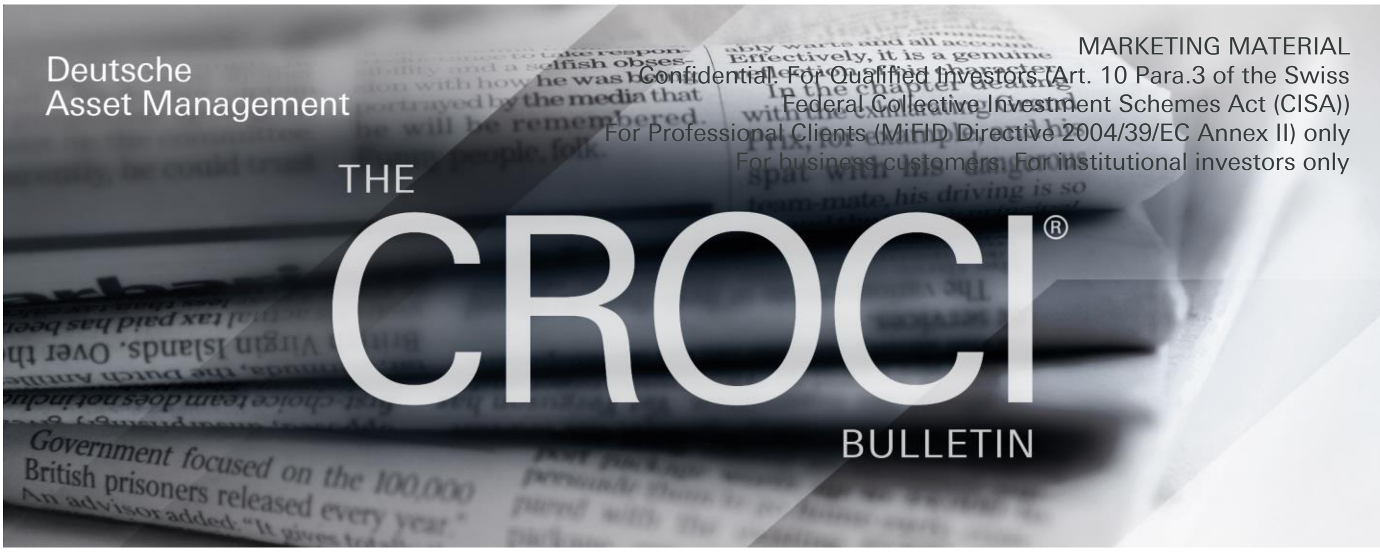


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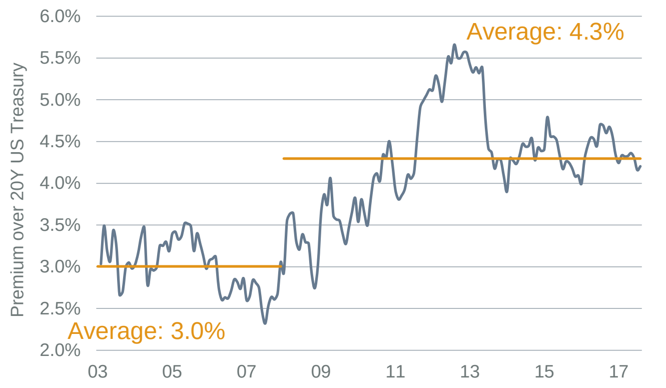
## Equities or Bonds?

Valuations are elevated across asset classes, prompting questions about the relative attractiveness of one asset class. At the start of the year, equities were favoured over fixed income. Markets were driven by Trumponomics to a large extent, which was founded on expectations of growth and reflation[1]. Then a period of strong performance by fixed income prompted questions of just how cheap equities really were.

Within this note, we examine the valuation of equities compared to fixed income, attempting to remove growth speculation. Our particular focus is on the claim that that the equity premium over fixed income has increased.

Figure 1: Equity premium (COC less 20y real UST yield)




Source: CROCI, Deutsche Asset Management. Data as on 30 Aug 2017

The chart above compares our calculation of the equity risk premium with a comparable real US Treasury yield, using a 20 yr UST to match our estimate of global equity duration. The equity premium over bonds has risen by 130bps since the financial crisis. This analysis has parallels with the Fed Model. It also shares one of the Fed Model's main flaws, namely its failure to adjust for growth. This necessarily distorts its conclusions, given the importance of growth in equity valuation.

Stocks with high growth expectations tend to have higher multiples[2]. So, at a practical level, growth can be factored in by subtracting a company's sustainable growth rate from the discount rate in the denominator of a Gordon growth model[3]. Thus a company growing at a real sustainable 3% per annum to perpetuity should have a PE ratio of around 50x. By contrast, a 1% growth company should trade close to 25x[4].

Broadening this reasoning, it seems unsound to conclude that ERP has increased since the crisis, as this fails to consider the fall in growth expectations. Over the past two decades, real US GDP growth peaked in 1999, at 4.7%. Since the crisis, growth has peaked at 2.9% in 2015. Peak-to-peak, growth has fallen by 180 bps. This brings the relative value call into question, and suggests that any preference for equities may be predicated on the manifestation either of higher growth or of inflation.

Figure 2: Equity premium adj. for economic stagnation


Source: CROCI, Deutsche Asset Management. Data as on 30 Aug 2017. The chart shows the equity premium of Fig 1, adjusted crudely from 2011 onwards to account for the lower post-crisis growth rate.

[1] Trump reflation trade goes global, FT 28th February 2017,

[2] http://www.investopedia.com/terms/m/multiplecompression.asp
[3] http://www.investopedia.com/terms/g/gordongrowthmodel.asp
[4] 50x ≈ 1/(d - 3%); 25x ≈ 1/(d - 1%), where d or COC is 4.95%

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## Introduction to CROCI

**Cash Return on Capital Invested (CROCI)** is a cash-flow-based analysis which, by making a series of economic adjustments to traditional accounting data, aims to make non-financial companies comparable - regardless of industry or domicile. The main areas where CROCI "economic data" differ from accounting data are as follows:

- Accounting for "hidden" liabilities – CROCI Enterprise Value (EV) includes not only financial liabilities (such as debt) but also operational liabilities (such as operating lease commitments, warranties, pension funding, specific provisions etc).
- Depreciating similar assets in a similar manner - Adjusting depreciation to reflect "economic depreciation" and effective useful economic life.
- Replacement value of assets – Inflating the value of net assets using the relevant inflator (based on the real age of assets).
- Unreported assets – Systematically capitalizing real cash-generative assets that are left off the balance sheet. Research and development costs and advertising are examples of such assets.

**Economic PE (Ec.PE)**: is the CROCI version of the PE ratio and is calculated as EV/(CROCI * NCI) or (EV/NCI)/CROCI

## CROCI & Real Value

**Real Value** Economic value as calculated by the CROCI process via the adjustments to and normalisations of reported financial statements, conducted by CROCI's team of company analysts.

Notes: The CROCI process seeks to make company financial data more consistent, comparable and economically meaningful through a series of reviews and adjustments. This contrasts with more conventional definitions of "Value" that tend to be based on accounting measures such as equity or profits.

The term Real Value can be used attributively to refer to companies with the lowest CROCI Economic P/E.

**Real Investor** An investor whose investments are driven principally by the careful analysis of company fundamentals, including their economic cash returns and their economic valuation. Specifically, a Real Investor has two characteristics:

1. Fundamental: any investment is informed or driven by the interplay between the cash flow generation, the capital intensity and the valuation of that company.

2. Skeptical of reported financial statements as a guide to investing: Real Investors believe that the income statement and balance sheet in a company's accounts are not necessarily designed to be helpful to equity investors, and that a synthesis of all the notes to the accounts and diligent restatement of the accounts must happen in order to render valuations comparable and meaningful; and

Real Investors look to economic value to inform investment, and believe that the reported financial statement data may not be representative of the economic reality of a company.

Since CROCI makes adjustments to financial statements in order to include all relevant information in the notes to the accounts, and to restate the accounts in order to render economic valuations, which are meaningful and comparable, CROCI may be one valuable approach.

## IMPORTANT INFORMATION

This paper is intended for Professional Investors only, who understand the strategies and views introduced in this paper and can form an independent view of them. CROCI represents one of many possible ways to analyze and value stocks. Potential investors must form their own view of the CROCI methodology and evaluate whether CROCI and investments associated with CROCI are appropriate for them.

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