

VERTICAL INTEGRATION AND VALUATION OF INTERNATIONAL OIL COMPANIES

Bård Misund, University of Stavanger, N-4036 Stavanger, Norway,

Phone: +47 41681729, email: bard.misund@uis.no

Petter Osmundsen, University of Stavanger, N-4036 Stavanger, Norway,

email: petter.osmundsen@uis.no

Marius Sikveland, University of Stavanger, N-4036 Stavanger, Norway,

email: marius.sikveland@uis.no

Overview

This paper studies financial statement information from the 50 largest international oil and gas companies during 1992 to 2011 and evaluates their relation to market values. In particular, we examine how this relationship is affected by vertical integration. This is an important topic since the literature advocates that an important characteristic of financial statements, and particular earnings, is the usefulness for predicting future cash flows (see e.g. Lev, 1989) and therefore valuation. Knowledge about the relationship between financial information and market valuation is therefore important for investors and financial analysts. However, the literature suggests that the accounting information-market value relationship may be affected by corporate integration. For instance, mergers can lead to a reduced quality of earnings (Hayn, 1995; Elliott & Hanna, 1996; Basu, 1997), thereby affecting the relevance for forecasting future cash flows. The value relevance of the other type of corporate integration, vertical integration, has not been as far as we have been able to find out, been studied in recent history. We find a targeted oil industry study relevant as the oil industry consists of both vertically integrated and pure upstream companies. This allows us to study how the valuation process differs between these two types of companies.

Method

We apply the Ohlson (1995) model as the basis for studying the value relevance of accounting information. This model describes how market value is related to abnormal earnings, book value, and other information. This can be written as:

$$(1) \quad MVE_t = BV_t + \alpha_1 NI_t^a + \alpha_2 v_t,$$

where MVE is the market value of equity, BV is the book value of equity, NI^a is abnormal earnings and v is a vector of other value relevant information (we use total oil and gas reserves, R , as a proxy). Based on Eq. (1), we use the following econometric model

$$(2) \quad MVE_{it} = \beta_0 + \beta_1 INT + \beta_2 BV_{it} + \beta_3 BV_{it} \times INT + \beta_4 NI_{it} + \beta_5 NI_{it} \times INT \\ + \beta_8 R_{it} + \beta_9 R_{it} \times INT + \varepsilon_t$$

To capture the difference between upstream and integrated companies, we include a dummy variable, INT, in our model. The dummy variable INT is 1 for integrated companies and 0 for upstream companies. If the coefficients on the interaction terms are statistically significant, this indicates a different value relevance of the performance measures among integrated and upstream E&Ps.

Results

We find that the value relevance book value is significantly lower for integrated companies than for pure upstream companies. We also find that the value relevance of oil and gas reserves is different for upstream and integrated companies.

Conclusions

Our findings are relevant for many users of financial information including oil companies, financial analysts, investors and financial accounting standard setters. The results from our study suggests that care should be taken when using financial information when comparing integrated oil companies ('the majors') and upstream oil and gas companies ('E&P'). For instance, a common way of comparing the valuation of companies is to use valuation ratios, e.g. price-to-earnings. Since our study shows that the relationship between accounting data and market value is different for E&P companies and integrated companies, the implication is that these types of valuation ratios have limited usefulness for comparing the valuations of these two types of oil companies.

References

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