



Performance of Sustainable Investments

Evidence and Case Studies

Table of Content

Chapter	Topic	Page
1	Sustainability and Corporate Performance	3-5
2	Overview on Sustainable Investment Performance	6-7
3	Performance of Sustainable Investments: Equity	8-12
4	Performance of Sustainable Investments: Bonds	13-14
5	Performance of Sustainable Investments: Investments for Development	15-16
6	Performance of Sustainable Investments: Real Estate	17-18

1. Sustainability and Corporate Performance

Facts

- 90% of the studies on the cost of capital show that sound sustainability standards lower the cost of capital of companies (Clark *et al.*, 2015).
- 88% of the research shows that solid ESG practices result in operational outperformance of firms (Clark *et al.*, 2015; Friede *et al.*, 2015).
- 80% of the studies show that stock price performance of companies is positively influenced by good sustainability performance (RobecoSAM, 2014 ; Clark *et al.*, 2015).
- 75% of investors agree that company's good sustainability performance is materially important when making investment decisions (Krüger, 2015; Unruh *et al.*, 2016).
- Consistent finding of added value of Corporate Sustainability over time, indicated by the positive relationship between financial outperformance and sustainability quality before, during and after the 2009 crisis period (Friede *et al.*, 2015).

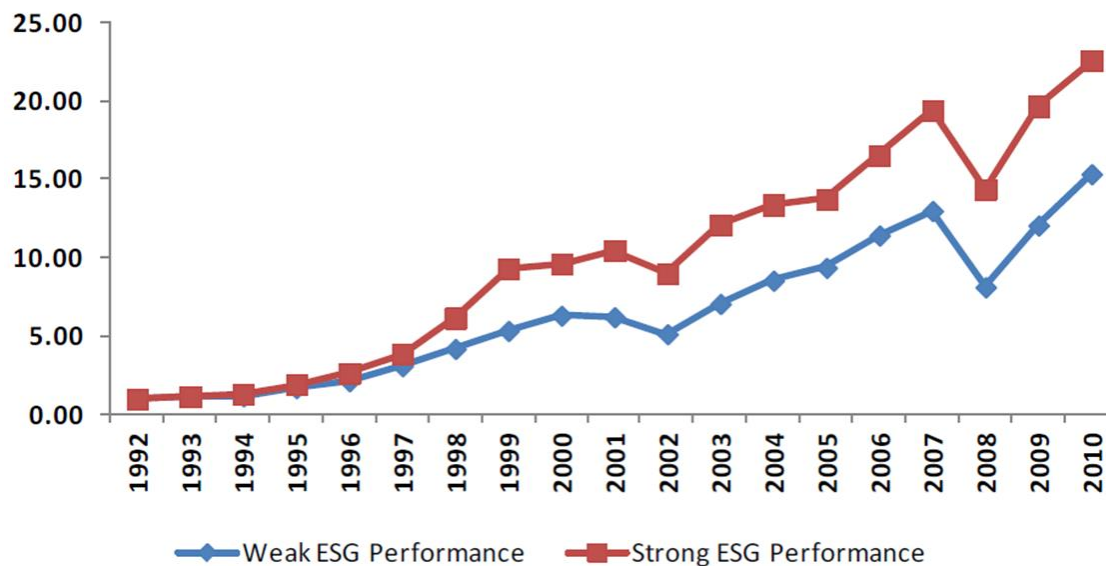
Selected Sources

- Clark, G. L., Feiner, A., & Viehs, M. (2015) *From the Stockholder to the Stakeholder: How Sustainability Can Drive Financial Outperformance*.
- Friede, G., Busch, T., & Bassen, A. (2015) *ESG and financial performance: aggregated evidence from more than 2000 empirical studies*, Journal of Sustainable Finance & Investment, 5:4, 210-233, DOI: 10.1080/20430795.2015.1118917
- Krüger, P. (2015) Corporate goodness and shareholder wealth. *Journal of financial economics*, 115(2), 304-329.
- RobecoSAM (2014) *Alpha from Sustainability*
- Unruh, G. D., Kiron, N., Kruschwitz, M., Reeves, H., Rubel, & zum Felde, A.M. (2016) *Investing For a Sustainable Future*. MIT Sloan Management Review.

1. Sustainability and Corporate Performance: Case 1

Outperformance of Sustainable Companies

Financial performance of companies with weak vs. strong ESG performance



Source

- Eccles, G. R., Ioannou, I., Serafeim, G. (2011) *The impact of a Corporate Culture of Sustainability on Corporate Behavior and Performance*, Harvard Business School.

1. Sustainability and Corporate Performance: Case 2

Increasing Investor Preference for Sustainable Companies

FIGURE 1: CORPORATE PERFORMANCE ON SUSTAINABILITY METRICS IS INCREASINGLY IMPORTANT TO INVESTORS

A strong majority of all respondents recognize that good sustainability performance matters to investors more today than in past years. And yet, investors indicate that they care more about good sustainability performance than respondents in public companies believe.

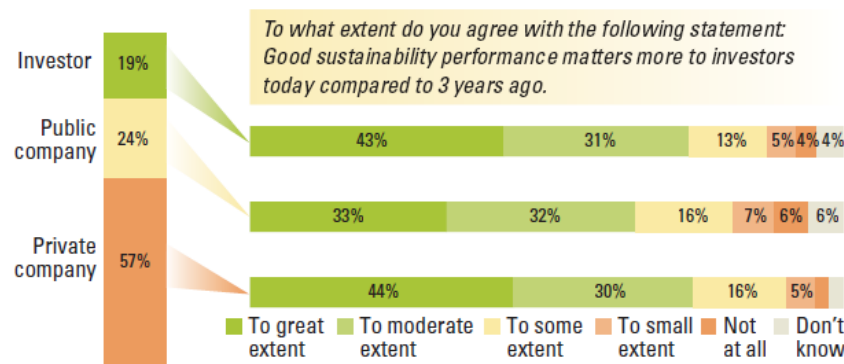


FIGURE 4: MANY TOP MANAGEMENT-LEVEL INVESTORS AVOID COMPANIES WITH POOR SUSTAINABILITY PERFORMANCE

Board members of investment companies are more likely to encourage their companies to avoid or divest from companies with poor sustainability performance.



Source

- Unruh, G. D., Kiron, N., Kruschwitz, M., Reeves, H., Rubel, & zum Felde, A.M. (2016) *Investing For a Sustainable Future*. MIT Sloan Management Review.

2. Overview on Sustainable Investment Performance

Facts from Meta studies

- Large number of studies indicate positive correlation between ESG performance and share performance (Kleine *et al.*, 2013; Friede *et al.*, 2015).
- Generally sustainable funds have similar, but not worse, performance in comparison to classical funds (Kleine *et al.*, 2013; Friede *et al.*, 2015).
 - While these results apply 'on average', the performance of individual SRI funds varies considerably.
- Studies highlight particularly strong correlation between ESG and financial performance for asset classes such as emerging markets, corporate bonds and green real estate (Friede *et al.*, 2015).

Selected Sources

- Friede, G., Busch, T., & Bassen, A. (2015) *ESG and financial performance: aggregated evidence from more than 2000 empirical studies*, Journal of Sustainable Finance & Investment, 5:4, 210-233, DOI: 10.1080/20430795.2015.1118917
- Kleine, J., Krautbauer, M., & Weller, T. (2013) *Nachhaltige Investments aus dem Blick der Wissenschaft: Leistungsversprechen und Realität*, Analysebericht. Research Center for Financial Services der Steinbeis Hochschule Berlin.

2. Sustainable Investment Performance: Meta Study by Steinbeis University

	Analyse- dimension der Studien	Anzahl der untersuchten Studien	Studienergebnisse zum Einfluss der Nachhaltigkeitsorientierung auf das Anlageergebnis				
			Positiv	Neutral	Negativ	Mixed*	Gesamtergebnis
Untersuchungen mit direkten Vergleichen der Wertentwicklung nachhaltiger und traditioneller Geldanlagen	Meta-Studien	13	5	4	-	4	
	Aktien	55	21	20	1	13	
	Anleihen und Kredite	18	9	1	2	6	
	Fonds	74	11	26	9	28	
	Indizes	11	2	7	-	2	
	Mehrere Assetklassen	7	-	3	1	3	
	Σ (Performanceanalyse im engeren Sinne)	178	48	61	13	56	
	Sonstige**	17	13	1	1	2	
	Σ (Gesamt)	195	61	62	14	58	

Source

- Kleine, J., Krautbauer, M., & Weller, T. (2013) *Nachhaltige Investments aus dem Blick der Wissenschaft: Leistungsversprechen und Realität*, Analysebericht. Research Center for Financial Services der Steinbeis Hochschule Berlin.

3. Performance of Sustainable Investments: Equity

Facts

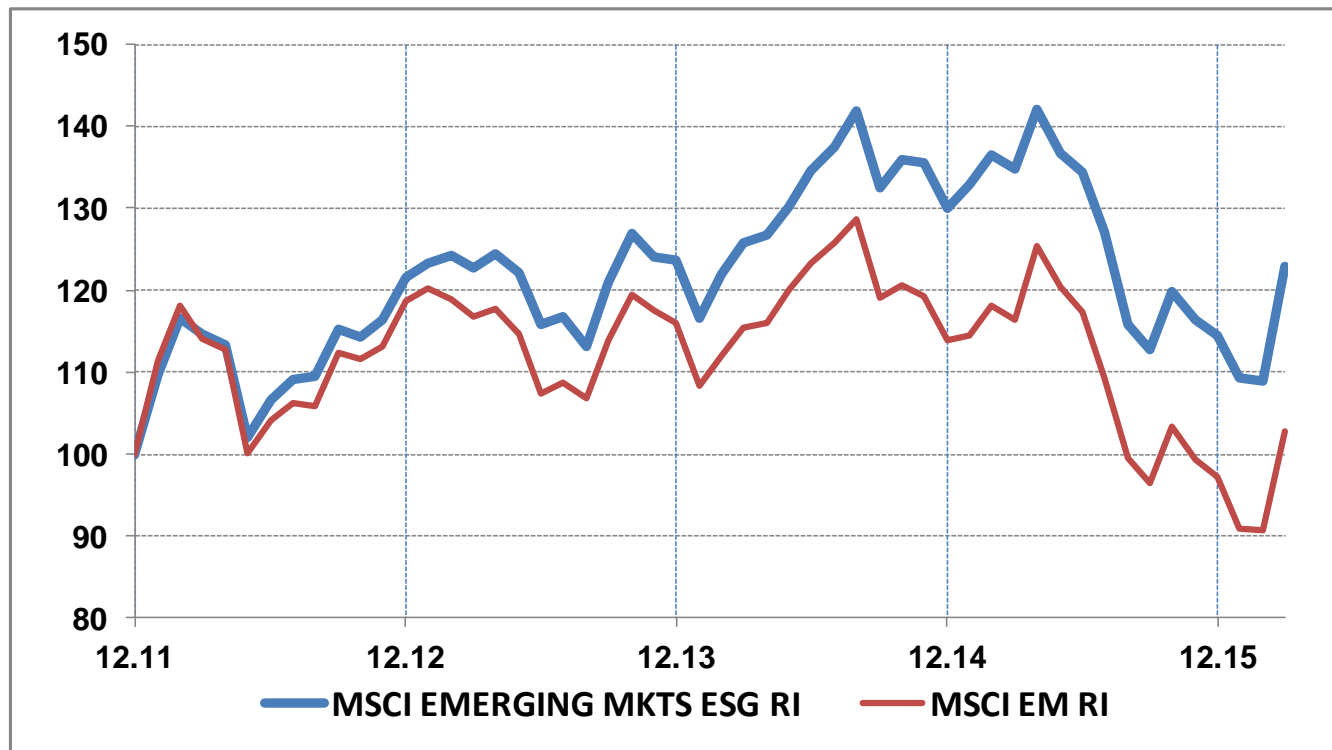
- On average research indicates a positive correlation for sustainable funds (Weber *et al.*, 2010; Morgan Stanley, 2015). Nevertheless, important differences among the different funds (Plinke *et al.*, 2006).
- On a single equity level:
 - ESG analysis serves as a risk management tool that enables investors to identify material ESG issues. Poor management of ESG issues exposes businesses and investors to financial risk through brand/reputational damage, as well as hard law and soft law litigation. ESG enhances long-term, risk-adjusted investment performance (Trunow and Linder, 2015).
 - ESG analysis helps identify market and business opportunities that are developed by companies in their product and service offerings (Trunow and Linder, 2015).

Selected Sources

- Morgan Stanley (2015) *Sustainable Reality: Understanding the Performance of Sustainable Investment Strategies*. Institute for Sustainable Investing.
- Plinke, E., & Knorzer, A. (2006) Sustainable investment and financial performance: Does sustainability compromise the financial performance of companies and investment funds. *Schaltegger, S. and Wagner, M. Managing the Business Case for Sustainability Sheffield: Greenleaf Publishing*, 232-241.
- Trunow, N. A., Linder, J. (2015) *Perspectives on ESG Integration in Equity Investing*. White Paper, Calvert Investments.
- Weber, O., Mansfeld, M., & Schirrmann, E. (2010) The Financial Performance of an SRI Fund-Portfolio in Times of Turmoil. Workshops of the School of Accounting and Finance, Waterloo, ON.

3. Performance of Sustainable Equities: Case 1 Sustainability Adding Value to Emerging Markets Investments

Performance MSCI EM ESG vs. MSCI EM (in USD)



ANNUAL PERFORMANCE (%)

Year	MSCI EM ESG	MSCI EM
2015	-11.99	-14.60
2014	5.20	-1.82
2013	1.63	-2.27
2012	21.64	18.63

Source

- Datastream, MSCI (2015)

3. Performance of Sustainable Equities: Case 2

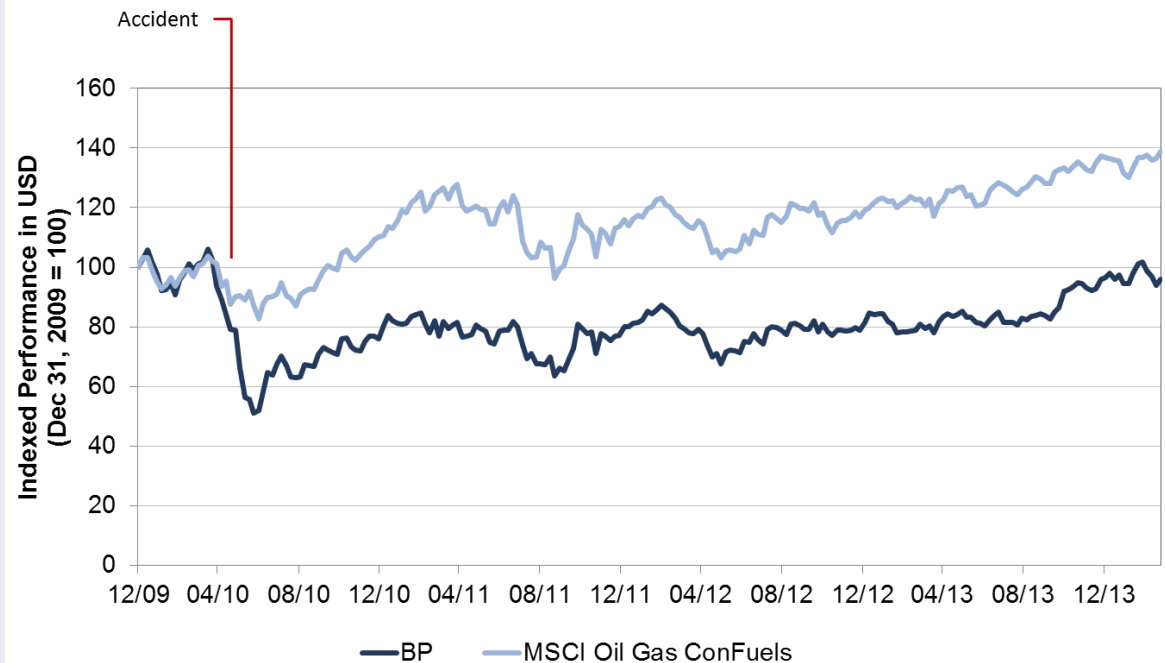
BP suffered underperformance after Deepwater Horizon event

Event

- Accident on the Deepwater Horizon drilling platform on 20 April 2010
- Eleven deaths, seawater polluted with 4.9m barrels of oil

Financial consequences

- USD 26bn in known costs to date, further fines and punitive damages may be imposed
- BP has set aside USD 42bn in reserves (net profit 2012: USD 11bn)
- Share price losses after the accident: around 40%



Sources

- Thomson Reuters, Datastream, (2015)
- Vescore, (2016)

3. Performance of Sustainable Equities: Exclusion Approach

“Even with a strict approach to ESG screening, such as that used by CSI which excludes around 30% of the investable universe on average, as well as entire industries, the resulting opportunity set does not prevent investment portfolios from achieving a fully diversified set of risk factor exposures.” (Trunow and Linder, 2015)

FIGURE 7: PORTFOLIO PERFORMANCE COMPARISON (JUNE 2000 TO DECEMBER 2014)

PORTFOLIO	TOTAL RETURN (Annualized)	VOLATILITY (Annualized)	TRACKING ERROR	INFORMATION RATIO	DOWNSIDE DEVIATION	PAIN INDEX
CSI	3.68%	16.66%	2.97	-0.35	11.92%	19.77%
Optimized CSI	5.24%	15.41%	1.50	0.34	10.91%	13.29%
Size-Constrained Optimized CSI	4.83%	15.41%	1.61	0.06	10.94%	14.46%
Russell 1000 Index (Benchmark)	4.72%	15.48%			11.07%	15.27%

Source: Style Advisor, MSCI BARRA, Calvert Research

Volatility: Annualized standard deviation of returns, measures portfolio risk

Tracking Error: Annualized standard deviation of excess (active) returns, indicates how closely performance tracks a benchmark

Information Ratio: Ratio of excess returns to the volatility of excess returns (tracking error), measures risk-adjusted performance

Downside Deviation: Annualized standard deviation of negative returns only, measures downside risk

Pain Index: Mean value of drawdowns over the entire analysis period, downside risk measure that captures the depth, duration, and frequency of loss periods
(see <http://www.styleadvisor.com/content/pain-index>)

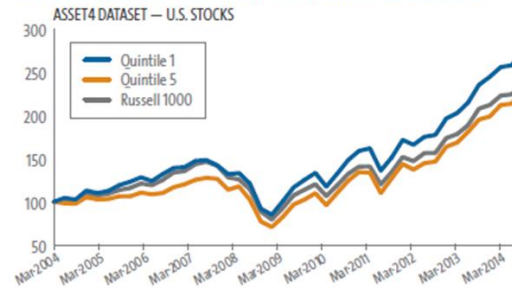
Source

- Trunow, N. A., Linder, J. (2015) *Perspectives on ESG Integration in Equity Investing*. White Paper, Calvert Investments.

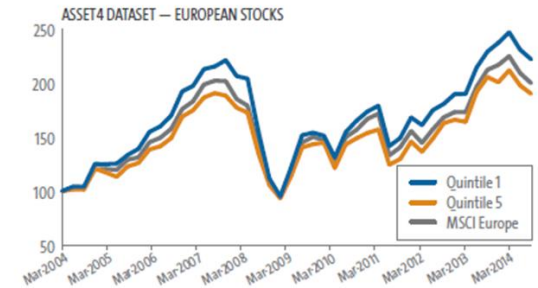
3. Performance of Sustainable Equities: ESG Momentum

“Portfolios consisting of companies showing the greatest improvement in their ESG profiles outperform both comparable broad market indices and portfolios made up of companies with deteriorating ESG profiles. This finding is consistent across datasets and regions. The strong performance by companies with the largest improvement in their ESG scores may reflect investors’ willingness to reward companies showing progress in managing ESG risks and opportunities.” (Trunow and Linder, 2015)

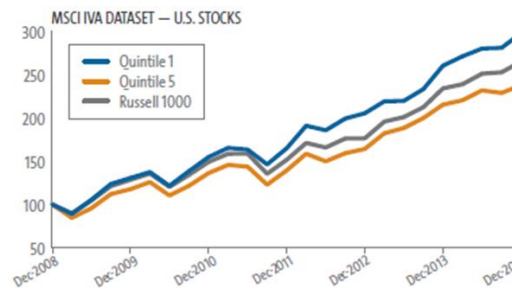
FIGURE 9: SIMULATED PERFORMANCE OF ESG MOMENTUM FACTOR



PORTFOLIO (ASSET4, U.S. STOCKS)	CUMULATIVE TOTAL RETURN	ANNUALIZED TOTAL RETURN
Quintile 1 (Improving ESG score)	172.26%	9.76%
Quintile 5 (Deteriorating ESG score)	126.96%	7.92%
Russell 1000 Index	135.16%	8.28%



PORTFOLIO (ASSET4, EUROPEAN STOCKS)	CUMULATIVE TOTAL RETURN	ANNUALIZED TOTAL RETURN
Quintile 1 (Improving ESG score)	121.92%	7.70%
Quintile 5 (Deteriorating ESG score)	89.99%	6.15%
MSCI Europe Index	99.86%	6.65%



PORTFOLIO (MSCI IVA, U.S. BACKTEST)	CUMULATIVE TOTAL RETURN	ANNUALIZED TOTAL RETURN
Quintile 1 (Improving ESG score)	198.00%	19.96%
Quintile 5 (Deteriorating ESG score)	137.75%	15.53%
Russell 1000 Index	165.11%	17.64%



PORTFOLIO (MSCI IVA, EUROPE BACKTEST)	CUMULATIVE TOTAL RETURN	ANNUALIZED TOTAL RETURN
Quintile 1 (Improving ESG score)	104.57%	12.67%
Quintile 5 (Deteriorating ESG score)	37.40%	5.44%
MSCI Europe Index	82.35%	10.53%

Source

- Trunow, N. A., Linder, J. (2015) *Perspectives on ESG Integration in Equity Investing*. White Paper, Calvert Investments.

4. Performance of Sustainable Investments: Corporate Bonds

Facts

- Evidence that ESG factors are correlated with credit quality (UN PRI, 2013).
 - «A study of bonds issued by 582 US corporations between 1996 and 2005 found that firms with environmental concerns and poor environmental management had a higher cost of debt, lower bond ratings and lower issuer ratings» (Bauer and Hann, 2011) .
 - “Lenders charge on average 20 percent higher interest rates to companies which manage environmental risks poorly compared to those where environmental concerns are offset with environmental ‘strengths’, according to a study of US firms between 1995 and 2007 (Chava, 2011) .

Selected Sources

- Bauer, R. and Hann, D., (2011) *Corporate Environmental Management and Credit Risk*, Working Paper, Maastricht University
- Chava, S., (2011) *Environmental Externalities and Cost of Capital*, Working Paper, Georgia Institute of Technology
- UN PRI, (2013) *Corporate Bonds: Spotlight on ESG Risks*.

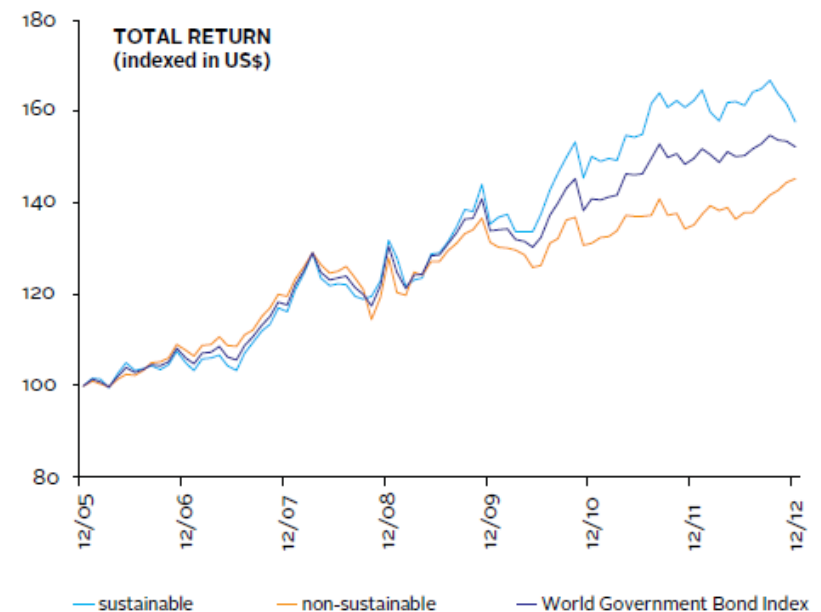
4. Performance of Sustainable investments: Sovereign Bonds

Facts

- Corruption as one of the key social factors of ESG. Tax avoidance and false financial statements on a massive scale undermine nations' credit strength and mislead investors. Academic research show that corruption and sovereign debt performance are clearly correlated. (UN PRI, 2013)
- «Research shows little correlation to date between environmental issues and bond performance. One of the biggest problems is agreeing on which indicators should be used to measure environmental risks in the context of sovereign fixed income.» (UNPRI, 2013)

Figure 6: Market-weighted performance of sovereign bonds from sustainable and non-sustainable industrialised countries.

Source: Sarasin, Datastream.



Source

- UN PRI, (2013) *Sovereign Bonds: Spotlight on ESG Risks*.

5. Investments for Development: Target Return and Characteristics

Facts

- Average of 4.5% target return
- Investments correlate only marginally with global equity and bond markets
- Contribution to economic development in developing and emerging markets.

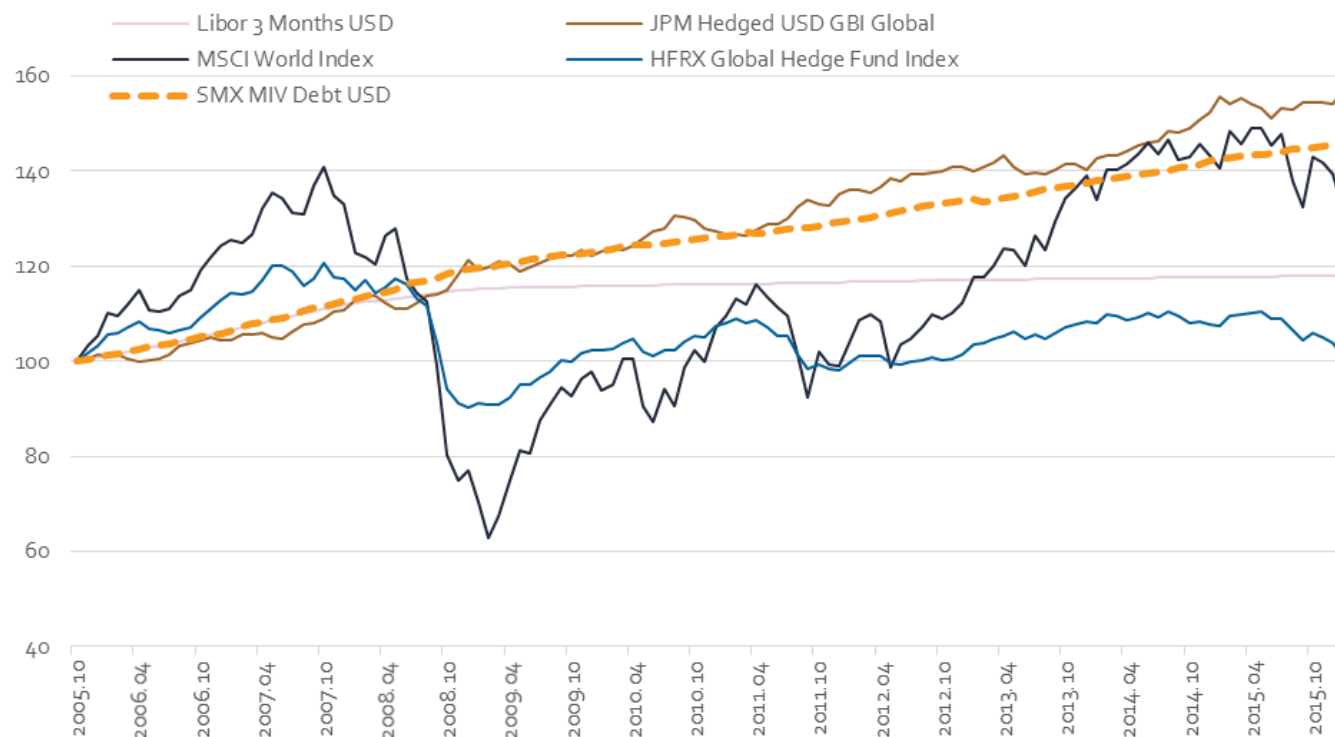


Source

- Swiss Sustainable Finance, (2016) *Investments for a Better World. The First Market Survey on Investments for Development*.

5. Microfinance Investments: Performance and Correlations

Cumulative returns of microfinance vs. other asset classes over the last 10 years¹⁾



Correlations between various asset classes and microfinance index

Cash	0.57
Bonds	0.02
MSCI World	-0.09
Hedge funds	-0.13

1) As of 31.12.2015 based on monthly returns in USD

Source

- Symbiotics, (2016)

6. Performance of Sustainable Investments: Real Estate

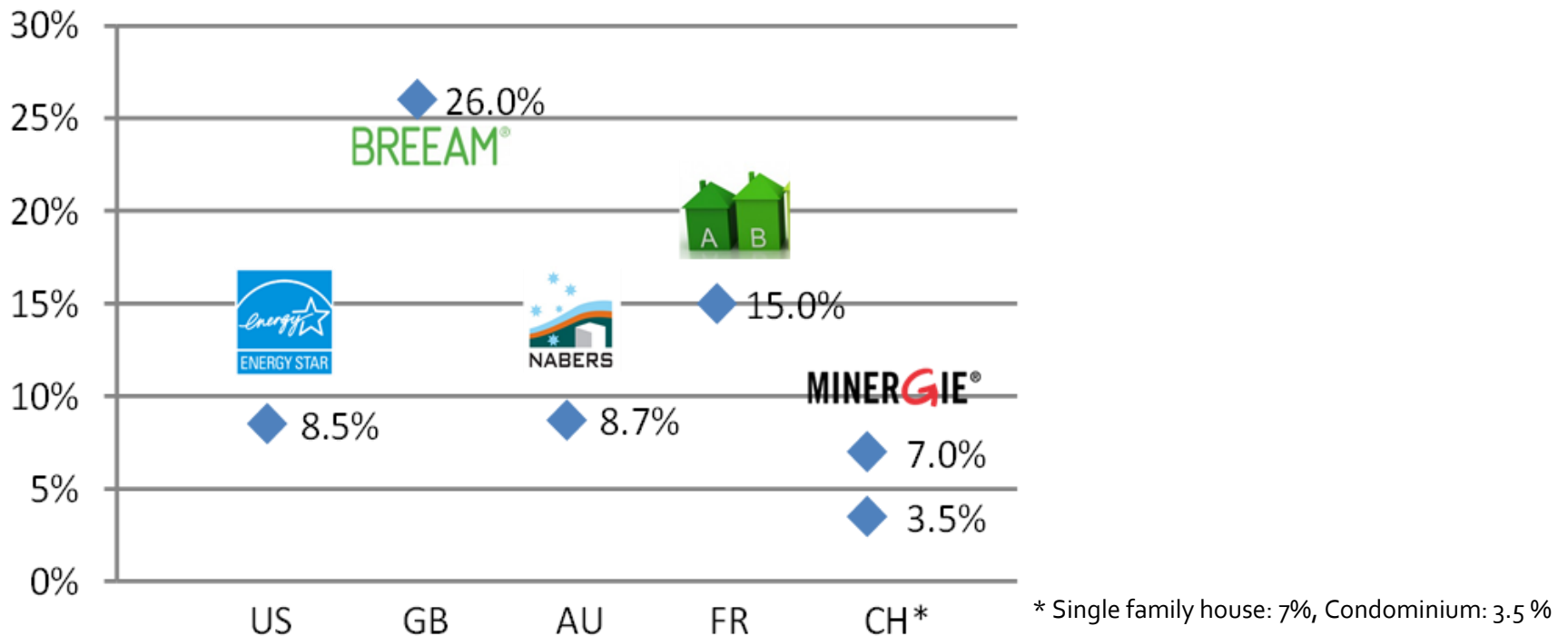
Facts

- «Commercial buildings with energy efficiency ratings command significantly higher rents, higher and more stable occupancy rates, and higher prices than otherwise comparable conventional buildings» (Eichholtz *et al.*, 2010; Bauer *et al.*, 2011)
- Real estate investment portfolios are positively related to operating performance (Eichholtz *et al.*, 2012; UN PRI, 2012).
- «Increase in the share of «green» properties in real estate investment portfolios by one percent, increases return on equity significantly by 4.3 to 5.5 percent for LEED-certified properties.» (Eichholtz *et al.*, 2012)
- «On the whole, evidence from the US, the Netherlands and Singapore has begun to demonstrate a convincing case that the financial performance of certified office buildings is superior to that of non-certified properties.» (UN PRI, 2012)

Selected Sources

- Bauer, R., Eichholtz, P., Kok, N., & Quigley, J. M. (2011) *How green is your property portfolio? The global real estate sustainability benchmark*. Rotman International Journal of Pension Management, 4(1), 34-43.
- Eichholtz, P., Kok, N., & Quigley, J. M. (2010) *Doing well by doing good? Green office buildings*. The American Economic Review, 100(5), 2492-2509.
- Eichholtz, P., Kok, N., & Yonder, E. (2012) *Portfolio greenness and the financial performance of REITs*. Journal of International Money and Finance, 31(7), 1911-1929.
- UN PRI, (2012) *The environmental and financial performance of buildings – A review of the literature*.

6. Performance of Sustainable Real Estate Investments: Case 1 Price Premium of Sustainable Compared to 'Traditional' Real Estate



Source

- J. Safra Sarasin, (2015) ; based on:
 - Chegut, A., Eichholtz, P., Kok, N., & Quigley, J. M. (2011) *The value of green buildings: new evidence from the United Kingdom*. ERES 2010 Proceedings.
 - Pivo, G., & Fisher, J. (2010) *Income, value, and returns in socially responsible office properties*. Journal of Real Estate Research.

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We are interested in your feedback and business cases for sustainable investing.

Please contact us if you have:

- Case studies for other asset classes
- Swiss case studies