The impact of hedging on the market value of equity

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Abstract

We examine the annual stock performance of firms that disclose the use of derivatives to hedge over the period 1995 to 1999. We find that only 21.6% of publicly traded U.S. corporations in our sample hedged with derivative instruments over this period and their use is concentrated in the larger companies. Similar to other studies we find that when derivatives are used, interest rate and currency securities are used much more frequently than commodity products. Our sample of 1308 companies that hedge outperforms other securities by 4.3% per year on average over our sample period. This result is robust to several alternative methods of estimating abnormal returns. When we segment performance by the type of hedge used, however, we find that the over-performance is due entirely to larger firms that hedge currency. We find no abnormal returns for firms hedging either interest rates or commodities. The abnormal returns in firms hedging currency is robust to alternative models that seek to control for exchange rate fluctuations and global equity returns; however, we find no significant abnormal returns to currency hedgers when using an augmented model that controls for the role of intangible assets.

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1. Introduction

Some firms use hedging strategies, others do not. Finance theory is unclear as to whether hedging is a value adding strategy, and three broad schools of thought have emerged. First, hedging is a zero net present value (NPV) decision. This belief assumes that transactions are costless, that markets are efficient, and that the other Modigliani and Miller (1958) assumptions hold. Under these conditions the expected value of a hedge will equal zero. Second, hedging is a negative NPV decision as hedges are costly to implement. However, managers whose human capital and individual wealth are poorly diversified will encourage the firm to hedge exposure even if it is costly to the firm because it reduces the managers’ risk at no personal cost (Smith and Stulz, 1985). Third, hedging activities are positive NPV decisions because hedging reduces the expected costs of financial distress thereby increasing firm value (Smith and Stulz, 1985). It also allows companies with costly external financing to smooth earnings and cash flows thereby enabling sustained investment in key activities or cheaper access to capital markets (Froot et al., 1993; Stulz, 1984). Finally, it allows a clearer signal of manager quality in situations where it is difficult to untangle manager performance from market effects (DeMarzo and Duffie, 1995; Breeden and Viswanathan, 1999). This reduction in uncertainty reduces the cost of capital and raises firm value.

Despite the range of theories on the impact of hedging, there is little empirical evidence as to the impact of hedging on firm value. Allayannis and Weston (2001) examine the use of foreign currency derivatives in 720 large nonfinancial firms from 1990 to 1995 and find a positive relationship between Tobin’s $Q$ and foreign currency derivative use. In a related paper, Carter et al. (2003) find that airlines that hedge fuel costs with commodity derivatives increase their value significantly as measured by Tobin’s $Q$. Our study adds to the current literature in two important ways. First, while Allayannis and Weston focus only on currency hedgers and Carter, Rogers, and Simkins examine only fuel hedging in the airline industry, we examine a much broader sample of over 5700 nonfinancial firms and their use of currency, interest rate, and commodity derivatives. Second, while the existing papers examine Tobin’s $Q$ as a proxy for firm value, we look directly at the stock return performance of firms that disclose the use of derivatives for the purpose of hedging.

We find consistent evidence that firms that hedge outperform other firms over the 1995 to 1999 period by 4.3% per year on average. However, when we examine the stock market performance of companies in each of the three major derivative groups—commodities, currency and interest rates, we find that the gains to firms that use derivatives are limited to companies that hedge currencies. Specifically, the subset of 1722 firm-year observations of currency hedgers have abnormal returns of 0.42% per month when using the Fama and French four-factor model (Carhart, 1997). This compounds to an economically significant 5.1% per year and is statistically significant with a $p$-value of 0.0643. Further, the subset of 1001 observations for firms that only hedge currency (and not interest rates or commodities) yield abnormal returns of 0.96% per month when using the Fama and French four-factor model, which compounds to 12.2% per year (with a $p$-value of 0.007). This evidence of superior stock market performance by firms that use currency derivatives
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