Resource Efficiency: An economic rationale to sustainability

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Research paper summary

The research paper asks a question that is fundamental to Osmosis' approach to sustainable investing: Do companies that use less scarce environmental resources to produce more economic value – i.e., are more resource efficient – generate greater shareholder value?

Resource Efficiency, based on Osmosis' proprietary database, measures carbon emitted, water consumed, and waste generated by companies in order to produce one unit of revenue.

The data is collected in-house by a specialist team of environmental analysts and is interpreted through the lens of sector-specific economic frameworks that link the corporate environmental footprints back to the operational processes of companies.

The key findings of the research paper are the following:

<u>Data sample</u>

1. Companies that disclose their environmental data are more likely to be from Europe and Asia-Pacific, compared to North America, and tend to be larger in size, more profitable, have lower asset growth, and more fixed assets.

2. The Resource Efficiency scores derived from the environmental data are uncorrelated to ESG scores. The data collection and validation, economic frameworks, and focus on three attributes of environmental sustainability generate different insights to those of publicly available ESG data.

<u>Financial performance</u>

3. We construct portfolios by ranking companies in each sector of the MSCI World Index based on their Resource Efficiency score. A portfolio of the most resource efficient stocks in each sector outperforms a portfolio of the most resource intensive stocks from the end of 2005 to the end of 2020.

4. Resource Efficiency is positively associated with desirable financial characteristics. More resource efficient companies have, on average, significantly higher future firm value, gross profits, and free cash flow, as well as lower leverage. They also invest more in Research and Development.

5. Controlling for exposures to common financial characteristics, the portfolio of resource efficient stocks delivers significant alpha over a portfolio of resource inefficient stocks. Exposure to the market, size, profitability, investment, or value biases are unable to fully

explain the outperformance. Resource Efficiency derives compensation in excess of traditional return drivers.

6. The results cannot be replicated by constructing portfolios based on the Carbon Efficiency, Water Efficiency, or Waste Efficiency subcomponents alone. The combined Resource Efficiency score provides a more stable signal leading to smoothed outperformance of the efficient portfolio over the inefficient portfolio.

<u>Environmental impact</u>

7. The resource efficient portfolio has, on average, a 75-95% lower environmental footprint than the MSCI World Index between the end of 2005 and 2020. The resource intensive portfolio is, on average, between 120-145% more intensive than the benchmark.

Our analysis controls for sector- and time-specific effects besides other company characteristics that could explain the results. The findings are robust to alternative specifications, such as subperiod and return weighting variations, as well.

The analysis allows us to conclude that Resource Efficiency is an independent source of return. Combined with the direct sustainable impact of a significantly reduced environmental footprint, resource efficient firms deliver value to both shareholders and society.

IMPORTANT INFORMATION