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Journal of Accounting and Economics

journal homepage: www.elsevier.com/locate/jae

Accounting earnings and gross domestic product [☆] [☆]

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ARTICLE INFO

Article history:

Received 6 March 2012
 Received in revised form
 11 October 2013
 Accepted 16 October 2013
 Available online 24 October 2013

JEL classification:

E00
 E01
 M41

Keywords:

Accounting earnings
 Corporate profits
 Gross Domestic Product (GDP)

ABSTRACT

We document that aggregate accounting earnings growth is an incrementally significant leading indicator of growth in nominal Gross Domestic Product (GDP). Professional macro forecasters, however, do not fully incorporate the predictive content embedded in publicly available accounting earnings data. As a result, future nominal GDP growth forecast errors are predictable based on accounting earnings data that are available to professional macro forecasters in real time.

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1. Introduction

While a large body of accounting research provides evidence on the informational role of accounting data at the firm level (see, e.g., [Beaver \(1998\)](#) and [Kothari \(2001\)](#) for reviews of related literature), the link between accounting earnings and the macroeconomy remains relatively unexplored. This study investigates the informativeness of accounting earnings for growth in Gross Domestic Product (GDP).

GDP is the key summary statistic of economic activity (e.g., [Bureau of Economic Analysis, 2007](#)) and the most important variable in analyses of economic growth (e.g., [Henderson et al., 2012](#)). It is used by the White House and Congress to prepare the Federal Budget, by the Federal Reserve to formulate monetary policy, by Wall Street as an indicator of economic activity, and by the business community as a key input for production, investment, and employment decisions. In research on forecasting GDP growth, a central finding is that professional macro forecasters outperform time-series models (e.g., [Zarnowitz and Braun, 1993](#); [Stark, 2010](#)). However, by and large macroeconomics research has evolved independently from accounting research, which is typically conducted at the firm level, and thus there is a dearth of evidence on the informativeness of accounting earnings for GDP growth.

^{☆☆} We thank David Aboody, Eli Bartov, Severin Borenstein, John Core, Patricia Dechow, Sunil Dutta, William Greene, Michelle Hall, John Hughes, Scott Joslin, April Klein, Reut Laufer, Bruce Miller, Topseht Nonam, Bugra Ozel, George Patatoukas, Joshua Ronen, Andy Rose, Richard Sloan, Brett Trueman, Kenneth West, Paul Zarowin, an anonymous reviewer, and seminar participants at New York University, University of California at Berkeley, and University of California at Los Angeles for helpful comments and suggestions. We received helpful information from the helpdesks of the Bureau of Economic Analysis, the Federal Reserve Bank of Philadelphia, the Research Division of the Federal Reserve Bank of St. Louis, and the Standard & Poor's Capital IQ. We are grateful for the financial support of the Center for Financial Reporting & Management, University of California at Berkeley

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One way to measure GDP is to use the income approach, which sums corporate profits, employee compensation, and taxes on production and imports. When the U.S. Bureau of Economic Analysis (BEA) measures GDP using this approach, it relies on annual tabulations of corporate income tax returns prepared by the Internal Revenue Service (IRS) as the primary source of information on corporate profits. An alternative way to measure corporate profits is to use accounting earnings data prepared according to Generally Accepted Accounting Principles (GAAP) and aggregate the data across listed firms. Although accounting earnings are different from taxable income and do not include profits from privately-held corporations, aggregate accounting earnings are an *ex ante* appealing proxy for corporate profits for at least two reasons. First, corporate income tax return data lack timeliness, whereas accounting earnings data are reported shortly after the quarter-end. Second, prior literature suggests that accounting earnings predict future cash flows better than do current cash flows (e.g., [Dechow et al., 1998](#)), and thus accounting earnings are likely to predict future taxable income, which is cash-based, better than current taxable income.

Our first prediction is that aggregate accounting earnings growth is informative about future GDP growth. This prediction is motivated by the following observations. First, corporate profits are a component of GDP and are likely to be correlated with other components of GDP (e.g., [Fischer and Merton, 1984](#); [BEA, 2004](#)). Second, aggregate accounting earnings growth proxies for corporate profit growth, which is a leading driver of economic growth (e.g., [BEA, 2004](#)). In addition, listed firms are required to report accounting earnings every quarter and thus accounting earnings data are timely.

We measure aggregate accounting earnings growth using a comprehensive sample of quarterly reports over the Q1:1988 to Q2:2011 period. Our sample starts in Q1:1988 because this is the first quarter for which we have real-time accounting earnings data. Our research design carefully aligns individual firms' accounting earnings reports with the release of the BEA's GDP report schedule. In particular, we create an index of aggregate accounting earnings growth that is based solely on quarterly reports available for macro forecasting in real time.

We find that aggregate accounting earnings growth is a leading indicator of the U.S. economy. Specifically, we find that aggregate accounting earnings growth predicts GDP growth, especially for the one-quarter-ahead forecast horizon. Our findings also reveal that the predictive content of aggregate accounting earnings growth for future GDP growth is economically important and incremental to that of contemporaneous GDP growth. At the minimum, our evidence shows that aggregate accounting earnings growth is correlated with information that is not captured by contemporaneous GDP growth and that is useful for forecasting GDP growth.

Our second prediction is that professional macro forecasters do not fully incorporate the predictive content of aggregate accounting earnings growth when forecasting GDP growth. If professional macro forecasters do not fully impound accounting earnings data when forecasting GDP growth, then future GDP growth forecast errors should be predictable based on aggregate accounting earnings growth. To test this prediction, we collect consensus forecasts of GDP growth from the Survey of Professional Forecasters (SPF) available from the Federal Reserve Bank of Philadelphia. The SPF is the longest and most well-regarded publicly available survey of quarterly GDP growth forecasts in the U.S. We measure GDP growth forecast errors as the difference between realized GDP growth and the SPF consensus forecast of GDP growth, for forecast horizons ranging from one to four quarters ahead.

We find that future GDP growth forecast errors are predictable based on aggregate accounting earnings growth. Our index of aggregate accounting earnings growth is based on data that are available to SPF panelists in real time, so evidence of predictability in future GDP growth forecast errors implies that professional macro forecasters do not fully incorporate the informativeness of publicly available accounting earnings data when forecasting GDP growth. This result is important for at least two reasons. First, the SPF consensus forecasts of GDP growth are used when developing the U.S. Federal Budget. Second, the SPF consensus forecasts of GDP growth are used by the research staff of the Board of Governors of the Federal Reserve when preparing the "Greenbook" before each meeting of the Federal Open Market Committee and so are central for monetary policy.

To gain further insights, we test whether the predictive content of aggregate accounting earnings growth for future GDP growth is incremental to that of well-known leading indicators. We confirm that Treasury yields, term spreads, and quarterly stock market returns have predictive content for future GDP growth, consistent with prior research (e.g., [Fama, 1981](#); [Harvey, 1989](#); [Ang et al., 2005](#)). Importantly, the informativeness of aggregate accounting earnings growth for future GDP growth is incremental to that of other predictors. In addition, although professional macro forecasters fully impound the predictive content of Treasury yields, term spreads, and quarterly stock market returns, we find evidence that they underreact to the predictive content of aggregate accounting earnings growth—a previously unknown leading indicator of the U.S. economy.

Our study contributes to accounting and economics research by documenting that (i) aggregate accounting earnings growth is a significant leading indicator of GDP growth and (ii) professional macro forecasters do not fully impound the predictive content embedded in publicly available accounting earnings data. Our study also contributes to macroeconomics research by identifying aggregate accounting earnings growth as an incrementally significant predictor of GDP growth.

In particular, we extend research on the informativeness of accounting earnings data for economic activity both at the firm level and at the aggregate level. A growing body of work examines the link from macroeconomic data to firm-level accounting data, i.e., the "macro to micro" link. [Konchitchki \(2011\)](#) finds that aggregate price-level changes affect firms' accounting earnings and are informative for future cash flows and stock valuation. [Li et al. \(2012\)](#) show that combining geographic segment sales disclosures and cross-country GDP growth forecasts helps improve firm-level profitability forecasts. Our evidence that aggregate accounting earnings growth is incrementally useful for forecasting GDP growth

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