



Predicting anomaly performance with politics, the weather, global warming, sunspots, and the stars



Robert Novy-Marx

Simon Graduate School of Business, University of Rochester, 500 Joseph C. Wilson Blvd., Box 270100, Rochester, NY 14627, United States

ARTICLE INFO

Article history:

Received 18 September 2012
 Received in revised form
 2 August 2013
 Accepted 5 August 2013
 Available online 11 February 2014

JEL classification:

G12
 C18

Keywords:

Predictive regressions
 Anomaly performance

ABSTRACT

Predictive regressions find that the party of the US president, the weather in Manhattan, global warming, the El Niño phenomenon, sunspots, and the conjunctions of the planets all have significant power predicting the performance of popular anomalies. The interpretation of these results has important implications for the asset pricing literature.

© 2014 Elsevier B.V. All rights reserved.

1. Introduction

Estimating an asset's expected return is a difficult task, sufficiently difficult that Merton (1980) characterizes the attempt as a “fool's errand.” He concludes that even if the expected return “were known to be a constant for all time, it would take a very long history of returns to obtain an accurate estimate...[and] if this expected return is believed to be changing through time, then estimating these changes is still more difficult” (Merton, 1980, p. 326).

A large literature has nevertheless demonstrated that many economic variables have power predicting the market. A partial list of significant predictors includes short term interest rates (Fama and Schwert, 1977), credit spreads (Keim and Stambaugh, 1986), the term structure slope (Campbell, 1987), stock volatility (French, Schwert, and Stambaugh, 1987), and the aggregate dividend yield (Fama and French, 1988). More recently, Baker and Wurgler (2000) find that the equity share of new issuance

predicts the performance of the market, and Lettau and Ludvigson (2001) and Lamont and Stein (2004) find similar results using the consumption–wealth ratio and aggregate short interest.

Variables related to investor sentiment have also been shown to predict asset returns. Baker and Wurgler (2006), Lemmon and Portniaguina (2006), and Stambaugh, Yu, and Yuan (2012) find that investor sentiment, as measured by the University of Michigan survey of consumer sentiment, the Conference Board survey of consumer confidence, and the Baker-Wurgler sentiment index, has significant power predicting the performance of a number of anomalies. These include strategies related to small, young, volatile, and unprofitable stocks, momentum, firms that issue large amounts of equity, and a host of earnings- and investment-related anomalies. Cooper, Gutierrez, and Hameed (2004) find that recent past market performance, an important determinant of investor sentiment, predicts the profitability of momentum strategies. Kamstra, Kramer, and Levi (2003) find that cold weather, through its association with depression linked to seasonal affective disorder (SAD) and depression's impact on investor sentiment, predicts market performance.

E-mail address: robert.novy-marx@simon.rochester.edu

This paper, inspired by the success of this earlier work, investigates the power that several additional variables have predicting the performance of well-known anomalies and extends the literature in two dimensions. First, it shows that variables known to predict the market, including the party of the sitting president and the weather, have significant power predicting the performance of a host of other trading strategies. Second, and more important, it identifies several novel powerful predictors, including global warming, the El Niño phenomenon, sunspot activity, and the conjunctions of the planets.¹

2. Results

Following the literature, I forecast returns using linear regressions of the form

$$R_t = a + bX_{t-1} + \varepsilon_t, \quad (1)$$

where R_t is the strategy's realized excess return over month t and X_{t-1} is the value of the predictive variable at the start of the month. I investigate this relation, for a variety of anomalies and predictors, using ordinary least squares (OLS) time series regressions. In particular, I test the null hypothesis that $b=0$ and interpret a rejection of the null as evidence that the explanatory variable has significant power predicting the anomaly's performance.

2.1. Predicting anomaly performance with political parties

The federal government, both through its policies and its operations, has a profound impact on the US economy. It could, therefore, be reasonable to ask whether the views of the executive affects the performance of assets and, in particular, whether the party in power is business-friendly.² This suggests the predictive variable used in the first set of regressions, a dummy for whether the sitting US president is a Democrat, shown in Fig. 1. The sample covers John F. Kennedy's inauguration, in January 1961, through the end of December 2012.

Table 1 shows that since Kennedy assumed the presidency essentially all of the equity premium, and all of the small cap stocks' outperformance of large caps, can be explained by the party of the sitting president.³ Over these

¹ My results are also related to those of Barro (1989), which considers links between wages and the weather, and to the optimal taxation theory of Mankiw and Weinzierl (2010).

² A formal model would be necessary to explain why asset performance should be affected over the course of an administration, as opposed to just the period over which the outcome of the election becomes clear to the market.

³ A list of all the anomalies used in this paper is provided in the Appendix. Anomalies are constructed using a consistent methodology and come from Novy-Marx and Velikov (2013), with the exception of the Fama and French (1993) factors and the Frazzini and Pedersen (2013) betting against beta factor, which come directly from those authors' websites (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library/f-f_bench_factor.html and <http://www.econ.yale.edu/~af227/>, respectively). All other anomalies are value-weighted strategies that buy and sell the extreme deciles (calculated using NYSE breaks) from a sort on some firm characteristic. Strategies based on annual data are rebalanced at the end of June, employing accounting data for the fiscal year ending in the previous calendar year. Strategies based on past stock

52 years the market has outperformed T-bills by only an insignificant 12 basis points per month in months that begin with a Republican in the Oval Office, but it has beaten T-Bills by a highly significant 87 basis points per month in months that started with a Democratic commander-in-chief. This 75 basis points per month difference is significant at the 5% level.

The second row of Table 1 shows that over the same period the smallest decile of stocks outperformed the largest decile, on a value weighted basis, by 28 basis points per month. This outperformance has, however, come unevenly through time. Small stocks have beaten large stocks by almost three quarters of a percent per month under Democratic presidents but underperformed large stocks by 10 basis points per month during Republican administrations. The 84 basis points per month difference is again significant at the 5% level. These results are consistent with the "presidential puzzle" of Santa-Clara and Valkanov (2003), which shows superior stock market performance during Democratic administrations, especially on an equal-weighted basis, over the period spanning 1927–1998 (see also Powell, Shi, Smith, and Whaley, 2007).

One explanation seemingly consistent with these facts is that Republicans favor big business, which hurts the broader economy. Panel B presents further evidence supporting this hypothesis. It suggests that investors, fearing the performance of the economy as a whole under Republicans, seek the safety of high-quality investments. The panel shows that highly profitable stocks, stocks with low volatility, and stocks of firms with low predicted probability of bankruptcy, i.e., exactly the types of stocks an investor would buy in the "flight to quality," perform dramatically better under Republican presidents. The strategy based on earnings-to-price yields excess returns of 1.45% per month under the GOP, more than three times as much as it does under Democratic presidents. The difference, nearly a percent per month, is significant at the 5% level. The strategy that buys low idiosyncratic volatility stocks and sells high idiosyncratic volatility stocks has earned 1.21% per month under the Republicans but lost 74 basis points per month under Democrats. The difference, almost 2% per month, is significant at the 1% level. The stocks of safer firms, i.e., those most unlikely to go bankrupt under the Ohlson (1980) accounting-based predictive model, have also performed significantly better with Republicans in office.

2.2. Predicting anomaly performance with the weather

Kamstra, Kramer, and Levi (2003) offer a plausible mechanism whereby the weather, through its impact on investor risk-aversion, induces predictability in market returns. They propose that increasing levels of depression

(footnote continued)

performance or quarterly accounting data are rebalanced monthly, assuming accounting data are publicly available after quarterly earnings announcements. A more detailed description of the strategies' construction and the return series for all the anomalies employed here are available at http://nrm.simon.rochester.edu/data_lib/index.html.

Download English Version:

<https://daneshyari.com/en/article/10475772>

Download Persian Version:

<https://daneshyari.com/article/10475772>

[Daneshyari.com](https://daneshyari.com)