

**MacroPlus  
Comment**

**Survival of the fittest**

- *Smart firms always seek competitive advantage*
- *One important area involves efficiency in the use of material inputs*
- *Efficiency in resource use may signal ambition to secure competitive advantage more widely*
- *Energy, water, and waste efficiency can be measured, permitting comparisons within sectors*
- *Firms that are efficient in this way outperform financially*

**Enhancing competitiveness**

Smart firms always seek competitive advantages

Notwithstanding the current disinclination of many western companies to invest in capacity expansion because of poor demand expectations, and the resulting piles of cash that they are sitting on, smart firms continue to seek competitive advantage wherever possible.

Moreover, real commodity prices in aggregate have risen from a multi-year low in 2000 to over twice their previous long-term average, to levels last seen in the 1970s.<sup>1</sup> Hence the ever-present economic imperative for resource efficiency, including importantly material inputs, has strengthened.

Resource efficiency indicates enhanced competitiveness

Of course the enterprising firm seeks to economise, not only on the use of material inputs – a cost saving is a cost saving, wherever it occurs. But higher commodity prices certainly provide a major incentive to focus on resource use, and in so doing present an area of opportunity for the intelligent firm. Hence, while resource efficiency is not the only goal for businesses, it is a potentially interesting metric, not least because progress in increasing resource efficiency can be a suggestive indicator that a company is taking steps to enhance its competitive advantage more generally.

Various methods drive efficiency

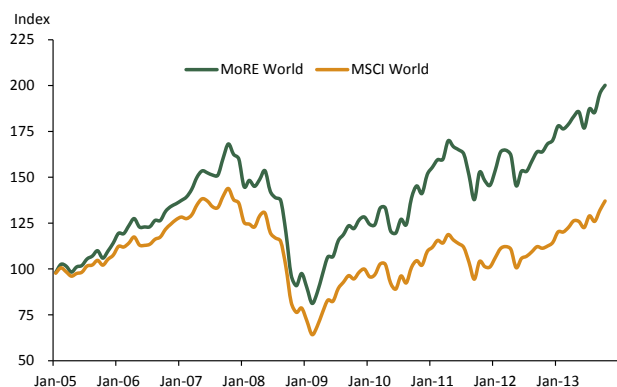
There are numerous approaches to economising on resource-use and minimising waste. Typical methods include: energy efficiency investments; technology development; product research and development; regulatory standards compliance; and employee engagement. At the Board level such approaches are suggestive of a pro-active attitude on the part of senior managers and a willingness to embrace new ideas, innovation, and hence willingness to take risks. This management style is often combined with a preparedness both to invest in new technologies, and to develop new, occasionally ground-breaking, methods and processes.

**Crunching the numbers**

Resource efficiency is best compared within sectors

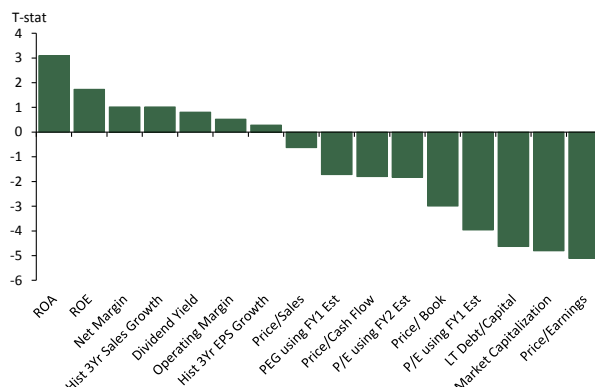
Clearly, it is not possible to construct a meaningful measure of resource-use *across* sectors, because different types of activity require different quantities and mixes of inputs: aluminium smelting is more energy-intensive than is brewing; brewing is more water-intensive than is automobile manufacturing; and so on. Nevertheless, it should in principle be possible to make

Figure 1: MoRE World versus MSCI World (performance)



Source: Osmosis Investment Management LLP and Bloomberg  
Notes: Pre-August 2011 based on back-tested data, net of dividends.  
MoRE: Model of Resource Efficiency.

Figure 2: MoRE World versus MSCI World (investment characteristics)



Source: Osmosis Investment Management LLP and FactSet  
Notes: Welches Portfolio Characteristics T-Test; MoRE World Developed Equity vs. MXWO to end-June 2013.

comparisons *within* sectors, provided that they are defined sufficiently narrowly.

Osmosis scores firms' resource efficiency

One procedure along such lines has been developed by Osmosis Investment Management, who analyse three areas: energy use; water use; and waste. Resource-use data are collected from audited information disclosed by companies, as well as information otherwise publically disclosed.<sup>2</sup> The energy, water, and waste figures are expressed relative to revenue; weighted (equally); and aggregated. 'Efficiency scores' are then calculated, by dividing firms' revenue figures by those for resource-use and waste production.

A handful of firms create more from less ...

While 'efficiency scores' thus calculated permit comparisons of relative resource efficiency only *within* a sector, the dispersion of resource efficiency scores across firms shows similar characteristics across all 33 non-financial<sup>3</sup> global sectors<sup>4</sup> analysed. Three groups can usually be identified:

- **Group 1.** A small number of firms in each sector which 'create more from less'
- **Group 2.** The majority, which exhibit a 'broadly similar draw on resources'
- **Group 3.** A small number that generate 'less from more'

### Financial out-performance

... these resource-efficient firms outperform

Interestingly, the most resource-efficient (Group 1) firms identified in this way tend to outperform financially – relative to, for example, the MSCI World index: see Figure 1 (those concerned with the environment can take pleasure from the fact that companies which are able to create greater value from less resource are apparently being rewarded in the market).

Osmosis weights the identified companies by asset multiple to construct an investable index.

Resource-efficient firms share similar characteristics

It is also striking that firms with higher efficiency scores tend to display consistent investment characteristics (Figure 2) relative to firms that make up MSCI World. Osmosis' top-decile firms by sector tend to exhibit:

- Higher return on assets (ROA);
- Higher return on equity (ROE); and
- Higher net margins.

The explanation presumably is that firms that achieve higher ROA and ROE invest in newer and better technology, and can manage change processes more efficiently. Such firms can generate and exploit synergies between their innovation and sustainability activities.

### Finding asymmetry

Resource efficiency is not a symmetric indicator

Another feature of the data is that the resource efficiency indicator is not symmetric: the characteristics of highly resource-efficient companies in Group 1 are not 'mirrored in the inverse' by the less resource-efficient companies in Group 3. There seem to be various reasons for this. Companies in Group 3 are often: subsidised by the state; sell in non-competitive markets; and/or are natural monopolies. In sum: other characteristics are often at play.

### Picking firms

The evidence thus suggests that firms with dynamic management who put effort into better understanding the use of materials and waste production, and then economise, get rewarded in financial markets – not primarily because they are being green, but because they extract the greatest value from the resources they use. ■

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<sup>1</sup> Jacks, D.S., 2013. "From Boom to Bust: A Typology of Real Commodity Prices in the Long Run." NBER Working Paper, 18874.

<sup>2</sup> There is no international standard for provision of these types of information so the data have to be standardised before meaningful comparisons can be made.

<sup>3</sup> Financials are excluded as resource-use is not material in these sectors.

<sup>4</sup> ICB sector classifications.