Review of Financial Economics 17 (2008) 14–32

RFE
Review of Financial Economics

www.elsevier.com/locate/econbase

What drives the market value of firms in the defense industry?

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Received 13 April 2006; accepted 1 February 2007
Available online 20 February 2007

Abstract

This article assesses the relative importance of different types of news in driving significant stock price changes in the defense industry. We implement a systematic event study with the 58 largest publicly listed companies in the defense industry, over the time period 1995–2005. We first identify, for each firm, the statistically significant abnormal returns over the time period. Then, we look for information releases likely to cause such stock price movements. Most of the key drivers in the defense industry are the same as in other industries (key role of formal earnings announcements and analysts' recommendations) but we also identify some specific features, in particular the influence of geopolitical events and the relevance and frequency of bids and contracts on stock prices. Finally, we examine the impact of the September 11 terrorist attacks on defense firms.

JEL classification: G14; G34; L64
Keywords: Time-varying beta; Event study; Financial markets; Defense industry; Information release; Bids; GARCH models

1. Introduction

This article assesses the relative importance of different types of news in driving significant changes in firms' market value in the defense industry. Many studies place great emphasis on the changing nature of the defense industry. Since the end of the Cold War, almost all defense firms have been affected by liberalization,

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1058-3300/$ - see front matter
doi:10.1016/j.rfe.2007.02.001

far-reaching structural changes and concentration processes, and one can argue that defense firms have lost their singular status. However, some specific features of the defense industry remain: the oligopolistic structure of the market, the close relationships between defense firms and governments, the key role of public budgets devoted to military expenditure, the high level of R&D, the influence on firms of geopolitical events, etc.

While many studies focus on the specificities of the defense industry (see, for instance, Markusen & Costigan, 1999; Susman & O'Keefe, 1999), none of them, to our knowledge, examines this issue from the financial market point of view. But, as financial markets play an increasingly significant role in resource allocation, there is a need for a better understanding of investor behavior vis-à-vis the defense industry. This article attempts to contribute to this issue by addressing the following question: are the specific features of the defense firms important from the investor point of view? In other words, does the stock market react differently for defense firms than for other firms?

In particular, we analyze the relative impact of rumors, formal announcements, and unforeseeable events on the stock returns of defense firms. We study also whether investors in defense firms react more to firm-specific news or to general news (geopolitical instability, announcements of military expenditures, etc.), and whether they react more to financial or to industrial concerns. Then, we assess the relative significance of several categories of news (news related to bids, earnings, company restructuring, new contracts, etc.) in driving the market value of defense firms. Finally, we examine the impact of the September 11 terrorist attacks on defense firms.

Given our goals, one would conduct a standard event study. Event study is a tool widely used in finance to investigate the reaction of the stock market to a specific type of news or event (such as mergers, seasoned equity offerings, earnings forecasts, etc.). However, we cannot adopt the traditional event study methodology, focusing on a single or even several *a priori* defined types of news because there is no way of being sure to capture the news items that are the strongest stock price movers, all the more so since the defense industry is expected to be specific. Moreover, the results would always be conditional on the initial definition of the categories. We therefore adopt a different research design, based upon a new methodology, following Ryan and Taffler (2004). With this approach, we are not constrained by an *a priori* determined set of information events. We first identify, for a given firm, the statistically significant abnormal stock returns over the time period. We then look for information releases likely to cause such abnormal returns, focusing on the largest variations (the five largest increases and the five largest decreases) for each firm of our sample of the 58 largest publicly listed companies in the defense industry, over the time period 1995–2005. On the methodological side, the contribution of this paper is twofold: we consider time-varying beta estimates by implementing rolling regressions and we use a GARCH process to model the volatility.

Our main results can be summarized as follows. First, changes in the market value of firms in the defense industry are, in many ways, driven by the same forces as in other industries. The most important news categories for explaining abnormal returns are roughly the same (earnings announcements, analysts' recommendations, etc.), and one third of the largest significant stock price changes are not related to an information release (i.e. are unexplained), which is consistent with the results of Ryan and Taffler (2004) obtained on a broad sample of firms. Nevertheless, three specific features of the defense industry must be underlined: (i) The high frequency of bid-related news: nearly 15% of the largest abnormal returns in our sample. (ii) The relevance of geopolitical events: 8.1% of the largest abnormal returns in our sample. (iii) The importance of public military spending: 5.4% of the largest abnormal returns in our sample.

The paper proceeds as follows. The next section (Section 2) presents the sample selection, while Section 3 is about methodology. Section 4 provides both a quantitative and a qualitative analysis of our results. The final section serves as the conclusion.