Years ago, HP's founders adopted a corporate commitment to reduce impact on the environment. Today, executive VP Ann Livermore leads the company's Technology Solutions Group, which develops energy-saving solutions for data centers. A choice based on personal beliefs now drives profits and growth and has HP continually rated among the world's best corporate citizens.

STUDY FINDS ESG DELIVERS FINANCIAL BENEFIT

More and more investors believe ESG analysis can result in outperformance in the long term. However, research results have often been contradictory and contentious. A new study sheds more light through an innovative approach.

A landmark study strengthens the position of ESG advocates. The results reveal that a focus on ESG (environmental, social and corporate governance) factors can significantly reduce portfolio risk or enhance returns.

The study by risklab is the first systematic quantitative analysis explicitly examining ESG risk in a portfolio context. It concludes that investors "not only have a right to feel good about promoting ESG, but that clear financial benefits can be expected."

Released in mid-November, *ESG Risk Factors in a Portfolio Context* quantifies long-term ESG investment risk and its impact on investors' strategic asset allocation. Specifically, the study aims to determine to what degree ESG factors influence equity investment risk.

STRATEGIC ASSET ALLOCATION (SAA) has been described as the most important factor driving long-term portfolio returns. Estimates conclude that it accounts for up to 90% of portfolio risks, outweighing market timing and stock selection in importance. Yet, while much research has been done on ESG opportunities at the stock picking or company analysis level, little has been researched on the link between ESG and the risk/return profile of an entire portfolio. Other top-down SAA research has tended to be qualitative and focused on one element within the ESG acronym; usually the environmental as it relates to climate change.

THE RISKLAB STUDY IS DISTINGUISHED by a comprehensive methodology divided into two distinct, transparent parts. The first is an elaborate search for a suitable risk factor with a valid data source for each component in the ESG acronym. After modeling, the E, S and G risk factors were integrated in stochastic capital market scenarios influencing equity returns over a 20-year horizon.

The second part was the portfolio analysis itself, which was based on a comprehensive optimization framework that revealed efficiency gains due to ESG considerations.

In the study, the environmental risk factor was modeled on CO_2 emission rights spot price change. The social risk factor approximates the return impact of employee sick days to business costs. Corporate governance ratings were used to quantify the impact of such factors on equity returns.

THE IMPACT OF EACH FACTOR ON EQUITY RISK was analyzed using two groups of companies. In the "positive ESG Equity" cluster (+ESG), it is assumed that management is aware of ESG risks and tries to mitigate them proactively.

RISKLAB

risklab is the specialist investment and risk advisor of Allianz Global Investors. Based on a rigid framework that aims at total portfolio returns, risklab creates long-term investment solutions that are built on strategic asset allocation and risk management.

INSIDE THE METHODOLOGY

To calibrate risk sensitivities along +ESG and -ESG Equity with respect to the three risk factors, risklab applied the GICS industry sector breakdown. In particular, sector weightings using relative carbon footprint, staff costs per sales data and corporate governance ratings were applied.

For all data, specialist providers were selected via due diligence and data sources cross-check by experts.

The relative weighting between economic, social and governance risk factors is equal. In this case, consistency was cross-checked with the results of the *SRI Navigator* analysis by the equity research team of Société Générale and expert discussions.

The "negative ESG Equity" cluster (-ESG) consists of companies that ignore ESG risks. The underlying assumption was that ESG factors do not have an expected (positive or negative) return on equity but only drive investment risk.

RESULTS REVEALED that ESG factors have a significant impact on risk and offer important opportunities to achieve efficiency gains. As a risk metric, a downside risk measure, the Conditional Value at Risk (CVaR) at 95%, was used.

CVaR shows the average return (per annum) incurred in the 5% worst cases of the investment. For +ESG Equity, the CVaR is estimated to be -27%. For a global equity investment that roughly equals an average ESG Equity investment, the CVaR 95% is estimated to be -36%.

To examine the potential for optimization, different portfolios and starting allocations in equity were analyzed. The study commences with a portfolio invested 30% in global equity and the remainder invested in government bonds and cash.

An allocation into +ESG Equity offers significant efficiency gains. At the same level of expected returns, the investor can reduce the CVaR by approximately one-third. Alternatively, the investor could enhance the expected return at similar levels of expected risk.

As an example, the portfolio including +ESG Equity shows an expected average nominal ☞

STATEMENTS

A clear link has been made between portfolio asset allocation and ESG

DAVID DIAMOND, co-head of SRI, Allianz Global Investors, France

"This study is innovative on at least two counts. Taking a quantitative approach, it explores uncharted territory by clearly making the link between portfolio asset allocation and relevant ESG criteria – an area not traditionally covered by SRI research. The study also moves the debate forward regarding the materiality of ESG criteria.

Institutional investors should appreciate its implications for fulfilling their fiduciary responsibilities, whether or not they are signatories to the UN Principles for Responsible Investment. For asset managers the study highlights areas meriting further development of expertise, particularly for those already in the area of sustainable and responsible investment."

return 0.3 percentage points higher compared to the reference portfolio. According to the study, "the effects are even stronger when comparing portfolios where the equity allocation is higher."

SO FAR RESEARCH ON ESG has mainly focused on ESG-compliant equity investments from a bottom-up investment process perspective. There exists no systematic, long-term quantitative analysis explicitly examining ESG-derived risk factors and their portfolio impact. So the results of the risklab study are intriguing. After all, they arrive at a period of financial crisis when many investment strategies and products implementing ESG concepts have suffered as much as conventional equity investments.

Many institutional investors, in particular large European pension funds and endowments, have in recent years adopted ESG investment strategies. However, industry surveys reveal uncertainty among professionals about the risk/return effects of ESG investing (for example, see "Pension Investing with a Conscience," page 55).

THIS UNCERTAINTY IS INCREASED by the often contradictory results generated by research. For example, a recent research paper (EDHEC, December 2008) showed that none of the 62 funds examined managed to produce both positive and significant alpha (outperformance) over a six-year period.

However, a follow-up study by Altedia Consultants in 2009 analyzing more than 200 SRI funds over a three-year period found that best-in-class funds performed broadly in line with market indices and their own benchmarks. In addition volatility of best-in-class funds was noticeably lower than indices during the period.

The risklab paper will not end such short-term performance debates. Critics are likely to focus on the selection of a single risk factor for each element in the ESG acronym.

Why were these specific elements chosen? Are they representative of the risks associated with ESG strategies? And, how is it possible to quantify the waxing and waning of a variety of ESG risks across various industries over an extended timeframe?

Yet, the risklab study enhances the debate by showing significant portfolio risk reduction or return enhancement can be achieved by allocating equity investments into companies that proactively deal with ESG risks over an extended timeframe.

ON THE INTERNET

To download *ESG Risk Factors in a Portfolio Context* (by Dr Steffen Hörter, Dr. Wolfgang Mader and Barbara Menzinger), please visit **www.risklab.com**