The stock market and investment in the small and open Norwegian economy

Oystein Gjerde¹, Kjell Henry Knivsflå², Frode Sættem³

¹ Department of Finance and Management Science, Norwegian School of Economics and Business Administration, 5045 Bergen, Norway
² Department of Accounting, Auditing and Law and Foundation for Research in Economics and Business Administration, Norwegian School of Economics and Business Administration, 5045 Bergen, Norway
³ Department of Finance and Management Science and Foundation for Research in Economics and Business Administration, Norwegian School of Economics and Business Administration, 5045 Bergen, Norway
(E-mail: Frode.Sattem@nhh.no)

First version received: November 1997/Final version received: October 2000

Abstract. The relationship between the stock market and investment is analyzed by utilizing a multivariate vector autoregressive model, which also includes fundamentals represented by production and the bank interest rate. Two important results appear on the basis of data from the small, open economy of Norway. The financial market has no lead effect on real activity, as neither the stock market nor the credit market can predict future investment or production. On the contrary, current stock returns correlate negatively with lagged growth in investment, and positively with current growth in production. In addition, changes in the bank interest rate have a positive effect on future stock returns, production leads investment positively, and both production and the bank interest rate become exogenous variables in our model.

Key words: Stock market; investment; fundamentals

JEL Classification System-Number: E44

1. Introduction

This paper analyzes the relationship between the stock market and investment, focusing on the manufacturing sector in Norway. We introduce a multivariate vector autoregressive (VAR) model to establish dynamic interactions among stock returns, growth rates of investment, growth rates of gross pro-

¹ The authors would like to thank Helge Bremnes for valuable computing assistance, Thore Johnsen, Jan Tore Klovland and Erling Steigum for helpful discussions, and two anonymous reviewers of this journal for constructive comments. Financial support from the Banking, Insurance and Securities Commission and the Research Council of Norway is gratefully acknowledged.
duction, and changes in the bank interest rate on loans, all adjusted for inflation. Two important results appear. The financial market in Norway has no lead effect on real activity, as neither the stock market nor the credit market can predict future investment or production, i.e. the financial market has no causal effect on real activity. On the contrary, current stock returns correlate negatively with lagged growth in investment, and positively with current growth in production. In addition, changes in the bank interest rate have a positive effect on future stock market returns, production leads investment positively, and both production and the bank interest rate become exogenous variables in our model. These results are documented by causality analyses based on the estimated VAR model, by a decomposition of forecasting error variances, as well as by an innovation accounting approach.

A number of theoretical and empirical contributions support the view that the stock market to some extent influences investment. Morck, Shleifer and Vishny (1990) present four hypotheses on why stock prices and subsequent investment should be correlated. First, according to the passive informant hypothesis, the stock market may reflect information about investment strategies, but without influencing the managers’ investment decisions. In this way, the stock market is a "sideshow". The observed correlation is a consequence of the stock market revealing what managers already know or believe, and is thus only a passive predictor of future activity rather than a causal determinant of investment.

Second, according to the active informant hypothesis, managers rely on the stock market as a source of information when making investment decisions. If market signals are accurate (the accurate informant hypothesis), the market helps predict investment as it correctly predicts the future state of the economy. But even if the market sends inaccurate signals (the faulty informant hypothesis), due to investor sentiment or the inherent unpredictability of the future, the noisy information provided by the market may be used. Hence, the stock market may influence investment decisions even though the signals are inaccurate, see Morck et al. (1990, p. 165).

Third, the stock market may affect investment through its influence on the cost of external financing, cf. Fischer and Merton (1984) and Blanchard, Rhee and Summers (1993). The implication of the financing hypothesis, which concerns both equity and debt financing, is that the key channel of the stock market’s influence on investment is through the issuance of new securities. High stock prices, for instance, may imply that the cost of issuing new equity is low, which in turn promotes investment.

Fourth, the stock market pressure hypothesis claims that the market exerts pressure on investment quite aside from its informational and financing role. For instance, management compensation plans that link stock prices and wage payments, may influence the managers’ investment decisions so that long-term investments may be dropped in favor of short-term ones, cf. the myopic behavior of investors found in Stein (1988) and Shleifer and Vishny (1990).

Several studies based on aggregate data, hypothesize and document a positive relationship between growth rates of investment and current and lagged stock returns. Examples from the U.S. are Bosworth (1975), Fama (1981), Barro (1990), Blanchard, Rhee and Summers (1993) and Galeotti and Schiantarelli (1994). This result is replicated by Fazzari, Hubbard and Peterson (1988), using investment levels, and by Morck, Shleifer and Vishny