



## The Danger in European Stocks

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November 1, 2011

European equity prices, depressed by fears of a sovereign debt crisis, are cheap to such a degree that William Bernstein, author of *The Intelligent Asset Allocator*, [called](#) them a true bargain. Income-oriented investors, in particular, may be tempted by 4.2% dividend yields and a market-wide P/E ratio of approximately 11. My analysis, however, contradicts Bernstein's and shows the underlying risk those investments carry.

Credit default swaps (CDS) on both European and American banks have [surged](#) in price amid concerns about another banking crisis, triggered by sovereign debt defaults in the peripheral countries. Money has flooded out of European stocks as investors become more risk averse, with the result that Euro-zone stocks are priced attractively by most objective standards, including the Shiller P/E ratio.

Those low prices and high dividends, however, do not represent a compelling value for income investors.

I have analyzed the relationship between yields on stocks and bonds and their risk levels, as captured by options prices. In this article, I examine European stocks with this approach to show that the yields are unattractive in light of the risk.

### Research background

It is [understood](#) that the probability that a firm will default is related to the prices of its options. Specifically, since put options on a stock insure against a decline in price, their prices in particular capture the market's consensus view of the probability of default. It is, therefore, unsurprising that CDS prices are [correlated](#) to the implied volatility of a stock. In past [research](#), I have demonstrated how the implied volatility of a stock was related to CDS prices and the probability of default. There is a consistent and logical relationship between these factors. Implied volatility from options prices provides a robust measure of default risk.

In a related [thread](#) of research, I have found that the implied volatility of a company's stock correlates to the firm's probability of cutting its dividend, reflecting underlying financial distress. As such, buying a high-dividend stock with very high implied volatility is likely a classic value trap: the yield is high because the firm is in a state of distress. This result – a low risk-adjusted return – is not surprising.

Applying this body of research, I examined whether the yields on European stocks are commensurate with the risks. If so, European stocks are a relative bargain. If not, investors need to tread very carefully in allocating to these stocks.



I started by obtaining the current yields and implied volatilities of a representative set of dividend-paying stocks from European countries. Foreign stocks have a unique source of risk for investors, of course: currency risk. A dividend paid in a foreign currency must be translated into dollars, and the possibility of exchange rates declining adds another element of risk. To avoid this source of risk, I focused on European stocks that are priced in dollars and are either jointly listed on U.S. exchanges or have ADRs. I have also limited my analysis to stocks with options listed on U.S. exchanges. Obviously not all European dividend stocks have ADRs or are jointly listed on U.S. exchanges, those that I have chosen represent a broad spectrum of European firms.

### Yield versus risk for European stocks

I started by creating a list of dividend-paying European stocks that should be of interest to income investors:

#### *European Dividend Paying Stocks*

Company	Industry	Ticker	Yield
France Telecom	Communications Services	FTE	11.0%
Telefonica	Communications Services	TEF	9.6%
National Grid	Electric Utilities	NGG	5.8%
Vodafone	Communications Services	VOD	5.3%
Astrazeneca	Biotechnology and Drugs	AZN	5.8%
Glaxosmithkline	Major Drugs	GSK	4.9%
Total	Oil and Gas - Integrated	TOT	6.3%
Banco Santander	Regional Banks	STD	10.5%
Nokia	Communications Equipment	NOK	9.3%
Royal Dutch Shell	Oil and Gas - Integrated	RDS-B	4.7%
Unilever	Consumer Goods	UN	4.5%
British American Tobacco	Consumer Goods	BTI	4.4%
Sanofi-Aventis	Biotechnology and Drugs	SNY	5.1%
Transocean	Oil Well Services and Equipment	RIG	6.2%
British Petroleum	Oil and Gas - Integrated	BP	4.1%
Banco Bilbao Vizcaya Argentaria	Money Center Banks	BBVA	7.0%
Siemens	Electronic Instruments and Controls	SI	3.7%

These are major firms in a range of industries and with headquarters in countries including Britain, France, Germany, Spain, Switzerland, Finland, and the Netherlands. These stocks are paying an average of 6.4% and a median of 5.8% in yield. These are impressively



high yields, particularly in an environment in which 10-year Treasury bonds are yielding 2.1%. The question, of course, is whether these yields are offset by very high risks.

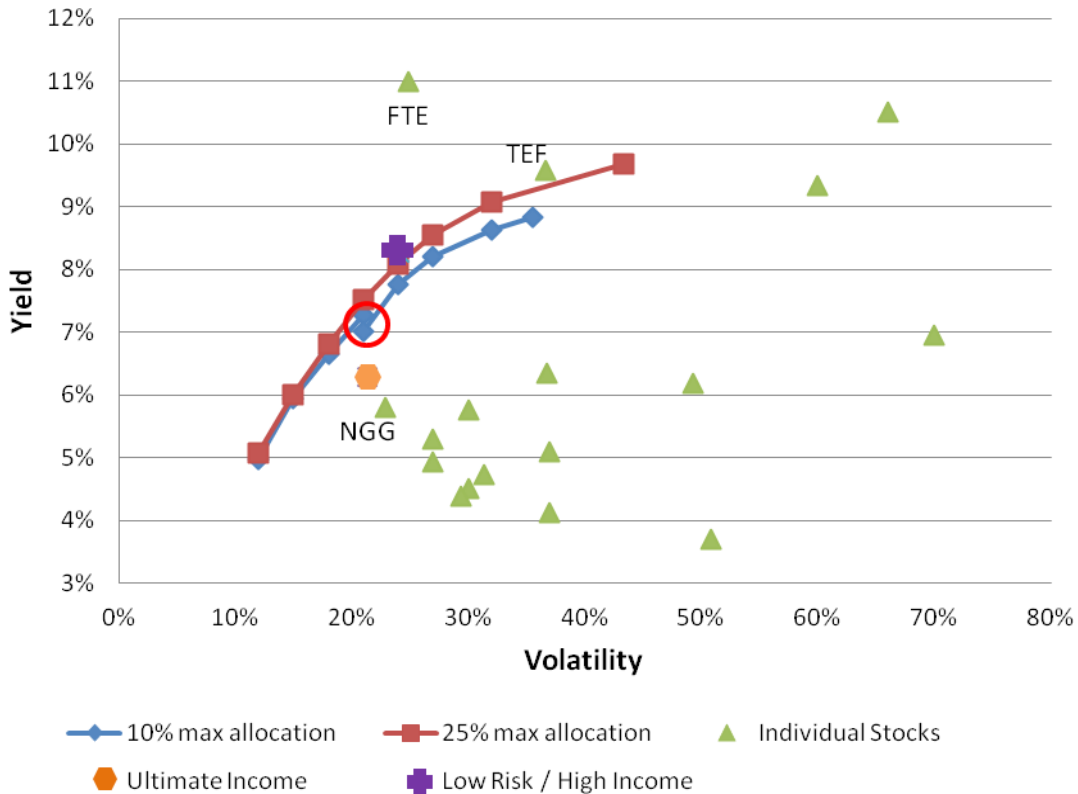
I used my Monte Carlo portfolio simulator (Quantext Portfolio Planner) to create an 'efficient frontier' of yield vs. risk. This is similar to the traditional efficient frontier in portfolio theory, with risk on the horizontal axis. In the yield vs. risk frontier, the vertical axis is yield rather than total return.

In addition to the individual stocks in the table above, I included a set of the traditional fixed income classes: short, medium, and long-term Treasury bonds (represented by the ETFs SHY, IEF, and TLT) and corporate bonds. Investment-grade bonds are represented by LQD and high-yield bonds are represented by HYG. All of these ETFs have options from which we can discern implied volatility.

The Monte Carlo simulation calculated a series of portfolios with the maximum yield for a range of risk levels, using the bond ETFs and the individual stocks. If the stocks are offering an attractive yield relative to their risk levels, they should be close to the 'frontier' yields. If the yields do not justify the risks, the yields will be far below the frontier yield at a given risk level.

One of the factors that has some effect on the maximum-yield portfolios is the maximum allowable allocation to any single stock. I have calculated two separate efficient frontiers for portfolios with a maximum allocation of 10% to an individual stock, as well as those where the maximum allocation is 25%. The results are shown below.

*Efficient frontier of yield vs. risk*



*Note: the two portfolios in the red circle show the impact of excluding FTE from the set of potential investments. The relevance of this test is discussed in a later section*

For the individual stocks, I used their implied volatilities and current yields. I also compared their implied volatilities to the Monte Carlo-generated volatilities, and they are consistent.

The outlier is France Telecom (FTE), which has very low risk relative to its yield. Its implied volatility of 25% is, however, just slightly lower than its trailing three-year volatility of 28% (through September 2011). Naturally, FTE shows up prominently in the optimal yield portfolios because of its disproportionately high yield for its risk level.

All of the optimal portfolios have a substantial allocation to high-yield bonds, which serves as an anchor for income portfolios at these risk levels. HYG has a yield of 8% and implied volatility of 26.7% for options expiring in March of 2012. Given that, even a solid company like Total (which has a P/E ratio of about 7) is unattractive with a yield of 6.3% and implied volatility of 36% (see table below). As a point of reference, SPY (an S&P 500 ETF) has implied volatility of 29%.



*Individual stocks and bond ETFs ranked by yield / risk ratio (Highest at top)*

Ticker	Implied Volatility	Yield
FTE	24.9%	11.0%
SHY	2.1%	0.9%
LQD	11.6%	4.5%
HYG	26.7%	8.0%
TEF	36.6%	9.6%
NGG	22.9%	5.8%
VOD	27.0%	5.3%
AZN	30.0%	5.8%
GSK	27.0%	4.9%
IEF	15.1%	2.7%
TOT	36.7%	6.3%
STD	66.0%	10.5%
NOK	60.0%	9.3%
RDS-B	31.3%	4.7%
UN	30.0%	4.5%
BTI	29.4%	4.4%
TLT	24.3%	3.5%
SNY	37.0%	5.1%
RIG	49.3%	6.2%
BP	37.0%	4.1%
BBVA	70.0%	7.0%
SI	50.8%	3.7%

The stocks near the top of this list will show likely up in the optimal yield portfolio, which also accounts for the correlations between the individual assets.

Along with FTE, Telefonica (TEF) is attractive on the basis of yield vs. risk and shows up in the optimal portfolios. Nokia (NOK) and Banco Santander (STD) also show up in the riskiest optimal-yield portfolios because, although they have relatively low yield vs. risk on a standalone basis, their relatively low correlations to other assets under consideration provide valuable portfolio benefits.

Only five of the stocks end up in the optimal portfolios, regardless of the risk level: FTE, TEF, STD, NOK, and RIG. This does not mean that the rest of the stocks are unattractive. NGG, in particular, is quite attractive on a standalone basis, in that it has a yield that is not dramatically lower than the optimal yield portfolio at the same level of risk. NGG does not show up in the optimal portfolios, however, because it adds no incremental yield when considered on a portfolio basis with the other stocks and funds. All of the other individual



stocks besides FTE, TEF, and NGG are a substantial distance from the optimal-yield line. The further a stock is from the optimal yield line, the less confident we can be in the sustainability of its dividend.

## Two reference portfolios

To provide context for the yield vs. risk results, I calculated the yield and risk for two model portfolios that I developed in earlier articles, based on current prices:

1. [The Ultimate Income Portfolio](#)
2. [The Low Risk / High Income Portfolio](#)

The current yield and projected risk for each of these portfolios is shown on the graph of risk vs. yield above. The Ultimate income portfolio (UIP) is not on the efficient frontier. The yield shown for the UIP does not include the income derived from covered calls sold against the portfolio holdings, which would provide an additional 2.6% in annualized return. With that additional income, the UIP would be above the efficient frontier. A more apples-to-apples comparison is with the low risk/high income portfolio, which I designed to maximize traditional sources of yield (e.g. without call options). This portfolio sits very close to the efficient frontier.

A range of portfolios should provide similar yield and risk, and the consistency of the maximum yield-to-risk relationship between these two reference portfolios and my analysis of European stocks confirms the validity of this methodology. In another test, I calculated the optimal yield portfolios including and excluding FTE from the set of possible investments. Even though FTE looks uniquely attractive on a standalone basis, there is almost no difference between the optimal portfolios with and without FTE.

## Implications

European stocks now offer high yields and are naturally attractive for income-oriented investors. Indeed, I have assembled a set of 18 well-known firms with an average yield of 6.4%, about three times the yield of the S&P 500.

But they do not provide a well-justified play for income investors in the U.S.

Aside from FTE, TEF, and NGG, the range of European stocks analyzed here have very high risk relative to their yields. FTE and TEF are very attractive, however. Most of these European firms are not providing sufficient yield to justify their risks for income investors. On the basis of increased portfolio diversification, some of the riskier stocks (such as STD and NOK) have marginal value, but these stocks are extremely risky when viewed on a standalone basis.



My results explain, and are consistent with, the performance of international dividend-oriented funds such as the Wisdom Tree International Dividend Fund (DOO). Despite the fact that this fund specifically excludes financial stocks, it has a trailing three-year volatility that is 44% higher than that of the S&P 500 and a 4.5% yield. There are no options for DOO, so I assume that its historical volatility is a guide for its future volatility, at least on a relative basis. Similarly, the SPDR S&P International Dividend ETF (DWX) has a yield of 6.8% but has a trailing three-year volatility that is 66% higher than that of the S&P500. For reference, the high-yield bond fund (HYG) has an 8% yield with trailing 3-year volatility that is 13% lower than that of the S&P500.

Income investors should not be seduced by the higher yields of European stocks . The direct measures of risk provided by options on ADRs and U.S.-listed foreign stocks provide unique insight. Despite some apparent great deals, many more stocks have a high potential to become value traps. Because of the wide variability of yield vs. risk across stocks, income investors should avoid broad-based dividend-oriented funds of European stocks – unless they use screens to control for risk, as I have done in this analysis.

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*Geoff Considine is founder of Quantext and the developer of Quantext Portfolio Planner, a portfolio management tool. More information is available at [www.quantext.com](http://www.quantext.com).*

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