Controlling for the weather: Hedging increases firm value, new study shows

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A highly debated topic in corporate finance is whether active risk management policies, such as hedging, affect firm value. New research from the University of Notre Dame and Stanford University shows that active risk management policies lead to an increase in firm value.

Hedging refers to insuring against extreme fluctuations in the prices or quantities of commodities/securities.

In "Risk Management and Firm Value: Evidence from Weather Derivatives," forthcoming in the Journal of Finance, co-author Hayong Yun, an assistant professor of finance in Notre Dame's Mendoza College of Business, examines the impact of financial innovation on firm value, investment, and financing decisions. Specifically, the research examines the effect of the introduction of weather derivatives on electric and gas utilities, arguably some of the most weather-exposed businesses in the economy.

Using stock market and financial statement data on 203 companies from 1960 to 2007, the researchers show the utilities most likely to use weather derivatives are those with the greatest cash flow sensitivity to weather. Those that do make use of the derivatives, significantly decrease the volatility of their cash flows, which in turn increase debt borrowings, investments and ultimately their share prices.

Yun says there has been much theoretical research on why hedging can have an impact on increasing firm value, but actually proving such is

challenging, largely because firms do not randomize their hedging decisions.

"Our research tries to overcome this endogeneity, or non-random choice of hedging, by comparing examples with and without the possibility of hedging, specifically focusing on utilities heavily exposed to weather risk," Yun says. "For example, utilities in San Diego where weather is always mild and predictable, and in Minnesota, where weather varies greatly from year-to-year, have different weather risk exposure. Before 1997, we believe San Diego utilities enjoyed smoother cash flow than those in Minnesota.

However, after 1997, this weather risk-driven advantage began to disappear because utilities in harsher climates could buy weather derivatives to financially hedge weather risk."

Why do firm values increase when cash flows are smoothened?

"It is partially explained by investment and tax benefits," Yun says. "Banks are reluctant to lend when a company's cash flow is low, hence, companies may be forced to pass up valuable investment projects during those times. Also, by borrowing debt, there is an added benefit of tax exemption for the interest payments."

Yun, who teaches corporate governance, also is an expert in corporate finance, law and economics, bankruptcy, and contract theory.

Provided by University of Notre Dame

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