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## A Diagnostic for Earnings Management Using Changes in Asset Turnover and Profit Margin\*

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# A Diagnostic for Earnings Management Using Changes in Asset Turnover and Profit Margin\*

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## 1. Introduction

Identifying earnings management is important for financial statement users to assess current economic performance, to predict future profitability, and to determine firm value. However, it is often difficult and time-consuming to identify earnings management, especially in generic settings where an obvious incentive to manage earnings is absent. While academic research has used numerous proxies for (or diagnostics of) earnings management, most recent studies use accruals models to decompose total accruals into a normal, economics-driven component and an abnormal, earnings management component.<sup>1</sup> McNichols (2000) points out, however, that there is limited theory about how accruals should behave in the absence of discretion, and Fields, Lys, and Vincent (2001) argue that the use of existing accruals models may lead to serious inference problems.

In DuPont analysis, a firm's return on assets is decomposed into asset turnover (ATO, the ratio of sales to net operating assets) and profit margin (PM, the ratio of operating income to sales), and financial statement analysis textbooks broadly advocate making this decomposition when investigating profitability and changes in profitability (see, e.g., White, Sondhi, and Fried 2003; Palepu, Bernard, and Healy 2004; Penman 2007; Stickney, Brown, and Wahlen 2004; Lundholm and Sloan 2004). In this study, we propose a simple diagnostic of earnings management that relies on the widely held notion underlying DuPont analysis that sales is a fundamental driver of a firm's investment and income, and that net operating assets on the balance sheet and net operating income on the income statement should vary directly with sales. In other words, *changes* in ATO or PM warrant further investigation in quality of earnings analyses. Moreover, we note that changes in ATO and PM *in opposite directions* could signal earnings management. We base this observation on the articulation of the income statement and balance sheet, which ensures that earnings management affects operating income and net operating assets in the same direction, and thus causes ATO and PM to move in opposite directions. For example, for a given level of sales, if a firm manages earnings upward by understating bad debt expense, both net income relative to sales and the net realizable value of accounts receivable relative

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1. See, for example, Healy 1985; DeAngelo 1986; Jones 1991; Dechow, Richardson, and Tuna 2003; and Kothari, Leone, and Wasley 2005.

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