the range of possible outcomes has increased significantly – we could see the DAX reaching 9.000 before the end of the year – but on the other hand a level of 6.000 has also become more likely – increasing tail end risk.

## 7. Recommendations for the Tops-Down Portfolio Construction

The general recommendation for us as investors is to follow the standard investment policy with

- a) **Gross long exposure at ca. 80% of AUM**
- b) **Short positions at 0 - 10% - if we find the right candidates**
- c) Keep the **standard level of ca. 20% cash** in order to be able to take advantage of a unexpected drop in equity prices or company-specific events.

We will comment on these issues in our **Letter to Clients**.

## Table of Appendices

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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

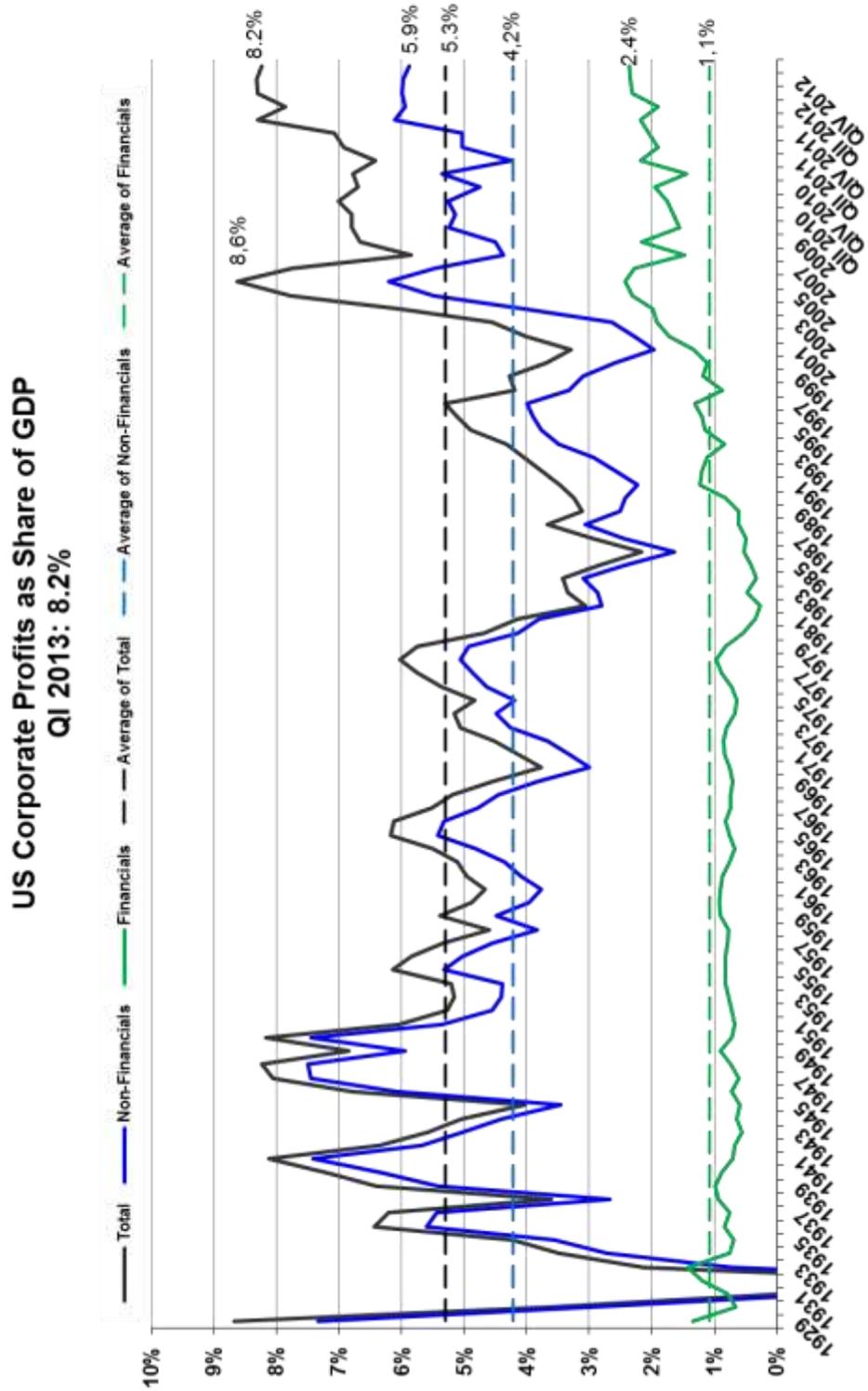
Status as of November 2nd 2010

	Deviation from average as a # of standard deviations	# months	Nominal return		
			2 years	5 years	10 years
<b>Negative deviations</b>	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%
<b>Positive deviations</b>	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%
<b>Total</b>		1530	5.0%	4.8%	4.7%

Period covered: 1881-2010

Source: Shiller, FORUM Research

## Appendix 2.1: Corporate Profits as % of GDP



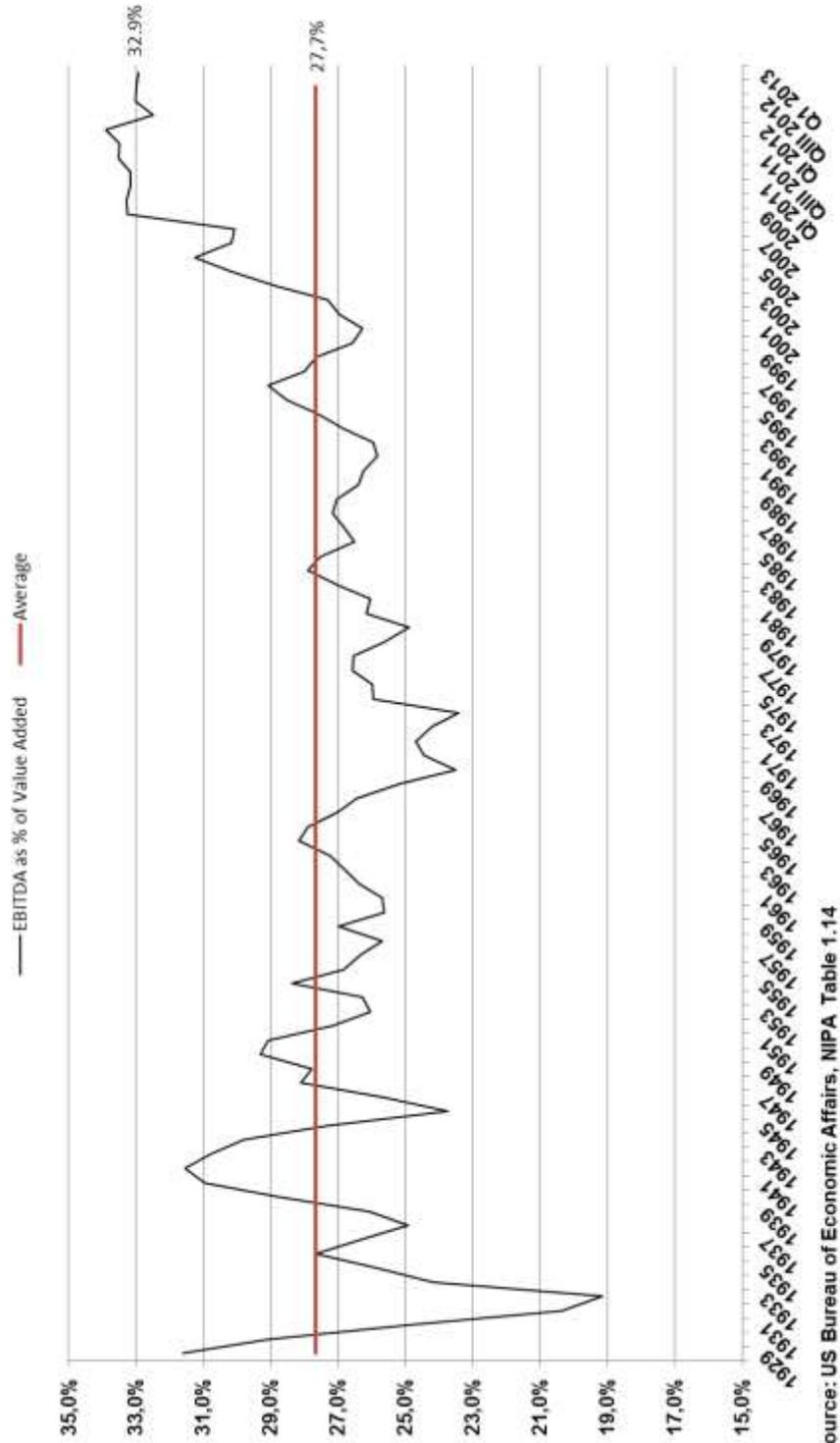
Source: US Bureau of Economic Affairs (BEA), NIPA Table 1.14

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## Appendix 2.2: Corporate EBIDTA

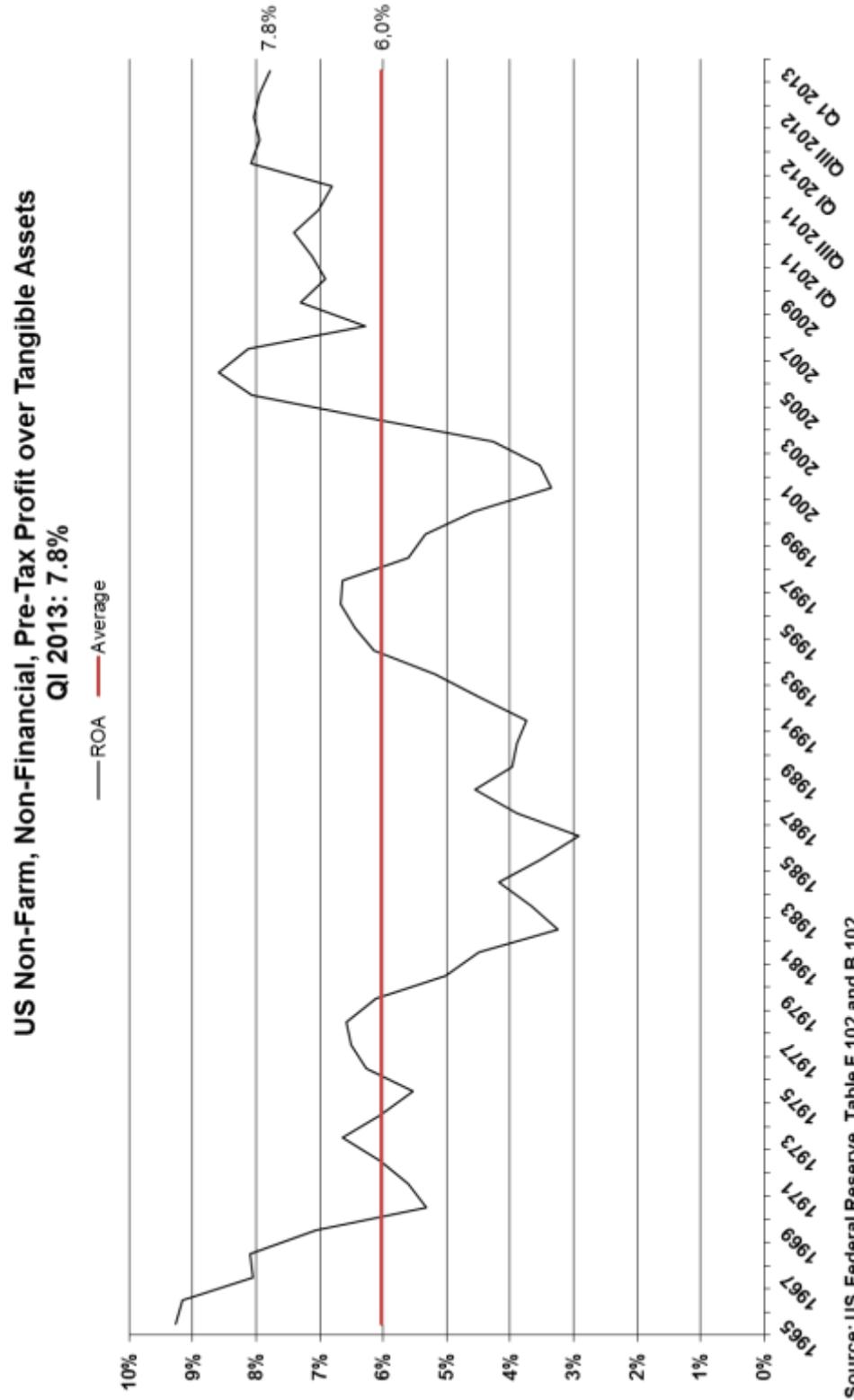
US Corporate EBIDTA as % of Value Added,  
Q1 2013: 32.9%



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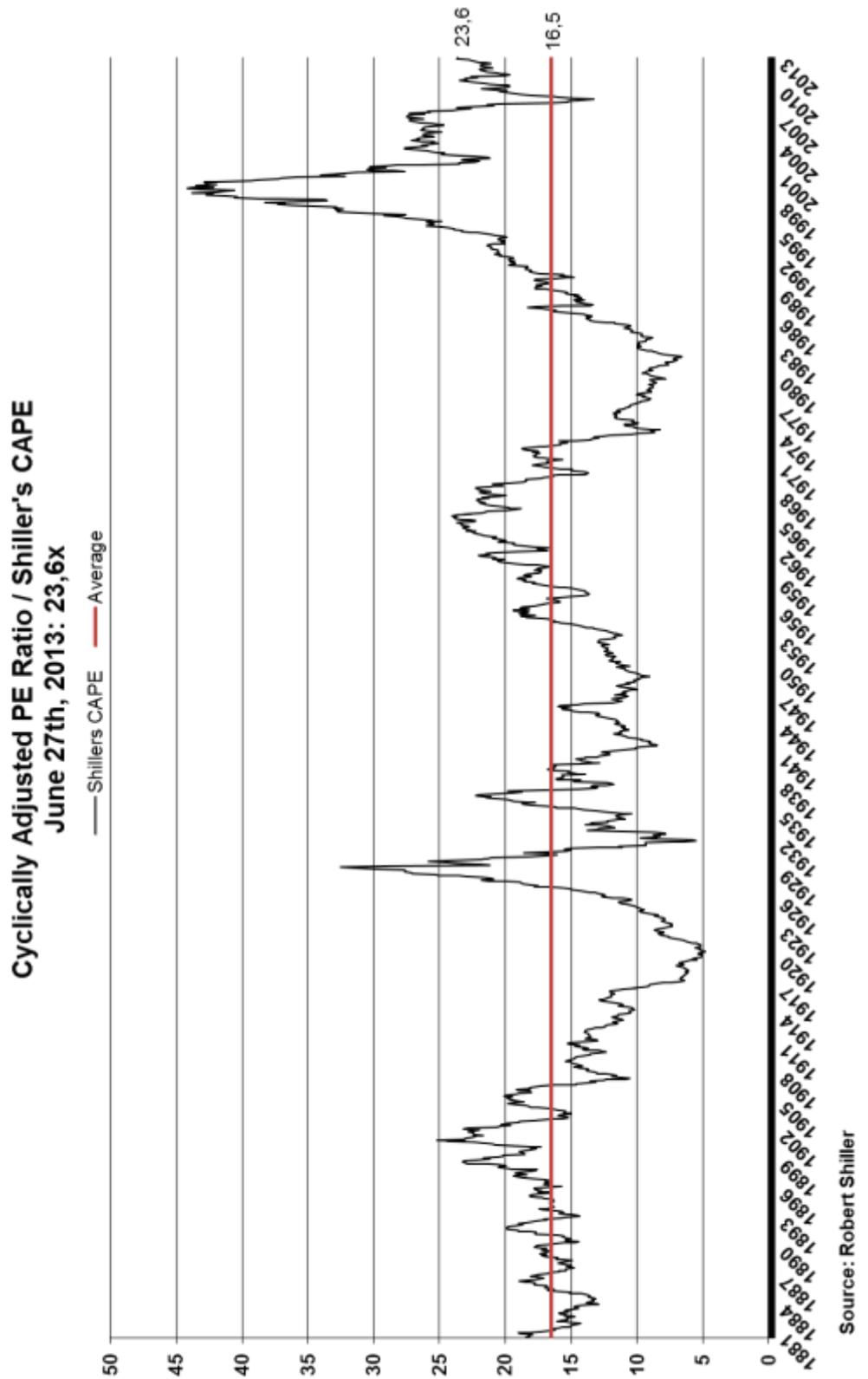
## Appendix 2.3: Corporate Profitability Measured as ROA



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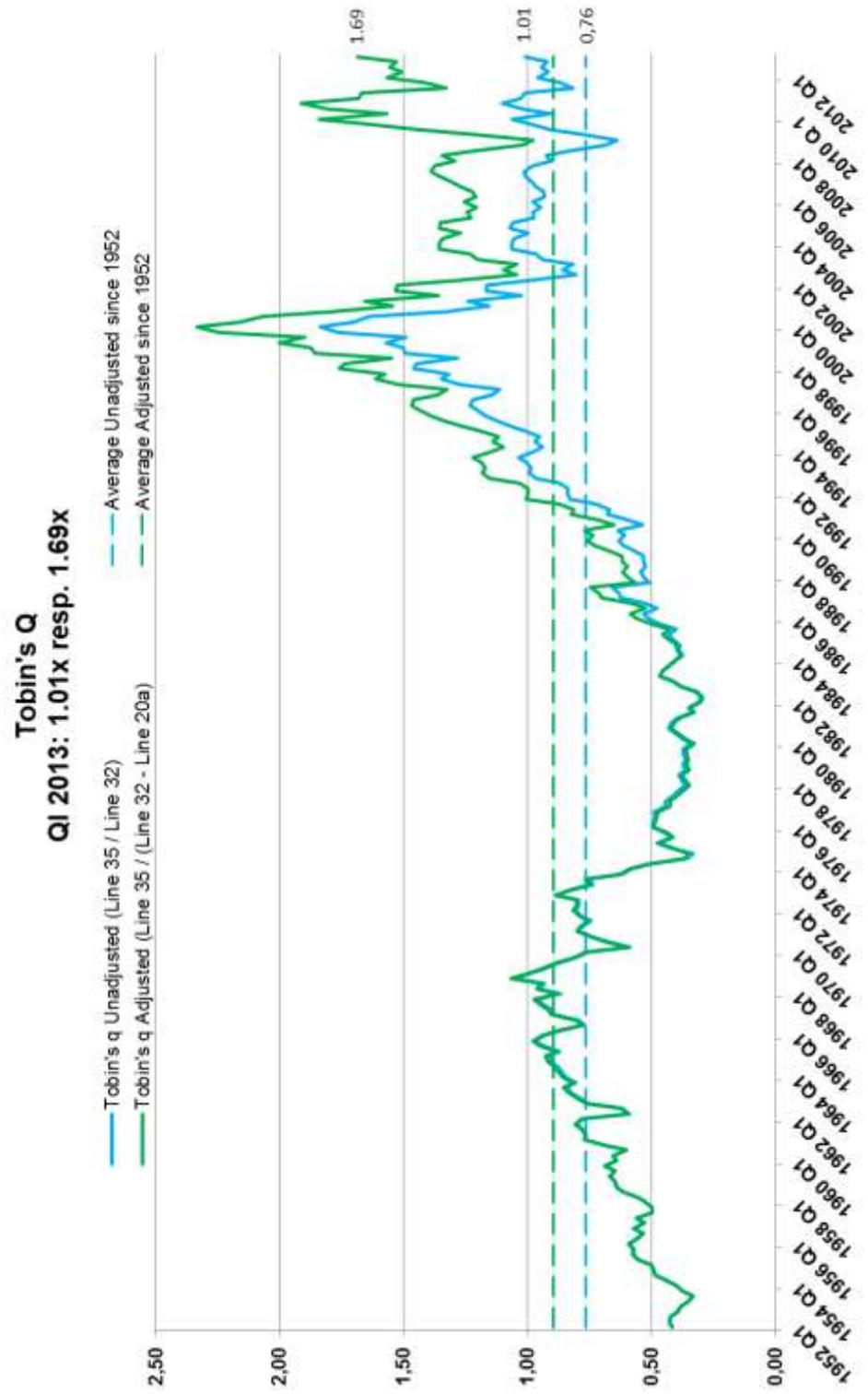
## Appendix 3.1: Cyclically Adjusted PE Ratios/Shiller's CAPE



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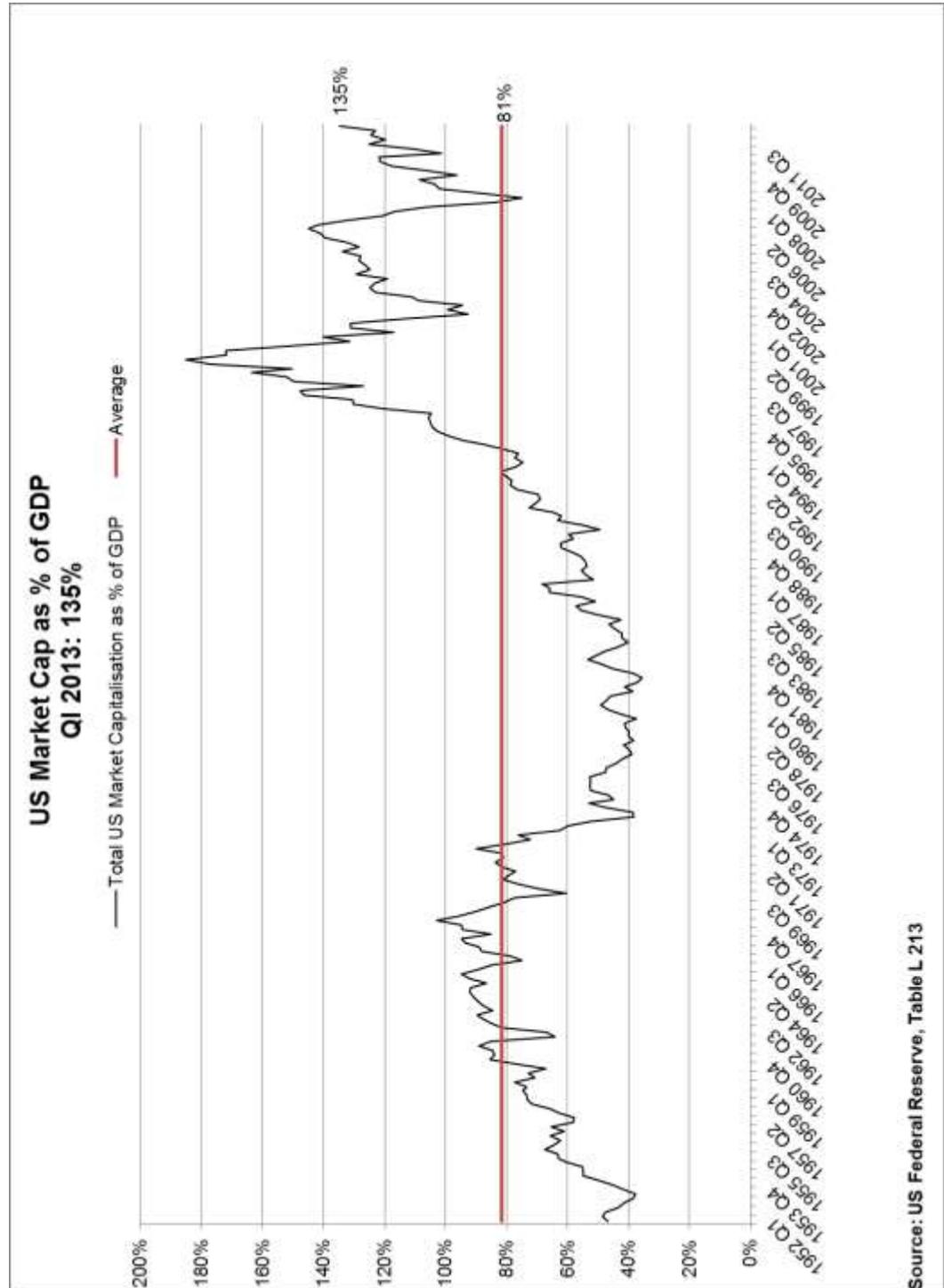
## Appendix 3.2 – Tobin's Q



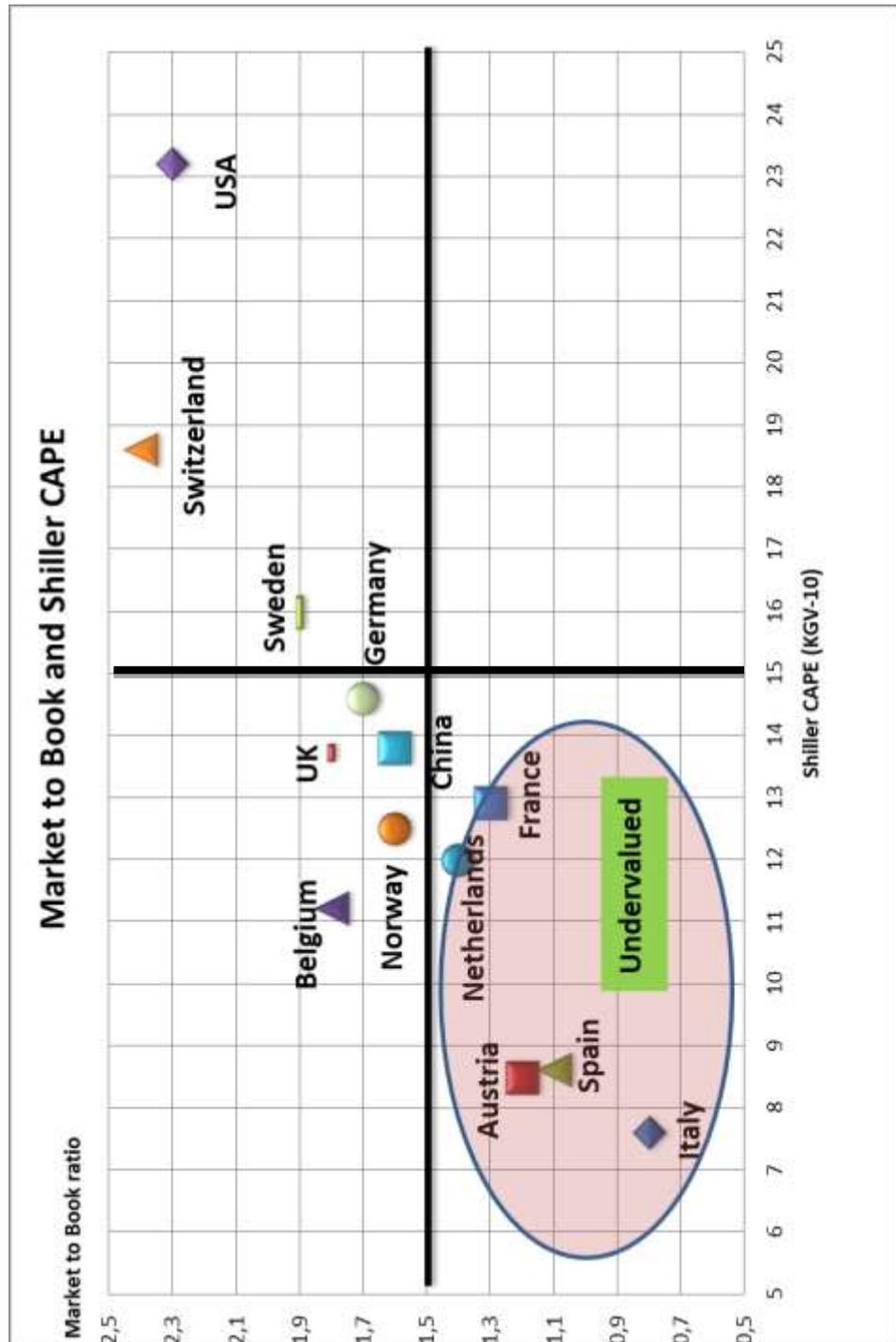
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## Appendix 3.3 – Capitalization of US companies as % of GDP

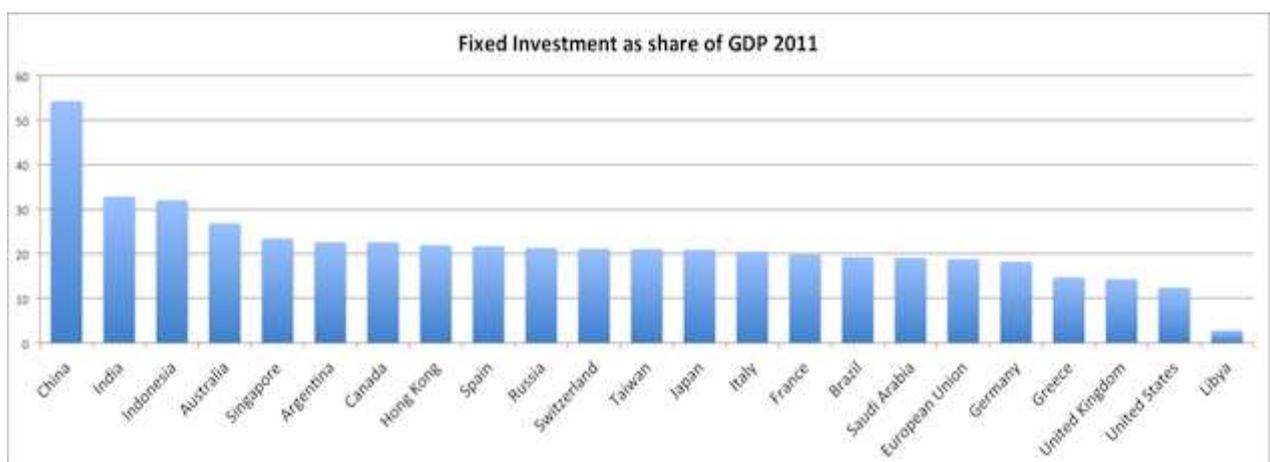
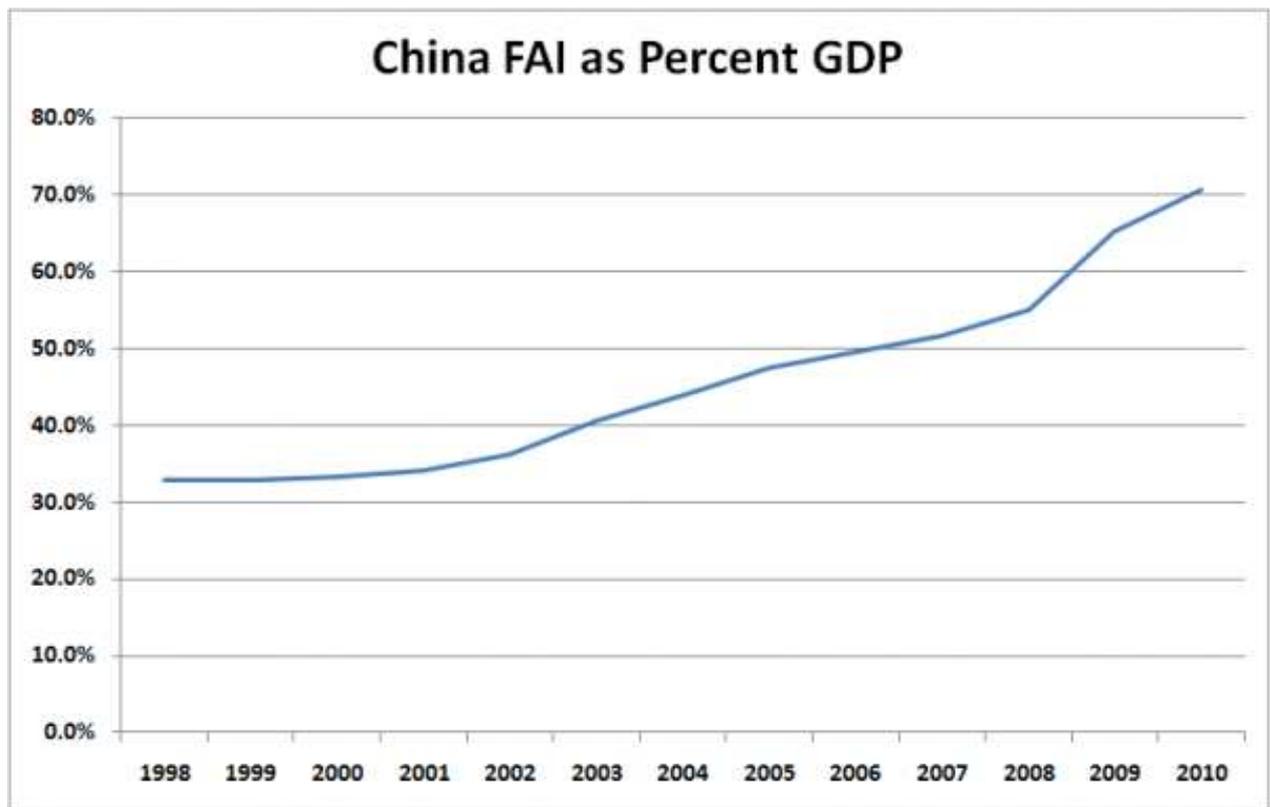


## Appendix 3.5: European Valuation by Market to Book and Shiller CAPE



Source: Cambria Funds – as of May 31<sup>st</sup>, 2013

## Appendix 5.2.a China: Fixed Asset Investment as % of GDP



Appendix 5.2.b

China: Residential Housing Value Relative to GDP

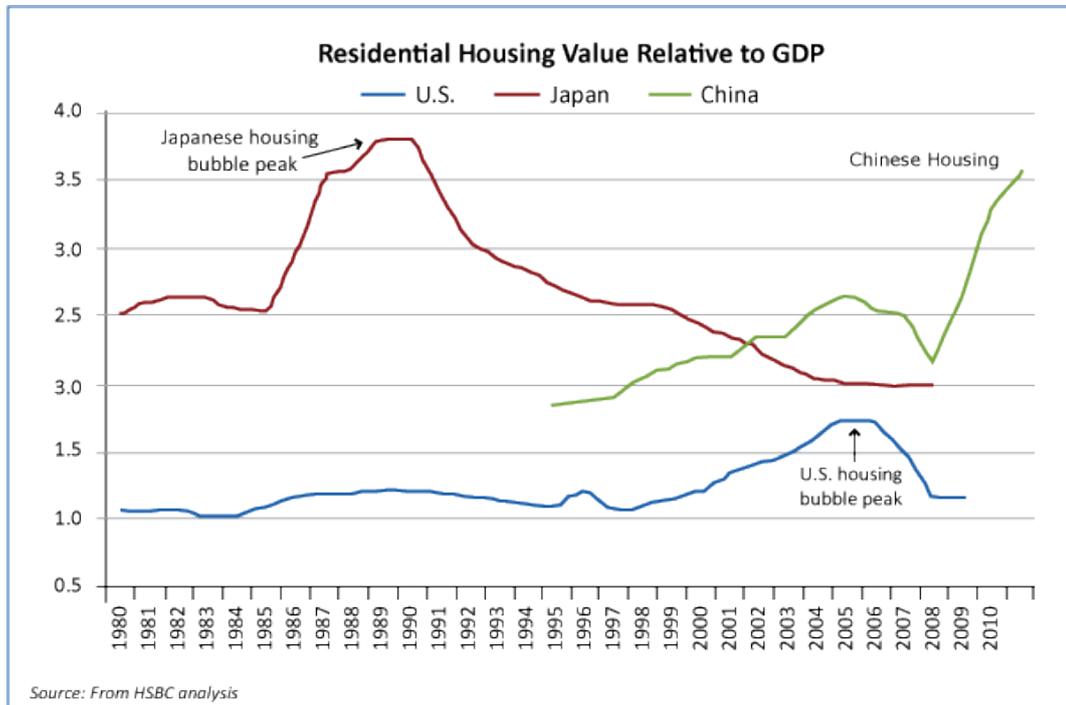
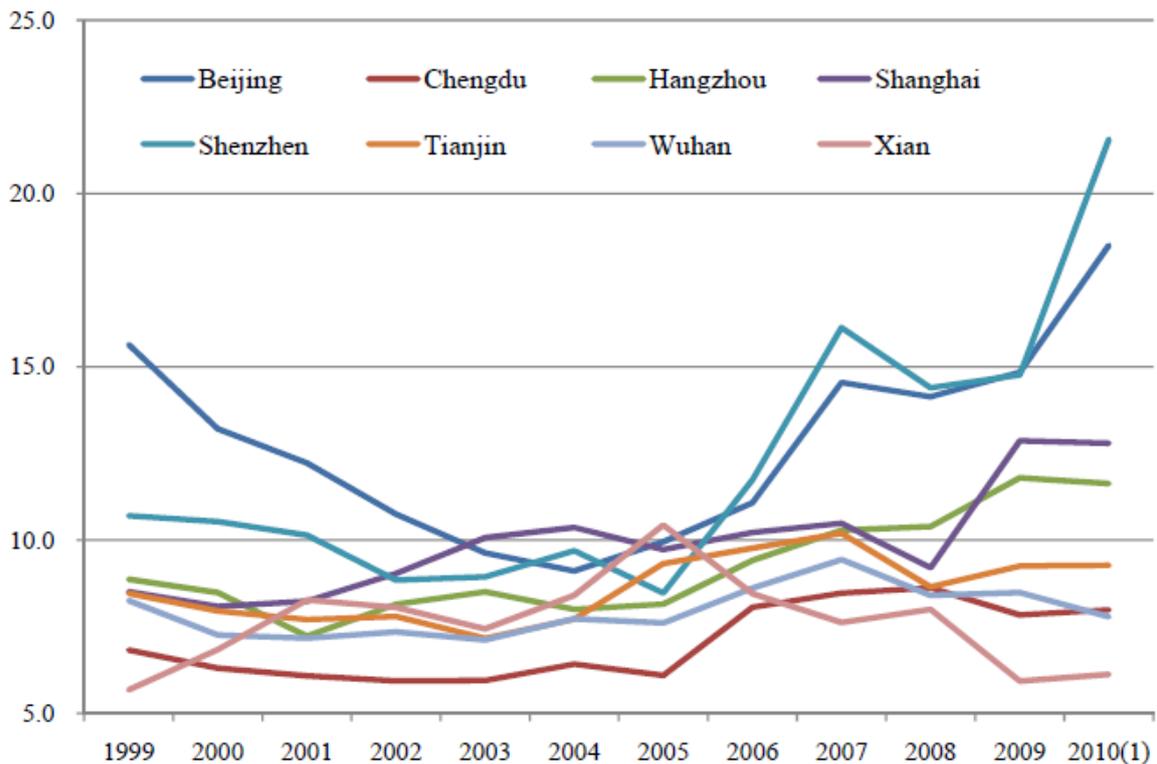
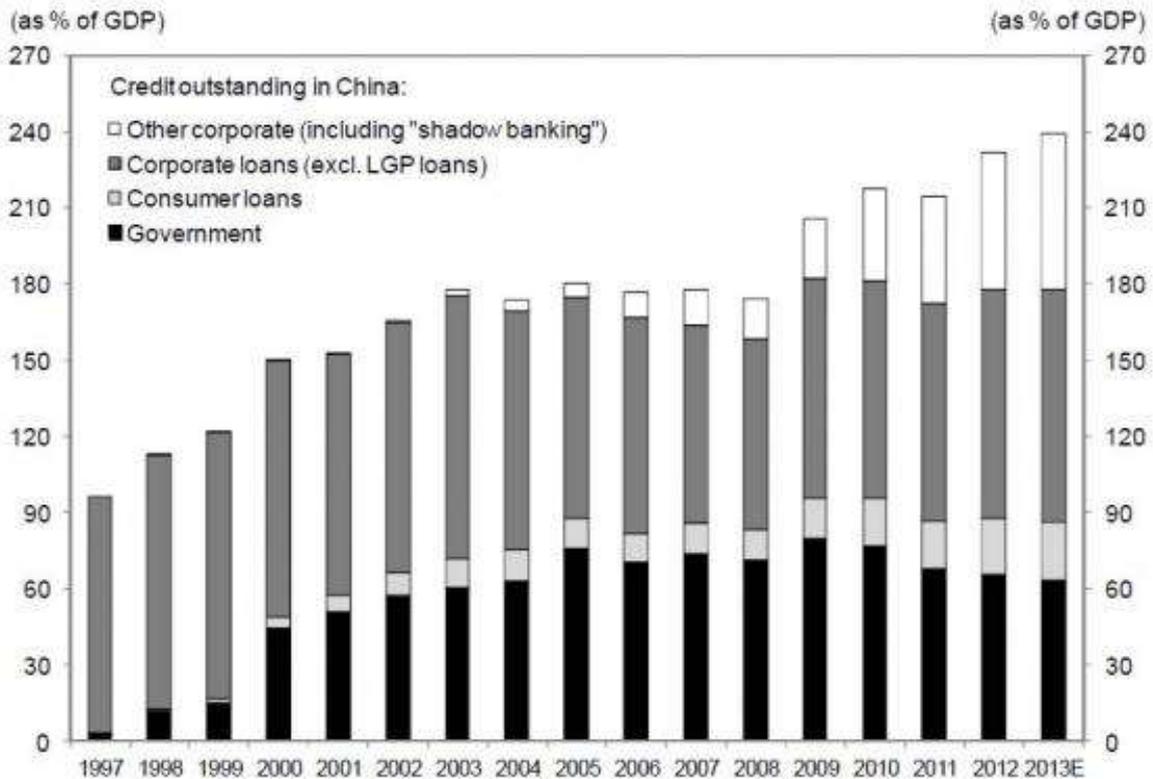


Figure 12: Price-to-Income Ratios in Eight Major Chinese Markets, 1999-2010(1)



**Exhibit 2: China's post-crisis credit boom**



Source: CEIC, GS Global ECS Research.