



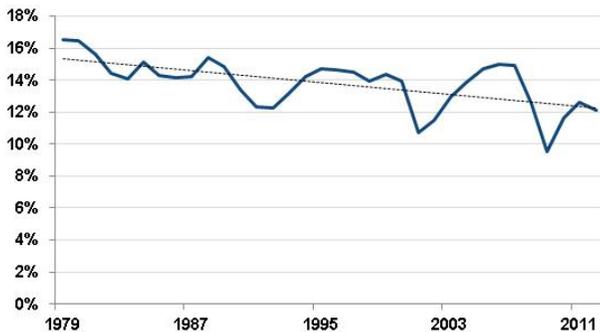
Inside Return on Equity

STEPHANIE JONES, CPA
JUNE 2013

If you had to bet on whether companies have become more or less efficient at employing owners' capital over the last 30 years, which side would you take? Over that period, technology has improved productivity and efficiency in countless areas, from automation of factories to information sharing across global organizations. And yet, surprisingly, returns to shareholders in terms of return on equity have actually declined.

Return on Equity (ROE) is the most common measure of financial return to owners, so we used that metric as our yardstick. You can see from exhibit #1 below that ROE for the median Russell 1000 company has decreased from around 14-16% in the 1980s to 12-14% in the 1990s. ROE was volatile in the 2000s but still continued on its general downward trend, reaching a low point of 9.6% in 2009. Post recession,

**Exhibit #1 Return on Equity
Median for R1000 Companies**



ROE has rebounded to just over 12%.

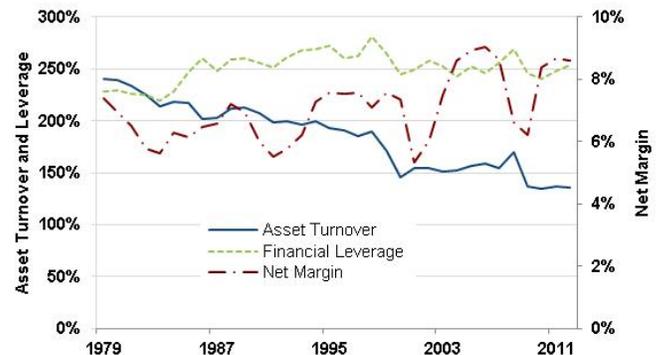
Return on Equity (ROE) is most simply calculated as net income divided by shareholders equity. In order to determine what is behind the long term decline in ROE, we broke the measure down further into its three main levers - profit margin, asset turnover, and financial leverage,

$$\begin{aligned}
 \text{ROE} &= \text{Profit Margin} \times \text{Asset Turnover} \times \text{Financial Leverage} \\
 &= \frac{\text{Net Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}
 \end{aligned}$$

which are illustrated through the following Dupont decomposition;

Exhibit #2 shows the changes in these three levers since 1979:

**Exhibit #2 ROE Decomposition
Median for R1000 Companies**



Profit Margin: Net margin (red line) has increased slightly over the time period, but with a good deal of variability, as would be expected given the many non-operating elements (e.g., interest, taxes) included in this bottom line measure. Over the last few years, net margin has risen as companies have cut costs to achieve margin expansion in a low growth environment.

Leverage: Financial leverage (green line) stayed fairly constant over the 30 year period, with peaks in 1999 and 2008. Note this look at leverage incorporates all liabilities, not just debt. ROE can be distorted by the effects of leverage. A company with relatively high levels of debt will look relatively better on ROE than its more conservative peers.

Asset Turnover: The asset turnover ratio (blue line) looks at the sales generated per dollar of assets. Asset turnover has declined significantly over the 30 year period, from around 240% to about 135%. Asset turnover is a measure of capital intensity, the lower the asset turnover ratio, the more capital intensive is the business. At first glance, the decrease in asset turnover over time seems puzzling due to the shrinkage in the heavy industrial complex and increase in automation. Property, Plant and Equipment as a percent of total assets did indeed shrink, as expected, dropping from about 36% to 15%. But over this time period one

(Continued on page 2)

Inside Return On Equity

(Continued from page 1)

category of assets - intangible assets - expanded in significance even more than PP&E decreased.

Intangible assets include items such as patents, copyrights, and trademarks, but the biggest component is goodwill. Exhibit #3 below shows that over the period from 1985 to the present, intangibles grew from less than 1% of total assets to 15% of total assets. This ballooning of intangibles on the balance sheet was largely due to a change in accounting method in 2001, namely the elimination of the pooling-of-interests method for business combinations. Thereafter, all combinations had to be accounted for using the purchase method. Under purchase accounting, assets acquired are recorded at fair market value, with the purchase price in excess of the fair value of assets recorded as goodwill. That goodwill must then be assessed regularly to determine if the value has been impaired, with any impairment charged to current earnings. Under the previously used pooling-of-interests approach, no goodwill was recorded as the assets of the two companies were simply added together.

This increase in intangible assets, primarily goodwill, over the past 30 years explains why assets grew at a faster rate than sales, and why asset turnover declined. The decline in asset turnover was able to overpower the increases in net margin, resulting in a lower Return on Equity.

John Maynard Keynes is quoted as saying, “when the facts change, I change my mind.” In the investment industry we are conditioned to not change our process or how we interpret data. But sometimes the facts do change, as in the case of the inputs of return on equity. While return on equity remained a useful measure of financial performance, an accounting change had made a meaningful impact on how it was measured, and impacted comparability across time and in relation to peers. The lesson learned is that understanding the facts below the surface of metrics is important to understanding their implications. Additionally, it is important to not become too dependent on a single metric in isolation. Rather, each data input is a piece of the overall attractiveness of a company.

**Exhibit #3 PP&E and Intangibles (incl Goodwill)
Median for R1000 Companies**

