

Trumping the Economy?

Harold D. Clarke, Karl Ho, Marianne Stewart
University of Texas at Dallas

Introduction

Since his election in November 2016, Donald Trump has repeatedly claimed that he is responsible for a surge in the performance of the American economy. In this poster, we present the results of analyses of trends in the performance of the macro-economy over the period from January 2009 to February 2019. A principal focus is the stock-market. Using Exponential GARCH models (EGARCH) (Nelson 1991), we analyze if the dynamics of the mean and variance of major market indices (Dow Jones, S&P 500, NASDAQ) have varied systematically since Trump became president. We also conduct similar analyses for other major macro-economic indicators such as growth and unemployment, with the latter considered for population sub-groups such as African-Americans, Hispanics and Whites. Data for the analyses are downloaded from the FRED (Federal Reserve Bank of St. Louis) Database website.

Method

The EGARCH or Exponential GARCH model was proposed by Nelson (1991). The specification for the conditional variance is:

$$\log(\sigma_t^2) = \omega + \sum_{j=1}^q \beta_j \log(\sigma_{t-j}^2) + \sum_{i=1}^p \alpha_i \left| \frac{\epsilon_{t-i}}{\sigma_{t-i}} \right| + \sum_{k=1}^r \gamma_k \frac{\epsilon_{t-k}}{\sigma_{t-k}}$$

Note that the left-hand side is the log of the conditional variance. This implies that the leverage effect is exponential, rather than quadratic, and that forecasts of the conditional variance are guaranteed to be nonnegative.

Findings

Figure 1 a-d. US economy since Trump presidency:
Dow Jones Industrial Average, Nasdaq, S&P 500 and Real GDP growth

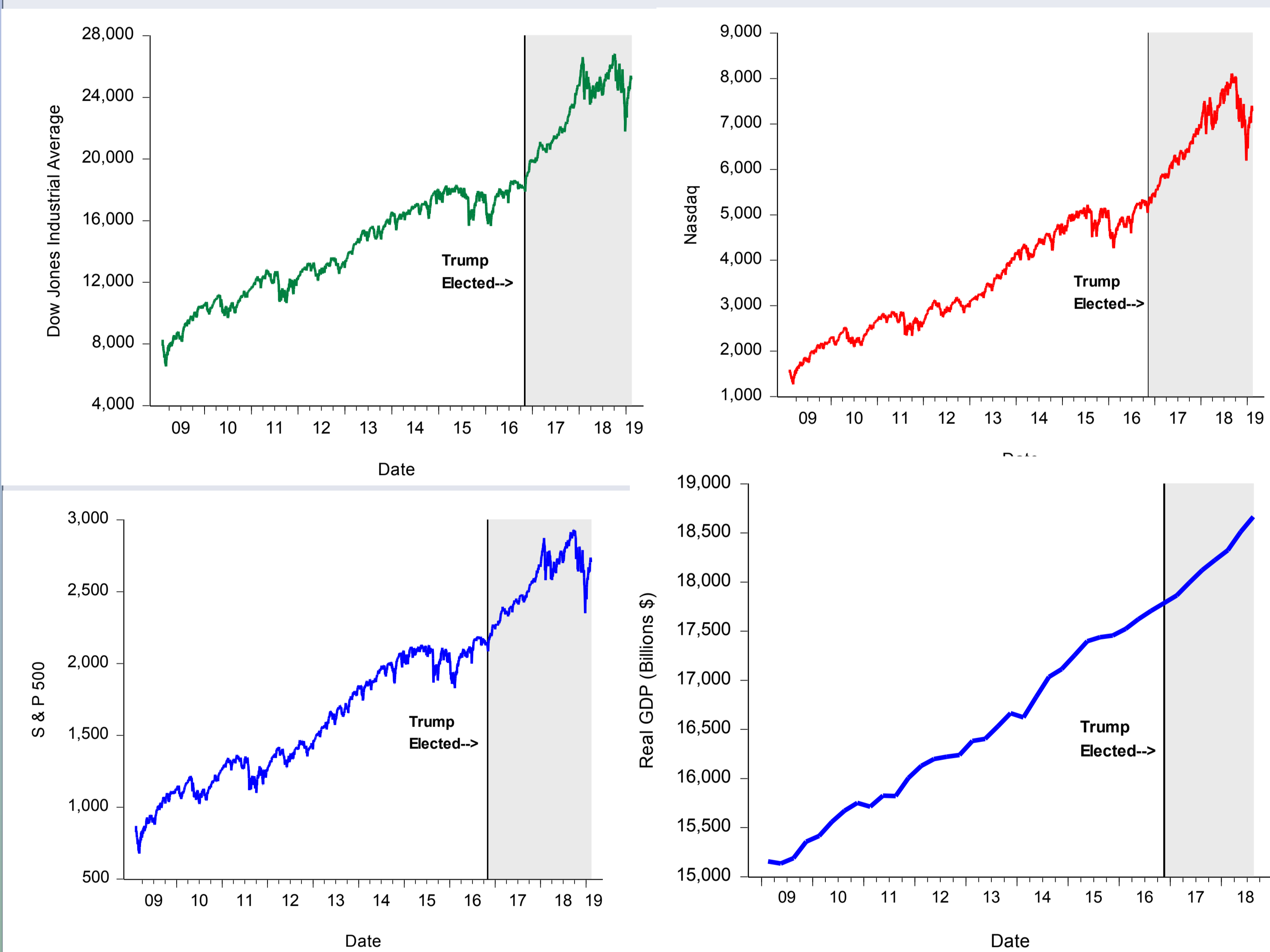


Table 1. Asymmetric EGARCH Models of the Dynamics of S & P, Dow Jones and Nasdaq Monthly Stock Indices, February 2009 - February 2019

	S & P 500	Dow Jones	Nasdaq
Mean			
Constant	.430*	4.230*	1.667**
Trump	.779†	10.701*	2.660†
Conditional Variance			
EGARCH(1,1)			
C(3)	.159***	.354***	44.259***
C(4)	.155***	.183***	-.017*
C(5)	-.203***	-.178***	.210***
C(6)	.946***	.947***	.874***
C(7) Trump	.030**	.043**	83.922***

*** - $p \leq .001$; ** - $p \leq .01$; * - $p \leq .05$; † - $p \leq .10$; one-tailed test

Data Source: FRED (Federal Reserve Bank of St. Louis) database

Note: Numeric optimization - BFGS with Marquardt steps

ASYMMETRIC EGARCH (1,1) Model:

$$C(3) + C(4)*ABS(RESID(-1)/@SQRT(GARCH(-1))) + C(5)*RESID(-1)/@SQRT(GARCH(-1)) + C(6)*LOG(GARCH(-1)) + C(7)*TRUMP$$

Table 2. The Dynamics of Real GDP, 2009Q1 - 2018Q3 and Unemployment, January 2009 - January 2019

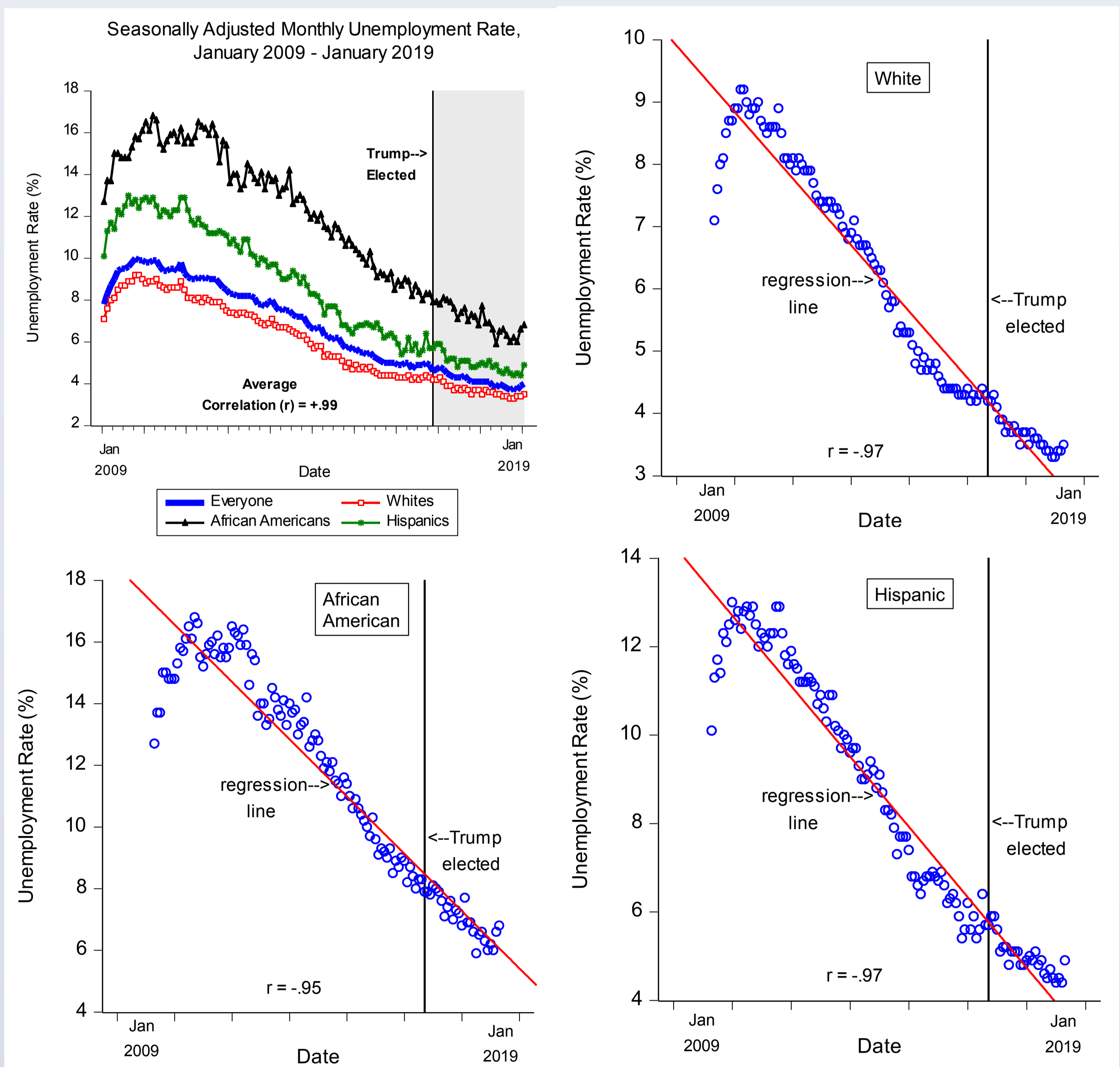
	Real GDP	Unemployment
Mean		
C	74.212***	-.047***
Trump	53.834***	.027
Conditional Variance		
GARCH(1,1)		GARCH(1,0)
C(3)	5144.419*	C(3) .018***
C(4)	.773	C(4) .292*
C(5)	-.24	C(5) Trump -.008a*
C(6) Trump(-1)	-4869.838*	---

*** - $p \leq .001$; ** - $p \leq .01$; * - $p \leq .05$; † - $p \leq .10$; one-tailed test

Data Source: FRED (Federal Reserve Bank of St. Louis) database

Note: Numeric optimization - BFGS with Marquardt steps

Figure 2. Unemployment since Trump presidency, by ethnic groups



Conclusion: The Economy Trumped

- Longstanding positive trends in stock indices, growth (real GDP), and negative trend in unemployment. All began early in the Obama era.
- However, positive "Trump bend" in trend for stock indices - effect is substantial for S&P, Dow Jones and Nasdaq indices. EGARCH models also show more volatility in all 3 indices in Trump era.
- Large positive "Trump bend" in real GDP trend, with less volatility than in Obama era.
- No significant Trump effect on unemployment. Long-running downward trend starting in 2009 has continued. This is true for entire workforce as well as whites, African Americans and Hispanics. Less volatility in dynamics of unemployment than in Obama era.
- Is Trump responsible for the economic good news? He vigorously claims credit. Whether electorate believes him will be important for 2020 presidential election outcome. New Cooperative Congressional Election Study (CCES) data show economic evaluations had large positive effects on attitudes towards Trump at time of 2018 mid-term congressional elections. Attitudes towards Trump, in turn, had large effects on voting. Trump needs a buoyant economy and voters to believe his claims that he is responsible for it to win in 2020.

References

Nelson, Daniel B. 1991. "Conditional Heteroskedasticity in Asset Returns: A New Approach," *Econometrica*, 59, 347-370.