

Donald Trump's Random Walk Up Wall Street

Research Question: Did upward stock market trend since beginning of Obama era in January 2009 increase after Donald Trump was elected President?

Data: Daily data for Dow Jones Industrial Average, S&P 500 and Nasdaq for the January 5, 2009 - December 22, 2017 period from the Federal Reserve Bank of St. Louis (FRED) database.

Preliminary Diagnostics: Dickey-Fuller unit-root tests indicate the three market indices (Dow Jones, S&P, Nasdaq) are nonstationary and become stationary when first differenced. Preliminary diagnostics

Model: Random walk with drift, with additional dummy variable shifting from 0 to 1 on Nov 9, 2016, the day after Trump was elected. Asymmetric EGARCH (1,1) model for conditional error variance, generalized error distribution (GED) to allow for 'fat tails' in the error distribution and Trump dummy variable as covariate in the conditional variance model. Model parameters estimated using Eviews 15, November 30, 2017 build

Key Finding: upward trend (drift) in major market indices (Dow Jones, S & P, Nasdaq) all increased significantly after Trump was elected president. The effects are sizable, e.g., for the Dow Jones, controlling for overall trend, the Trump drift term can account for 4,178 of the 6,421 point upward movement in the index since he was elected. Trump did not just 'surf along' on the overall upward market trend.

Figure 1. Dow Jones Daily Industrial Average, January 5, 2009 - December 22, 2017

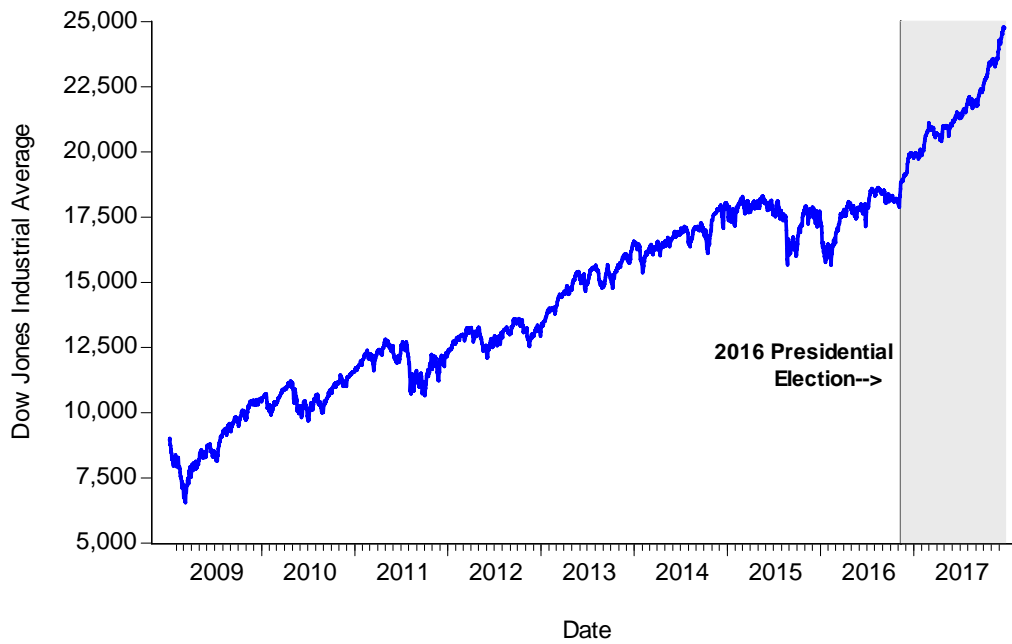


Figure 2. Standard and Poor's 500 Daily Index, January 5, 2009 - December 22, 2017

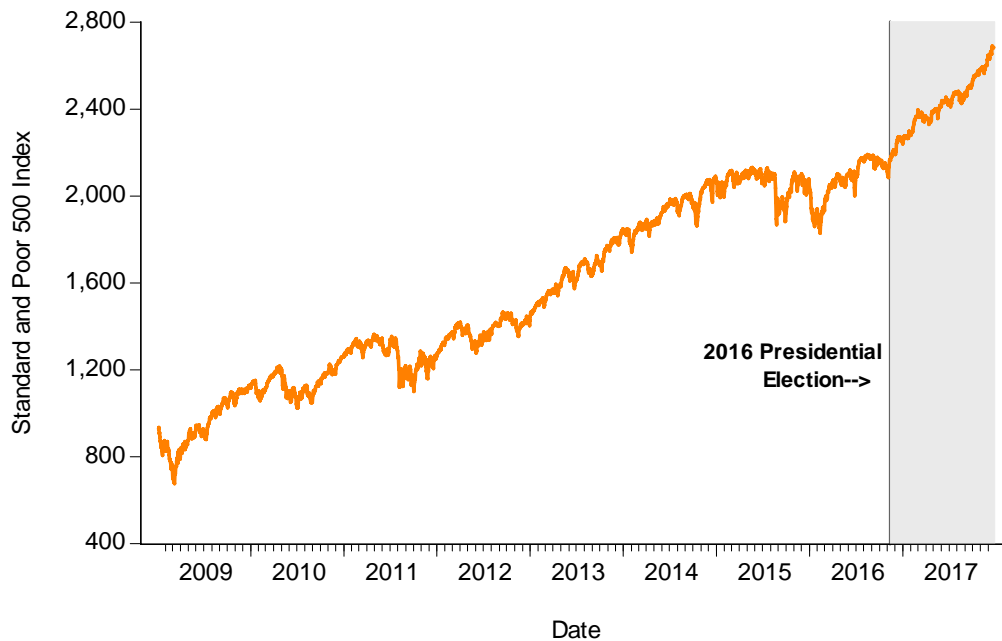
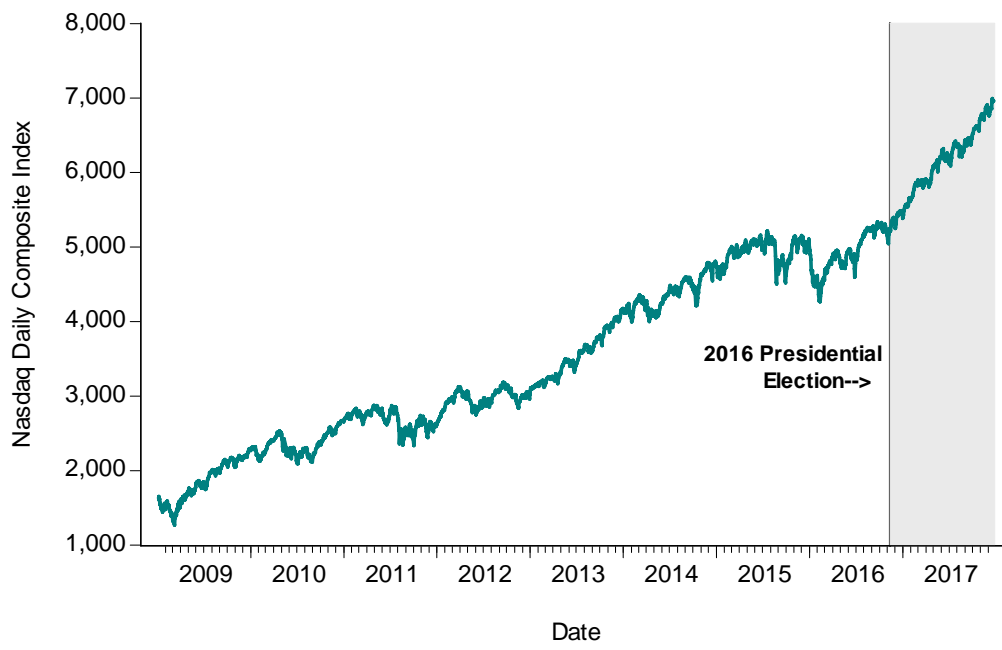


Figure 3. Nasdaq Daily Composite Index
January 5, 2009 - December 22, 2017



**Table 1. Dow Jones Random Walk With Overall and Trump Drift Model,
EGARCH (1,1), GED Error Distribution,
Asymmetric Innovations with Trump Covariate**

Dependent Variable: DJREVD

Method: ML - ARCH (Marquardt) - Generalized error distribution (GED)

Date: 12/28/17 Time: 10:29

Sample (adjusted): 1/06/2009 12/22/2017

Included observations: 2339 after adjustments

Convergence achieved after 16 iterations

Presample variance: backcast (parameter = 0.7)

LOG(GARCH) = C(3) + C(4)*ABS(RESID(-1)/@SQRT(GARCH(-1))) + C(5)

*RESID(-1)/@SQRT(GARCH(-1)) + C(6)*LOG(GARCH(-1)) + C(7)

*TRUMP

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	5.788316	1.988429	2.910999	0.0036
TRUMP	14.26105	4.883786	2.920081	0.0035
Variance Equation				
C(3)	0.402702	0.081345	4.950566	0.0000
C(4)	0.154342	0.027394	5.634194	0.0000
C(5)	-0.192342	0.020246	-9.500111	0.0000
C(6)	0.944122	0.009381	100.6431	0.0000
C(7)	-0.004386	0.015350	-0.285730	0.7751
GED PARAMETER	1.305090	0.049239	26.50511	0.0000
R-squared	0.002168	Mean dependent var		6.755524
Adjusted R-squared	0.001741	S.D. dependent var		120.0127
S.E. of regression	119.9082	Akaike info criterion		12.14297
Sum squared resid	33601310	Schwarz criterion		12.16267
Log likelihood	-14193.21	Hannan-Quinn criter.		12.15015
Durbin-Watson stat	2.073016			

**Table 2. S & P Random Walk Model with Overall and Trump Drift,
EGARCH (1,1), GED Error Distribution,
Asymmetric Innovations with Trump Covariate**

Dependent Variable: SPHDCD

Method: ML ARCH - Generalized error distribution (GED) (Marquardt /
EViews legacy)

Date: 12/27/17 Time: 07:53

Sample (adjusted): 1/06/2009 12/22/2017

Included observations: 2339 after adjustments

Convergence achieved after 17 iterations

Presample variance: backcast (parameter = 0.7)

LOG(GARCH) = C(3) + C(4)*ABS(RESID(-1)/@SQRT(GARCH(-1))) + C(5)

*RESID(-1)/@SQRT(GARCH(-1)) + C(6)*LOG(GARCH(-1)) + C(7)

*TRUMP

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.622460	0.230410	2.701525	0.0069
TRUMP	0.949485	0.542485	1.750251	0.0801
Variance Equation				
C(3)	0.201579	0.041647	4.840214	0.0000
C(4)	0.117034	0.024452	4.786325	0.0000
C(5)	-0.233195	0.021888	-10.65415	0.0000
C(6)	0.942351	0.008664	108.7703	0.0000
C(7)	-0.020021	0.016747	-1.195487	0.2319
GED PARAMETER	1.283622	0.045174	28.41487	0.0000
R-squared	0.000817	Mean dependent var		0.750701
Adjusted R-squared	0.000389	S.D. dependent var		14.17519
S.E. of regression	14.17243	Akaike info criterion		7.852161
Sum squared resid	469404.4	Schwarz criterion		7.871853
Log likelihood	-9175.102	Hannan-Quinn criter.		7.859334
Durbin-Watson stat	2.066835			

**Table 3. Nasdaq Random Walk Model with Overall and Trump Drift,
EGARCH (1,1), GED Error Distribution,
Asymmetric Innovations with Trump Covariate**

Dependent Variable: NASDAQREVD

Method: ML ARCH - Generalized error distribution (GED) (BFGS / Marquardt steps)

Date: 12/28/17 Time: 09:44

Sample (adjusted): 1/06/2009 12/22/2017

Included observations: 2339 after adjustments

Convergence achieved after 58 iterations

Coefficient covariance computed using outer product of gradients

Presample variance: backcast (parameter = 0.7)

LOG(GARCH) = C(3) + C(4)*ABS(RESID(-1)/@SQRT(GARCH(-1))) + C(5)

*RESID(-1)/@SQRT(GARCH(-1)) + C(6)*LOG(GARCH(-1)) + C(7)

*TRUMP

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	2.454378	0.582365	4.214500	0.0000
TRUMP	4.166422	1.871515	2.226230	0.0260
Variance Equation				
C(3)	0.254972	0.052633	4.844334	0.0000
C(4)	0.111173	0.026561	4.185590	0.0000
C(5)	-0.207802	0.020742	-10.01820	0.0000
C(6)	0.950201	0.008233	115.4187	0.0000
C(7)	0.009529	0.013878	0.686643	0.4923
GED PARAMETER	1.286602	0.046639	27.58650	0.0000
R-squared	0.001135	Mean dependent var		2.279577
Adjusted R-squared	0.000708	S.D. dependent var		36.67166
S.E. of regression	36.65868	Akaike info criterion		9.777193
Sum squared resid	3140598.	Schwarz criterion		9.796885
Log likelihood	-11426.43	Hannan-Quinn criter.		9.784366
Durbin-Watson stat	2.014449			

Note: model diagnostics indicates residual autocorrelations and squared residual autocorrelation are white noise thru 36 lags.