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Financial statement data in assessing the future potential of a technology firm: The case of Nokia

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Abstract

The paper introduces a financial statement method to assess the future potential of a firm. First, the last strategic steady phase is identified. Second, growth rate for total expenditure is estimated (*growth process*). Third, the revenue generating potential of total expenditure is evaluated by a distributed lag function (*revenue-generating process*). This function is used to recalculate expenses and assets using alternative depreciation theories. Third, financial behavior is modeled by analyzing financial assets, taxation, interest expenses and revenues, and dividends (*financial process*). Fourth, these processes are used to assess the future potential. The method is illustrated by the case of Nokia for the period 1990–2000.

JEL classification: M Business administration and business economics marketing; Accounting; M4 Accounting; M41 Accounting
Keywords: Future potential; Technology firm; Financial statement analysis; Long-term analysis; Time series analysis; Nokia

1. Introduction

There are forces that fundamentally reshape the economic and business world in a way that diminishes the value of financial information in assessing the future potential of business firms in general (see Johanson, Martenson, & Skoog, 2001). Nowadays, the only sustainable competitive advantage that can be truly achieved is based on intangible assets that cannot be identified on the conventional financial balance sheet. Hence, this balance sheet is very limited in its ability to assess the future potential of firms. The usefulness of such traditional financial

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information is questionable, especially in technology firms that invest heavily in intangible assets, such as R&D, information technology, and human resources. Lev and Zarowin (1999) have shown, using COMPUSTAT firms, that there was a weakening of returns–earnings, returns–cash flow, and price–earnings–book value relationships during the period 1978–1996. This weakening of relationships refers to a notable loss of value relevance of financial information. Lev and Zarowin (1999, p. 354) focused their analysis on intangible investments as a major reason for the decline in information usefulness:

> "We argue that it is in the accounting for intangibles that the present system fails most seriously to reflect enterprise value and performance, mainly due to the mismatching of costs with revenues."

They argue that intangible investments should be capitalized and that past financial reports should be systematically restated to eliminate potential over- and undervaluation in the balance sheet. *The main idea of this study is to show that such capitalizations and restatements of financial statements can be made using financial statement information itself.* However, to do this, an approach based on a long-term analysis of financial statements is required.

The purpose of the present approach is thus to assess the future potential of the firm solely on the basis of financial statement information. Table 1 presents a classification of prior approaches to assess the future potential of a firm. These approaches are divided into two main classes on the basis of whether they are based on financial statement information. The first main class includes four approaches that are not solely based on such information. The first of these approaches is based on employees as a source of future potential while the second approach refers to the technology of the firm. These approaches can respectively be called *human resource accounting* (Gröjer & Johanson, 1998) and *technology balance sheet* (Hartmann, 1999). The interest in the third approach, i.e. *intangible assets evaluation*, has grown rapidly in numerous fields, including economics, accounting, and management (Johanson et al., 2001, p. 715). This approach also includes such analyses as intellectual capital statements (see Mouritsen, Larsen, Bukh, & Johansen, 2001; Bukh, Larsen, & Mouritsen, 2001). The last approach, *the Balanced Scorecard*, was introduced by Kaplan and Norton (1992) to pay attention to four performance perspectives in the firm, the financial perspective being only one of them. This approach takes account of intangibles to assess the future potential (see Bontis, Dragonetti, Jaxcobsen, & Roos, 2001; Moore, Rowe, & Widener, 2001).

The second main class of approaches includes methodologies based on financial statement information. The first approach is to associate *traditional financial statement analysis with strategic analysis* assessing the competitive environment and strategy of the firm (see Brown, 1998; Stickney & Brown, 1999). The second approach can be called *systematic fundamental analysis*. It tries to find a relationship between financial ratios and the future potential. Nissim and Penman (2001), for example, present such an approach, a pro forma analysis that is purposed to forecast the future value of the firm by the help of an extended profitability analysis and growth (see also Penman, 2001). The third approach develops new and better *financial measures* to assess the future potential. For example, Bacidore, Boquist, Milbourn, and Thakor (1997) present REVA (Redefined EVA), an extension of EVA, to predict the value of the firm. REVA is based on the return on the market value of the firm, instead of the book value used in EVA. The fourth approach is based on *adjusting financial statements* to take account of intangibles and comparable items in potential assessment. The study by Lev and Zarowin (1999) on the capitalization of intangibles and the restatement of financial statements belongs to this sub-class. The fifth approach adds complementary information to give *additional information*