

# INVESTMENT THEME

April 2017

## On the valuation of equities

### Introduction

Many people know the feeling - things happening in the financial market that can barely be comprehended when viewed from a distance: Be it crashes, the formation of bubbles, air pockets, or V-shaped corrections - from the perspective of the individual, it is not always evident that the stock market is a free market in which prices should always evolve in a rational way. Such at any rate is the assumption of many people. Whether we add a share to our portfolio or decide to sell it is dependent on the price. If it's low, I buy, if it's high, I sell. Simple, isn't it?

But in the real world, what should be considered "cheap" and what should be considered "expensive" is not clear to every financial market participant. This much is clear from the fact that, for any given share, in almost all cases there is at least one analyst making the case for adding it to the portfolio ("buy recommendation"), but also one who believes investors should get rid of it ("sell recommendation"). In between the two lies the stance of advising that anyone sitting on the stock in question should retain it ("hold"), i.e. not execute any further purchases but equally not eliminate it from their portfolio.

Assessments of the "fair value" of the stock in question therefore differ widely. This can also be gleaned from looking at the volatile price movements of individual stocks: On one day a share price rises by a two-digit percentage amount, yet on the next day it slumps by a similar margin. Has the fundamental data really changed so much

within 24 hours? Or has "the market" arrived at a new assessment overnight? Both may be true. However, there may be another reason altogether, namely that groups of investors with different valuation assessments in respect of this stock have been active in the market at different times. In this edition of our Investment Theme, we would like to outline the fundamental approaches of equity valuation, point out where the sensitivities lie, and explain why experienced analysts can be "wrong" for years - despite having an advantage over the great majority of "lay investors" in terms of the knowledge they possess. To conclude, we set out our views on how the valuation of global equities looks from the current standpoint: Are they "expensive", as some observers are now saying, or does the current economic environment provide reasonable grounds for speculating on an (upward) "valuation expansion"?

### Different valuation models

There are many approaches to valuing any given enterprise. The "going concern" principle is one that is applied at a relatively early stage. In contrast to a liquidation valuation, this means the assumption that the business will continue to function in the future, which lies at the heart of individual valuation approaches (such as the discounting of future cash flows). The intrinsic value of a company is based on the subjective appraisal of any given analyst, and this then becomes its supposedly "true" or "fair" value. This (individual) intrinsic value deviates from the market value (or price), and overvaluations or undervaluations become apparent - at least in the eyes of the analyst. According to the theory of efficient markets, at

# INVESTMENT THEME: ON THE VALUATION OF EQUITIES

an aggregated level the average of all individual intrinsic values is deemed to be the market price at any given time.

For the valuation of publicly traded shares this intrinsic value plays a role, as distinct from the "fair value" (value at which the company would change ownership, i.e. the price at which a buyer would be prepared to pay what the seller demands, also known as the "market value") and the liquidation value.

## Absolute versus relative valuation approaches

Central to valuation approaches in financial theory are the absolute valuation models: Based on assumptions regarding the future development of a company, and following definition of a discount rate (so as to express the degree of uncertainty), a net present value of all future dividends (dividend discount model, DDM) or future cash flows (discounted cash flow, DCF) can be calculated and then compared to the company's market capitalisation at any given time. This net present value corresponds to the intrinsic value.

Because absolute valuation models rest on a large number of assumptions, and – as an additional factor – can be much more complicated than relative valuation models, many investors prefer to focus on the latter. A relative valuation model uses ratios or multiples, of which the most widespread is the price-earnings ratio (P/E ratio, or PER). A distinction is made between "price multiples", which are always calculated per share, and "enterprise multiples". The latter include the enterprise value (EV, market capitalization plus net debt), divided by earnings before interest, taxes, depreciation and amortisation (EBITDA). The advantage of applying relative valuation approaches is the ease with which a company can be analysed – thanks to readily available data – in the context of the overall market ("equity universe") or a particular sector, such as food producers. The accessibility of data is a particular advantage here – earnings per share (EPS), for example, a metric that is required for the calculation of a P/E ratio, are published by companies themselves in their quarterly reports.

Price multiples are widely used:

- Price-earnings ratio (P/E ratio, PER)
- Price-to-book(-value) ratio (P/B or PBV ratio)
- Price-to-cash-flow ratio (P/CF ratio)
- Price-to-sales ratio (P/S ratio, PSR)

Also widespread are ratios based on returns such as the return on equity and the dividend yield. The way in which figures are arrived at can vary hugely from company to company, which at times can leave the observer bewildered by the arbitrariness of it all.

## Example of an absolute valuation

Current valuations can allow conclusions to be drawn about how the market expects the company to develop in the future. Absolute valuation approaches enable the investor to see the assumptions that have been made about a company's future development. The following example is designed to illustrate this.

The company "Cavempt" is active in the consumer goods area. It has a market capitalisation of CHF 10 billion (10 million shares at a market price of CHF 1000), and in the last financial year (2016) generated earnings of CHF 500 million and positive cash flow of CHF 200 million. Due to its high level of investment, Cavempt is highly leveraged, i.e. it has a significant amount of debt, while at the same time the company is claiming it can deliver very high cash flow growth of 10% p.a. over the next 10 years and 5% p.a. thereafter – thanks to its successful investment strategy. The formula for the net present value of future cash flows is set out below, where the following abbreviations are used: cash flow=CF, 2017=17, discount rate=r (8%), long-term growth=g (5%).

The formula for the net present value (NPV) is therefore:

$$NPV = CF_{17} / (1+r) + CF_{18} / (1+r)^2 + CF_{19} / (1+r)^3 + \dots + CF_{26} / (1+r)^{10} + \text{terminal value}$$

The terminal value is based on the assumption that growth will continue in perpetuity at the stable rate "g" which may strike one or the other reader as somewhat oversimplifying or even overoptimistic. On the basis of an infinite geometric sequence, the following formula is derived:

$$\text{Terminal value} = \text{discounted } CF_{27} / (r-g)$$

If we now apply the hypothetical figures to the formula, the net present value of the 2017-2026 cash flows works out at CHF 2.2 billion, together with an end value of CHF 8.4 billion, making CHF 10.6 billion in total. In this view, the terminal value accounts for almost 80% of the company valuation – based on rather arbitrary assumptions that have been cheekily formulated. Depending on the assumptions made regarding the long-term growth rate and indeed the discount rate, the assumed value of the company Cavempt can vary enormously. In terms of the current market capitalisation (i.e. the value assumed in this example), the P/E ratio amounts to 20.0x (10bn divided by earnings of 500m), which appears rather low given the high growth potential. [Though equally there are questions to be asked from today's standpoint over the prospects for the next 10 years – the perpetual growth rate also appears very high.]

If the other assumptions (cash flow growth, discount rate) remain unchanged, the sum of the net present values of all future cash flows diminishes by just under 20% if the final growth rate were "only" to amount to 4%. Moreover, one can have any amount of fun playing around with the discount rate: If the discount rate applied in the model is increased from 8% to 9%, the valuation as arrived at through the DCF method declines by 25%.

**DCF valuation of "Cavempt" (y-axis in CHF million) depending on discount rate r (x-axis) given varying assumptions with respect to "perpetual growth rate g"**

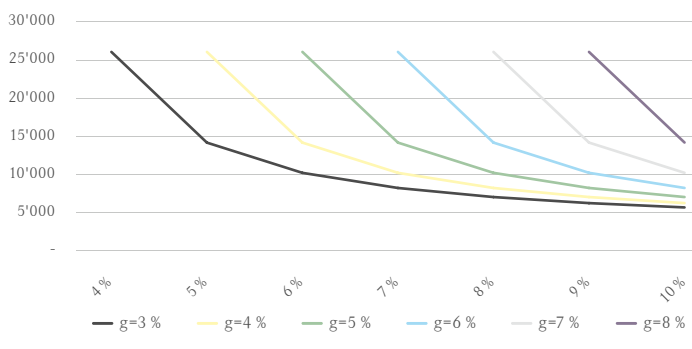


Figure 1 is designed to illustrate this aspect: The higher the assumed long-term growth rate and the lower the assumed discount rate, the higher the end value and therefore the higher the total net present value of future cash flows. If discount rate and growth rate differ by one percentage point, the end value amounts to a hundred times (!) the value of (in this example) the cash flow in 2027.

(Aside observation 1: If the long-term growth rate is higher than the discount rate, the net present value rises into infinity. Aside observation 2: The contrast between earnings (CHF 500 million) and cash flow (CHF 200 million) in this example is deliberate. It is designed to show that the term "earnings" (i.e. profit) can be manipulated much more easily than the objective metric "cash flow". Note that earnings and cash flows should work out as equal over the long term.)

**Relatively simple**

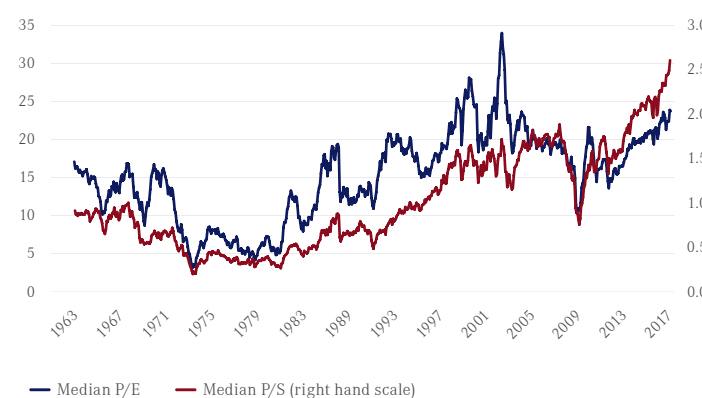
Relative valuation criteria such as the P/E ratio are used widely in the financial press. At Maerki Baumann, we too like to look at the various key ratios of a company as a starting point, comparing them with those of competitors. Similarly, the "valuation level" of the overall market can also be encapsulated simply through these multiples. However, it is important to consider the present point in the economic cycle before making statements on valuations. For example, at the peak of a recession the profitability of many compa-

nies is low, which results in high P/E ratios (share price / low earnings), and accordingly suggests an expensive equity market at first glance. On the other hand, the stock market may look quite cheap at the peak of the cycle, with disproportionate earnings being reported, if the basis of observation is just individual criteria. We therefore prefer the cyclically-adjusted price/earnings ratio devised by Professor Robert Shiller ("Shiller P/E"), which expresses the current share price divided by the inflation-adjusted 10-year average earnings. Other key ratios such as the price-to-book(-value) ratio are less "distorted" by the economic cycle, and therefore give a better of indication of how far advanced the stock market cycle is at any one time.

**Current situation**

Figure 2 shows the median of the P/S and P/E ratios for the US S&P 500 Index over the last five decades. What is striking is that the median of the price/sales ratio is currently far higher than it has ever been, whereas the median P/E ratio - though it may currently be high - has not reached an all-time peak. This reflects the fact that very high profit margins (profit as a percentage of sales) are being recorded at the moment. Whether or not this can be maintained is an imponderable. In the short term (i.e. in the next few months), however, it is expected that earnings will once again start to rise at a rate of around 10% after an approximately two-year phase of stagnation.

**Median P/E and P/S ratio of the S&P 500 since 1964**



Source: Ned Davis Research

One thing is clear, however: In the event of an economic slowdown or even a recession, significant share price falls can be expected. In such periods of declining economic growth, earnings in particular always slump significantly. Looking at just the data for the S&P 500, the decline in earnings during recessions over the last 40 years has amounted to between 35% and 92% on an inflation-adjust-

# INVESTMENT THEME: ON THE VALUATION OF EQUITIES

ted basis. Given no change in equity prices, this would mean an expansion of the P/E ratio by 53% to 36.8x and by 1,150% to 301x respectively. Conclusion: The US equity market is expensive in historic terms, but valuations could rise further in the absence of any looming recession. When taken together with the expected earnings growth, this suggests potential for a 10-30% return over the next two years. However, a great deal depends on how the Trump administration manages its working relationship with Congress, and whether or not markets receive a major shock from another part of the world.

When reviewing the current equity market valuation from the perspective of an absolute valuation approach, valuations could increase yet further. This is based on the hypothesis of interest rates remaining at a low level in the long term, as it would then be reasonable to argue that the discount rate for present value calculations should be reduced. Provided the long-term growth rate is not reduced to the same extent (in this case the terminal value would not change), this could mean a significant increase in valuations. Hence there are arguments that support a continuation of the current bull market.

## Summary

- There are many different equity valuation models which can be grouped into absolute and relative valuation approaches.
- The absolute valuation approaches are based on a number of assumptions, while the relative approaches have the advantage of being simple and ready at hand.
- Currently, the global equity valuation is rather high, but there are arguments in terms of valuations why the current bull market has not yet reached its end.

---

**IMPORTANT LEGAL INFORMATION:** This publication is not intended to bring about the conclusion of a contract, but solely provides market and investment commentary by Maerki Baumann & Co. AG (hereinafter referred to as MBC) and an assessment of selected financial instruments. Hence, this publication does not constitute an offer to buy or sell investment instruments. Any decision to follow recommendations of MBC is made solely by the investor in question. The investor bears the full risk associated with decisions he/she makes concerning the management of his/her assets, even if such decisions are based on a recommendation of MBC. Investments in financial products should only be made after carefully studying the applicable legal regulations, including any sales restrictions, and the risk factors mentioned. This publication contains statements and information from sources that MBC considers to be reliable. Although MBC has made every effort to ensure that the information presented in this document was correct at the time it was compiled, MBC offers no undertaking or guarantee, either expressly or implicitly, regarding its correctness, reliability or completeness. Any opinions expressed in this publication solely reflect those of MBC at the time of publication and are subject to change. The information contained herein may already have been used by MBC or its bodies or employees prior to publishing. In addition, a relationship may exist or have existed between bodies or employees of MBC and companies mentioned in this publication. MBC accepts no liability whatsoever for the contents of this publication. In particular, it does not accept any liability for losses or damage of any kind, whether direct, indirect or incidental, incurred as a result of using the information contained in this publication and/or arising from the risks inherent in the financial markets. Investors should note that the past performance of an investment is not a guarantee of future results. In other words, investments may increase or decrease in value. Investments undertaken in foreign currencies are subject to exchange rate fluctuations, which can also affect the investment's performance. MBC does not provide legal or tax advice. Before purchasing any financial instrument contained in this publication, it is therefore essential to obtain independent legal or tax advice concerning the suitability of such investments, since their tax treatment depends on the personal circumstances of the investor in question and is subject to change at any time. Moreover, this publication covers a variety of countries, making it highly likely that certain products may be suboptimal or even detrimental for certain investors from a tax perspective. The information contained in this publication concerning the EU tax on interest income and transparency under German tax law is subject to change at any time. MBC holds a Swiss banking licence granted by the Swiss Financial Market Supervisory Authority (FINMA). Under the Swiss Federal Law on Banks and Savings Banks, in the event of bankruptcy of any Swiss bank, all assets held in custody (securities, precious metals etc.) may be separated out, and deposits (in particular, bank accounts) are guaranteed up to CHF 100,000 by the Swiss Banks' and Securities Dealers' Depositor Protection.

---

## MAERKI BAUMANN & CO. AG

PRIVATE BANK

---

### EDITORIAL

Daniel Egger, Chief Investment Officer

(Editorial deadline: 21 April 2017)

### ZURICH

Dreikönigstrasse 6

CH-8002 Zurich

Phone +41 44 286 25 25

[info@maerki-baumann.ch](mailto:info@maerki-baumann.ch)

[www.maerki-baumann.ch](http://www.maerki-baumann.ch)

---