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Firm geographic dispersion and financial analysts' forecasts

Petya Platikanova [a,*], Marco Maria Mattei [b]

[a] ESADE-University Ramon Llull, Av Pedralbes 60, 08034 Barcelona, Spain
[b] Department of Management, University of Bologna, via Capo di Lucca, 34, 40126 Bologna, Italy

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ABSTRACT

Using a text-based measure of geographic dispersion that captures the economic ties between a firm and its geographically distributed economic interests, this study provides evidence that financial analysts issue less accurate, more dispersed and more biased earnings forecasts for geographically dispersed firms. We observe the degree to which a firm has an overlapping distribution of economic centers in comparison to industry competitors and suggest that geographically similar firms have lower information gathering costs and thereby more precise earnings forecasts. Empirical evidence supports this prediction. We further find that the geographic dispersion across the U.S. is less likely to affect forecast precision when a firm has economic activities in states with highly correlated local shocks. Our findings suggest that the effect of geographic dispersion is more pronounced for soft-information environments where information is more difficult to make impersonal by using technological advances. Consistent with the information asymmetry argument, we find that geographically dispersed firms have less comparable and more discretionary managed earnings, have less extensive than industry competitors segment information, are more likely to restate sale segment information, and issue annual and quarterly filings with a delay.

1. Introduction

A growing body of literature in finance suggests that relevant information regarding the future cash flows and earnings of publicly traded U.S. firms is geographically dispersed across states in the U.S. (Garcia and Norli, 2012; Giroud, 2013; Addoum et al., 2014; Bernile et al., 2015). Recent studies demonstrate that the geographic dispersion of corporate activities across multiple U.S. states presents a significant problem in making efficient investment and financial decisions. Giroud (2013) finds that managers are more likely to locate plants close to headquarters to maintain better control over production. Landier et al. (2009) show the distance between divisions and headquarters affects the decision regarding who to layoff off and which division to divest. Coval and Moskowitz (1999) find that mutual fund managers are more likely to invest in local stocks and earn abnormal returns from these investments, suggesting either improved monitoring capabilities or access to private information. Addoum et al. (2014) show that firms exhibit stronger post-earnings-announcement drift and stronger momentum in returns when geographic information is more dispersed and difficult to aggregate.

In this paper, we investigate the extent to which the degree of geographic dispersion across U.S. states affects the ability of financial analysts to produce more precise earnings forecasts. The geographic dispersion may simplify the forecasting task of financial analysts by reducing performance volatility and facilitating high-quality forecasting model inputs, thus yielding more precise earnings forecasts. Alternatively, the spatial distribution of firms' activities could result in more complex forecasting of future earnings. First, relevant information regarding past performance and future trends may not be available for geographically dispersed firms because managers may not be efficient in aggregating and reporting value-relevant information regarding centers of business activities (Addoum et al., 2014). Second, the presence of business activities in multiple U.S. states is likely to increase management discretion and operating flexibility (e.g., shifting profits to Delaware; Dyreng et al., 2013). When such actions increase information asymmetry between analysts and management of dispersed firms, the precision of analysts' forecasts is likely to decrease. Moreover, the variation across states (e.g., tax codes) may increase complexity in forecasting when following firms with interstate operations (e.g., Florian and Ljungqvist, 2015).

* Corresponding author.
E-mail addresses: petya.platikanova@esade.edu (P. Platikanova), marcomaria.mattei@unibo.it (M.M. Mattei).

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Using a text-based measure of geographic dispersion, which captures the economic ties between a firm's headquarter and its geographically distributed economic interests (Garcia and Norli, 2012; Addoum et al., 2014), we provide empirical evidence that financial analysts issue less accurate, more dispersed and more biased forecasts for geographically dispersed firms. Empirical findings are consistent with the notion that a less transparent and more discretional aggregation of geographically dispersed information into financial reports increases the information asymmetry between management and financial analysts. We expect information gathering costs to be lower for geographically similar firms where comparable disclosure is provided by industry competitors. Consistent with this expectation, we find that geographically similar firms have less dispersed and biased forecasts compared to geographically different firms. We also predict that analysts experience forecasting difficulties for geographically dispersed firms, when economic shocks are imperfectly correlated across the U.S. Using the correlation between the headquarter state and relevant economic centers, we show that firms with highly correlated economic centers have more precise analysts' forecasts compared to other firms.

Innovation in information technology may reduce any potential difficulties in following firms with operations in multiple states. Petersen and Rajan (2002) suggest that such innovation explains the increasing distance between primarily lenders and borrowing firms. Following Landier et al. (2009), we use information regarding changes in the distance between borrowing firms and primary lenders from the National Survey of Small Business Finance and characterize firms as operating in a soft- (hard-) information environment. The empirical findings suggest that the effect of geographic dispersion on analysts' precision is more pronounced in soft-information environments. Therefore, the interstate dispersion is likely to reduce analysts' precision when information asymmetries are already high.

We next examine possible reasons for higher precision of financial analysts' forecasts for less dispersed firms' stocks. Because accounting comparability and discretionary accruals can significantly increase the forecasting error (Francis et al., 2004; De Franco et al., 2011; Veenman, 2012), we investigate the relation between accounting properties and geographic dispersion. Our results show that financial information in earnings of geographically dispersed firms is less comparable and more discretionarily managed than that of local firms. The presence of information asymmetry between management and outside may increase the demand for voluntary disclosure, providing management incentives to increase disclosure (Grossman and Hart, 1980). Using the information quality of corporate disclosure, we find that geographically dispersed firms do not provide more decomposed segment disclosure, have more often restated geographic sales, and delay the release of annual and quarterly filings. Lower information quality is consistent with the argument that accurate information may be more difficult to collect for economically dispersed relevant centers.

The contribution of this study is threefold. First, recent studies demonstrate that distance is relevant to improving operating efficiency (Giroud, 2013) and achieving superior trading performance (Coval and Moskowitz, 1999; Hau, 2001). Malloy (2005) argues that the distance between financial analysts and management is also important in determining the precision of forecast analysts. This study suggests that the distance between a firm's headquarters and relevant economic centers affects analyst performance, and provides novel evidence that firms' geographic dispersion across the U.S. determines analysts' forecast precision. Second, a large body of accounting literature investigates the determinants of a manager's reporting and disclosure choices (Verrecchia, 2001; Dechow et al., 2010). We show that the spatial distribution of firms' activities affects the quality of corporate disclosure and relevant properties of accounting information. Third, we complement existing literature on international and industrial diversification (e.g., Duru and Reeb, 2002) by presenting empirical evidence that the within-country variation in the distribution of economic activities also influences the forecasting task and analyst performance.

This paper is organized as follows. Section 2 outlines and develops the hypotheses related to the influence of geographic dispersion on analysts' forecast precision, accounting properties, and disclosure choices. Section 3 details the sample formation process and defines the variables. The empirical link between geographic dispersion across U.S. states and analysts' precision, performance volatility, and financial information quality are presented in Section 4. Section 5 presents additional empirical analysis, and Section 6 concludes the paper.

2. Hypothesis development

The degree of information asymmetry between managers and outsiders may differ for dispersed versus local firms. Aggregated cash flows and other diversification-related information problems may make it more difficult for analysts to forecast cash flows of diversified firms in comparison to focused firms. Consistent with such an interpretation, Thomas (2002) argues that diversification-related information problems explain larger forecast errors and greater dispersion among analysts' forecasts. In the same vein, Litov et al. (2012) argue that a firm's diversification across different industries requires either multiple analysts to collaboratively evaluate the firm or analysts to develop expertise across multiple industries. Duru and Reeb (2002) additionally identify the operating flexibility of international diversification as a possible source of information asymmetry between management and outsiders and an additional layer of difficulty to analysts' forecasting of future performance.

Consistent with the literature on industrial and international diversification, we conjecture that firms with largely dispersed business activities across the U.S. states may have higher information asymmetry problems and thus less precise analyst forecasts. One possible source of information asymmetry is the aggregation of financial information (Thomas, 2002; Frankel et al., 2006; Addoum et al., 2014). Whereas managers of geographically diversified firms can observe cash flows in each U.S. state, outsiders can observe only noisy estimates of these cash flows. Thus, the mapping of geographically dispersed cash flows into consolidated earnings may be less transparent to outsiders, and as a result, reported earnings may convey less value-relevant information. The precision of analyst estimates for geographically dispersed firms therefore may depend on the extent to which analysts understand the underlying earnings generation process in the presence of multiple centers of business activities (Abarbanell and Lehavy, 2003; Burgstahler and Eames, 2006; Coles et al., 2006). Because the level of discretion in accessing and aggregating geographically dispersed information may be high for spatially dispersed firms, financial analysts may encounter difficulties incorporating accrual reversals and estimating discretionary accruals for such firms compared to purely local firms. Another possible source of information asymmetry is the uncertainty regarding performance effects stemming from greater operating flexibility (Duru and Reeb, 2002). Managers enjoy discretion in shifting income across U.S. states and organizing activities across the U.S. (Dyreng et al., 2013), thus introducing difficulty in forecasting corporate actions and the associated effect on firm performance. Taken together, we expect problems arising from asymmetric information as reflected in the precision of analyst forecasts to be more severe for more dispersed firms.