The Impact of 9/11 on Financial Risk, Volatility and Returns of Marine Firms

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Aims and scope →

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Abstract

This paper summarises research analysing the effects of the terror attacks of 9/11 on a set of marine operator stocks listed on Nasdaq and the New York Stock Exchange.[1] The paper investigates whether these events had an adverse effect on the stock market prices of marine operators and whether 9/11 resulted in a structural change in systematic risk for these companies. The paper conducted event studies using the market model to estimate the effect of 9/11 on security prices (abnormal returns) and systematic risk. The empirical evidence shows that 9/11 had an adverse impact on returns and resulted in a structural increase in systematic financial risk. These results had adverse implications for the cost of these operators in raising capital. The results also show a substantial increase in idiosyncratic risk and conditional systematic risk and that the percentage the latter risk represents of total risk more than quadrupled. These results may have had an adverse effect on market risk and liquidity. As a whole, the increased

financial risks are ancillary costs of 9/11. From a policy standpoint, policies that reduce these risks could produce ancillary secondary benefits.

Notes

1. The US Coast Guard disclaims responsibility for any private publication or

statement by any of its employees. The views expressed herein are those of the author and do not necessarily reflect the views of the Coast Guard.

2. Forthcoming work is investigating the impact of the Maritime Transportation Security Act (MTSA). This will cover a full period of analysis from October 2002 through December 2004.

3. The S&P 500 is the market proxy for all NYSE listed companies. For Nasdaq companies, the market proxy is either the Nasdaq composite or the S&P 500 and depends on which proxy best fits the data. As noted in Section 4, the best statistical fit is also the S&P 500 for these firms.

4. All the reported beta coefficients in Table 2 were significant and based on the S&P 500 as the market proxy. None of the market models exhibited any serial correlation. This, of course, is as expected. Serial correlation implies current errors are correlated with past errors. This would be a violation of efficient markets since it implies predictability in stock prices. I also conducted a Chow breakpoint test using an earlier date of 9/1/01 and estimated betas for the time period between 9/01/00 through 8/31/01 and 9/4/01 through 10/31/02. The former time period is consistent with the model the paper uses to conduct an event study of 9/11 in the next section. The differences between the estimated betas from these models and the ones in Table 2 were infinitesimal. As above, the Chow breakpoint test was significant in seven cases and the results of the paired *T*-test were practically identical (t=6.0). I only report one set of results for space conservation purposes.

5. For more information on the Siegal–Turkey test see Sheskin (1997). For more information on the Bartlett test see Sokal and Rohlf (1995) and for more information on the Levene test see Levene (1960).

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