

Impact case study (REF3)

Institution: Birkbeck, University of London
Unit of Assessment: 16, Economics and Econometrics
Title of case study: New strategies for portfolio management: applying new estimates of equity yields and equity duration
Period when the underpinning research was undertaken: 2005 to date
Period when the claimed impact occurred: 2014 to date
Is this case study continued from a case study submitted in 2014? N
<p>1. Summary of the impact</p> <p>Accurate estimates of expected rates of returns and investment time horizons are crucial for investment managers when it comes to assessing the risk and return characteristics of equity portfolios. In 2019, the value of global assets under management was estimated at US\$89 trillion, approximately one-quarter of all the world's wealth. The quality of decisions made by investment managers therefore has significant implications for the world economy. Schröder's research has directly influenced the commercial practice of investment and portfolio managers, enabling them to better understand the success factors behind the so-called value investment style and thus to discover better investment opportunities.</p>
<p>2. Underpinning research</p> <p>In an early article (published 2007), Schröder analysed alternative ways to estimate expected stock market returns. This information is essential for fund managers making strategic, long-term asset allocation decisions. At the same time, expected market returns are a crucial parameter in many of the asset pricing models used to determine the expected returns of individual stocks and asset prices. Schröder proposed that analyst earnings forecasts could be used for this purpose. This entirely forward-focused approach would circumvent the problems of previous models, which relied on information about past returns in order to predict future returns.</p> <p>Since joining Birkbeck in 2009, Schröder has built on this research in collaboration with a co-author who is also an asset management professional. A series of three articles published in 2014, 2016, and 2018 have seen Schröder develop his original model by focusing on individual stocks rather than the market as a whole; by offering a method for estimating the equity risk, as well as the expected returns, of individual shares; and by exploring the effect of market inefficiencies on estimates of expected returns.</p> <p><u>Using expected returns to improve equity portfolios</u></p> <p>After the publication of his 2007 article, Schröder was approached by Florian Esterer, then a senior portfolio manager at Swisscanto Asset Management. As a practitioner, Esterer recognised the value of Schröder's previous work. He suggested that the same approach could be used to predict individual stock returns, and the pair undertook a joint study [1] which tested the ability of expected return estimates developed on Schröder's model to predict individual stock returns. These results were successfully applied to create portfolios which outperformed the market, even after risk adjustments and transaction costs were taken into account.</p> <p><u>Estimating the time horizon and interest sensitivity of equities</u></p> <p>Based on this work, Schröder and Esterer went on to estimate not only the expected returns, but also the equity risk of individual shares. A developing research literature suggests that the timing of a firm's cash flows (such as dividends) is crucial to understanding the equity risk presented by their shares. Schröder's and Esterer's follow-up study [2] deployed Schröder's method (using the forecasts created by equity analysts) to estimate the expected timing of cashflows in particular firms. This was the first study to create an entirely forward-looking estimate of equity duration, in analogy to the well-established concept of bond duration. It also shares the same interpretation of measure of a share price's sensitivity to changes in the discount rate.</p>

The concept of duration put forward in this study is useful for investment managers of pension funds who are seeking to assess their portfolio's sensitivity to changes in discount rates. It can help trustees ensure a better match between their investments across asset classes and pension liabilities without sacrificing too much in the way of potential returns.

Estimating the timing and pricing of dividends

In a further study [4], Schröder refines the approach developed in previous papers to show that market equity risk premia are (i) depending on the investment time horizon and (ii) dynamically change in response to economic business cycle. This finding gives asset managers the possibility to shift their asset portfolio from long-term to short-term investments and vice versa, optimizing their exposure to a large equity risk premia.

Impact of market efficiency on expected returns estimates

Forward-looking estimates of expected stock returns assume that equity markets are efficient; i.e., that prices reflect all available information at all times. This might not, however, always be the case. In another extension to his research [3], Schröder examined the effect of market inefficiencies on expected return estimates. The study found that expected returns estimates were indeed more accurate in efficient equity markets relative to less efficient equity markets.

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3. References to the research

1. Esterer, Florian and David Schröder (2014), Implied cost of capital investment strategies: evidence from international stock markets, *Annals of Finance*, 10(2), pp.171-195 <http://dx.doi.org/10.1007/s10436-013-0236-3>
2. Schröder, David and Florian Esterer (2016), A new measure of equity and cash flow duration: The duration-based explanation of the value premium revisited, *Journal of Money, Credit and Banking*, 48(5), pp.857-900. <https://dx.doi.org/10.1111/jmcb.12320>
3. Schröder, David (2018), The role of market efficiency on implied cost of capital estimates: an international perspective. *SSRN Working Paper*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3123866
4. Schröder, David (2020), The term structure of equity yields – a bottom up approach. SSRN Working paper

4. Details of the impact

In 2019, the investment management industry was responsible for looking after approximately US\$90 trillion ([Boston Consulting Group](#)), almost one-quarter of the world's wealth (estimated at US\$399 trillion by [Credit Suisse](#)). Decisions made by investment managers therefore have significant implications for the global economy. Schröder's work, which was taken up by the industry on its publication in 2016, appeared in research briefings across the sector and has changed the practice of major asset management firms, helping them to better manage their clients' investments and therefore contributing to global economic growth.

When Schröder and Esterer's paper on equity duration was published in 2016 it rapidly circulated across the financial services sector. In a Global Quantitative Report of August 2016 [a], strategists at Morgan Stanley (which [consistently dominates market share in equities trading worldwide](#)) cited Schröder and Esterer's work as a way to better understand the return differential between value and growth stocks, acknowledging that 'measuring duration for equities is a lot more challenging than for fixed income instruments' and describing Schröder and Esterer's work as a 'sophisticated' approach. These reports do not only circulate amongst finance professionals but are also used to communicate investment advice to the banks' clients, informing their individual investment decisions and extending

the reach of this research. Esterer and Schröder were also invited to present their findings to investment managers at [redacted]; who had a natural interest in their work given that, in September 2018, [redacted] had £30.1 billion in equity assets under management [c].

A case study of the scale and nature of Schröder and Esterer's influence can be found at [redacted], another bank where the researchers met with industry practitioners to explain and discuss their work and its implications for portfolio management. In January 2017, a report from [redacted's] research division focused extensively on Schröder and Esterer's findings [b]. The report opens with a discussion of their research in the context of portfolio choice for investors but then goes on to build an entire equity duration analysis based on (and 'motivated by') Schröder's proposed duration measures. This analysis has directly informed the company's investment decisions. [The company's head of European qualitative research] stated in March 2018 (over a year after the publication of this initial report) that Schröder and Esterer's work had been crucial in framing its approach to measuring the duration of global stocks. In particular, they had used Schröder's modelling device as a building block of their approach to estimating interest rate sensitivity of equity portfolios [d]. The scale of the investments involved is significant [: approximately AU\$141.4 billion in equities worldwide and AU\$56 billion in European, Middle Eastern, and Asian infrastructure and real estate equities] [e]. These figures do not take into account the additional private investors who consult [redacted] as a source of information when planning their own investments.

Esterer's position as Head of Asset Management Equities at Bank J Safra Sarasin has also enabled him to put the findings of the research begun by Schröder and continued in joint collaboration into practice in his work environment. He confirms that the 'papers on the implied cost of capital and implied duration [have] significantly improved [the bank's] understanding of value investing. Identifying... success factors has enabled us to improve our ability to find attractive investment opportunities as well as enhanced our ability to identify stages in market cycles, thereby improving the return of our investment portfolios' [f]. At the end of 2019, Sarasin managed a total portfolio of CHF185.8bn; estimating equity holdings at a conservative 25%, this represents CHF46 billion (or £35.6 billion) in equities whose investment was influenced by Schröder and Esterer's work [g].

5. Sources to corroborate the impact

- a. Morgan Stanley Research (industry report): *Global Quantitative Research – Value investing in a low rates environment*
- b. [redacted]
- c. [redacted]
- d. Testimonial, redacted
- e. [redacted]
- f. Testimonial, Florian Esterer, Head of Asset Management Equities, Bank J. Safra Sarasin
- g. J. Safra Sarasin annual report 2019
https://www.jsafrasarasin.com/internet/com/jssh_annual_report_2019.pdf