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### THE NUMBERS

# 'Fear Index' Grabs Headlines as Stocks Swing

Volatility gauge yields clues on how investors are insuring their portfolios



Traders monitor the CBOE Volatility Index, or 'fear gauge,' at moments of market turbulence.

PHOTO: SCOTT OLSON/GETTY IMAGES



By

### Jo Craven McGinty

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When Robert E. Whaley settles into his home office, you can count on two things: His television will be tuned to CNBC, and he'll be tracking the stock market's "fear index" on his computer.

Mr. Whaley, a professor of finance at Vanderbilt University, may not be a household name. But chances are you've heard of the volatility index he designed, known to market watchers as the VIX.

The VIX is the most popular measure of expected short-term volatility on Wall Street. The index is computed in real time on trading days, and when it shoots up, it suggests investors fear market prices are about to move wildly.

The historical average of the VIX is around 20. Lower numbers signal that investors are confident in the strength of their investments. Higher numbers signal investor anxiety. For example, during the 2008 financial crisis, the index hit a dizzying 80, and last month, it made news when it spiked above 50 for the first time since 2009 before returning to near its long-run average.

"What you're scared of is a drop in the value of your pension fund," said Mr. Whaley. "The higher the VIX gets, the more fear you have the market will drop."

The VIX reflects investors' sentiment by tracking how much they are paying for "out-of-the-money" stock options—particularly "put" options, which provide a cushion against falling market prices.

Mr. Whaley compared it to buying insurance for a beach house.

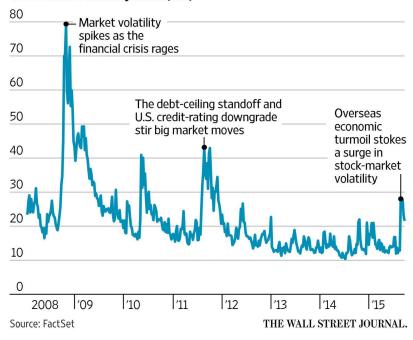
"If a hurricane is forming and there is potential for the hurricane to hit land in the next few weeks, you are likely to pay a whole lot for insurance," he said. "You want to protect the value of the home."

If investors fear a storm is brewing in the stock market, they could sell their stock, but with trading fees and other costs that would be expensive. Or they could opt to protect their investment.

## **View of Volatility**

The 'fear index' has traded around a historical average of 20, but it has spiked over the past decade amid bouts of market tumult.

### **CBOE Market Volatility Index (VIX)**



"Instead of selling your stocks, you can go out and buy insurance, and the insurance you would buy would be put options on the S&P 500." Mr. Whaley said.

A "put" option gives someone the right to sell stock at an agreed-upon price by a certain date. The stock price specified in the contract is called the "strike" price. And if it is lower than the market value of the underlying stock, the options are "out of the money." (A "call" option is the opposite; it gives someone the right to buy stock at an agreed-upon price by a certain date.)

"VIX is driven by the price of out-of-money calls and puts, but the calls don't really matter," Mr. Whaley said. "If you look at trading activity in the market, it is predominantly puts. You're only concerned about the downside risk."

Put options benefit investors in the event that the market price of a stock tumbles below the strike price. If it does, the investor who bought the put will collect the difference between the two values.

For example, suppose the market price of the S&P 500 portfolio was \$1,951 per share, and the strike price of a put option was \$1,950. If the market price falls below that threshold

to, say, \$1,945 before the option contract expires, the investor who purchased the put will collect \$5 per share. (This doesn't account for the cost to purchase the put option.)

If the market price doesn't fall below the strike price before the contract expires, there is no payout.

"If the stock stays above \$1,950, you'd have a situation you have with any insurance," Mr. Whaley said. "You pay for it and never collect. You lose the premium. What you bought is the satisfaction that if there had been a drop, you would have been covered."

Options contracts are sold by market makers who accept risk to facilitate trading. The fees they charge for the options contracts offset their own risk of having to pay off investors if the stocks do tank. So when nervous investors begin to clamor for puts, market makers raise the price.

That is what sends the VIX skyward.

"The more demand, the higher the price, and the higher the prices, the higher the VIX," Mr. Whaley said.

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Investment firms like Zacks notice the VIX, but because they look further into the future, the level of the fear gauge doesn't alter their overall strategy, according to Bryant Sheehy, who is business development director for Zacks.

"It's more of a way to add some sexiness to editorial articles," he said, referring to headline-grabbing shifts in the VIX. "It's one more data point we can mention to talk about a tough market and what opportunities are now coming up.

But for speculators—the storm chasers of the stock market—the VIX serves as a weather vane, pointing out when they should plunge into the market in search of short-term trading profits.

"Volatility is opportunity, not risk," said Tim West, who publishes market analysis on tradingview.com, a social network for investors and traders. "Most people get that backwards."

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