

The 2012 U.S. Presidential Election: Did Markets Matter?

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The 2012 presidential opinion polls just before Election Day and economic models predicted a close popular vote. Using models estimated through 2008, 2012 presidential election vote shares are simulated with reasonable assumptions and actual results for economic growth rates, rates of inflation, and parameters known on Election Day. This study presents a Financial Markets Model and its expected increasing role on future president elections. The Market Model forecasts the incumbent Democrat to win the popular vote by 0.84 percent less than the actual result if the economy the public experienced had been reflected by the actual GDP growth data.

INTRODUCTION

The 2012 U.S. presidential election, following the financial crisis, the Obama Administration's controversial Wall Street and auto industry bailouts, and the increasing strength of the Tea Party, challenged election forecasters with a multitude of aspects they had never faced. President Barack Obama had proved in 2008 that a majority of the American electorate would vote for an African American candidate and that the "Bradley effect" did not determine that presidential outcome. However, the 2008 political environment was unusual with a war, a virtually unknown as the opposing vice presidential candidate, and a worse economy than the US had experienced since the Great Depression.

This paper contrasts pollsters' forecasts just before Election Day with predictions from financial economics models. The foundation for the models in this paper is the work by Ray Fair, beginning in 1996 and continuing through today. A variety of scholars – including political scientists, historians, and economists -- analysts, pollsters, and forecasters have contributed to understanding past American presidential election results. Among the many interesting papers are those cited in the reference list for this paper by Lewis-Beck, Campbell, Grier and McGarrity, and their colleagues. Campbell and Lewis-Beck edited an issue of *The International Journal of Forecasting* that includes papers by leading political scientists following the 2008 election. These papers, the more recent ones by Campbell, Lewis-Beck and their colleagues, and Fair's work provide the background for this paper.

Lewis-Beck convened a symposium (Lewis-Beck, 2009) to analyze the role of the economy and some unique factors on President Obama's first election. Analysis by Lewis-Beck and Nadeau (2009), Campbell (2008), Linn et. al. (2009), Erikson (2009), and Holbrook (2009) provide in-depth insights to the 2008 election and conclude that the economy was the primary factor that enabled President Obama to win. Lewis-Beck et. al. (2013) and Campbell (2012, 2013b) have provided additional insights into Obama's re-election campaign.

Campbell (2013a) served as guest editor for a 2013 issue of *PS: Political Science and Politics* to provide a recap of the election forecasts that were presented in the article he published in the same journal

just before the election. The other 15 contributors included Ambramowitz, Erickson and Wlezien, Holbrook, and Lewis-Beck and Tien, all of whose earlier work is cited among the references for this article.

Many of the variables examined by Lewis-Beck and his symposium colleagues are tested in this study across the 1920-2008 presidential elections. The models are applied to examine the results of the 2012 presidential popular vote.

Powell and Whitten (1993) examine political and economic factors for 102 elections in 19 industrialized democracies for 1969 – 1988. They do not find employment, inflation, or real GDP growth has a significant impact on gains or losses by incumbent parties. Variations of these three variables are examined in the current US study. Time periods between gains or losses, by country and election, could explain the lack of significance that Powell and Whitten find.

Walker (2006, 2008) tested models including macro-economic variables and structural variables for forecasting US presidential elections in the past 90 years. That research was inspired by Fair's early studies (2002, 2004).

This paper tests the importance of financial markets along with economic variables on presidential elections. Macro-dynamic models are developed to test how financial markets between January and October, just prior to a November presidential election, affect the outcome of the presidential election.

Alternative hypotheses and measures of the variables are defined in Section II. Primary multivariate regression models and tests for presidential elections through 2008 are reported in Section III. A Market Model is employed to develop election forecasts in Section IV. Section V provides contrasts between forecasts applying Fair's Economic Model, the Market Model, and results of polls and predictions immediately before the 2012 presidential election. Section VI presents the conclusions.

HYPOTHESES

The fundamental hypothesis for this paper is that financial markets and macro-economic factors have had increasing impacts on presidential elections since 1920. Variations of the model include alternative measures of economic growth and inflation. Impacts of financial markets are represented by election year percentage changes in the Dow Jones Industrial Average for January – October.

Following Fair, the dependent variable is the percentage of the presidential popular vote share (VOTE) between the two major parties that is received by the *incumbent party*, regardless of whether the office holder is a candidate for reelection. Over the 23 presidential elections from 1920 through 2008, the mean value of VOTE was 53.08 percent with a standard deviation of 6.95. In 1964 and 1972 the incumbent received more than 61 percent of the two-party vote share.

Other researchers explain the vote total or percentage for the winning party. While this is surely interesting following an election, that measure of the dependent variable is not useful to predict a future election unless the interest is the vote of the winning candidate, without identifying which party is victorious.

Data Sources

The independent variables are various measures of the ones that Fair has tested in his studies over the past two decades. The variables are defined in the Appendix. The macro-economic data are from Fair (2008) for presidential election years for 1920 through 2008. Other data are collected from the Congressional Quarterly Inc. *Guide to U.S. Elections* (1994), "Statistics of the Presidential and Congressional Election of November 2004" (2005), Schwert (1990), and the Federal Reserve Bank of St. Louis FRED2 data base.

Inflation

Inflation (INF) is measured by the year over year percentage change of the consumer price index (CPI). For the third quarter of year T, for example, $INF_{T,3} = (CPI_{T,3} / CPI_{T-1,3}) - 1$. Four variations of INF are tested.

- (1) declining weighted average of the election year (T) first and second quarters:

$$INF1 = (2/3) INF_{T,2} + (1/3) INF_{T,1}$$
- (2) declining weighted average over the six quarters prior to the election year (year T):

$$INF2 = (6/21) INF_{T,2} + (5/21) INF_{T,1} + (4/21) INF_{T-1,4} + (3/21) INF_{T-1,3} + (2/21) INF_{T-1,2} + (1/21) INF_{T-1,1}$$
- (3) declining weighted average over the 14 quarters of the current four-year administration (T, T-1, T-2, T-3) prior to the election quarter, 3, up to the election year:

$$INF3 = (14/105) INF_{T,2} + (13/105) INF_{T,1} + \dots + (2/105) INF_{T-3,2} + (1/105) INF_{T-3,1}$$
- (4) the rate of inflation for the second quarter of the election year $INF4 = INF_{T,2}$

These four measures of INF are highly correlated. The smallest pairwise correlation coefficient among the four measures is 0.87.

War

The potential impact of a war on a presidential election is represented by WAR. Fair defines war years to be 1920, 1944, and 1948. He captures the impacts of war and immediate post war economies, but only for the two world wars. WAR includes the same election years as Fair, plus the Korean and Viet Nam wars.

One element of the Eisenhower presidential campaign in 1952 was his prestige as a World War II General and his 1952 campaign promise to go to Korea to settle that War. The electorate had confidence in Eisenhower's ability to conclude this war. In 1968, President Johnson withdrew from the primaries after his popularity had deteriorated, and both the Iowa Caucus and the New Hampshire Primary indicated that he could not win re-election as a result of his Viet Nam War policies. Nixon convinced the electorate that he could end the Viet Nam War with a "secret plan," and he beat Democratic Vice President Hubert Humphrey in a close election. Nixon won re-election in 1972, defeating anti-war candidate George McGovern, in spite of the Watergate accusations that led to Nixon's resignation two years later.

On the basis of these arguments, Walker (2006, 2008) represented war years as

$$WAR = 1 \text{ for } 1920, 1944, 1948, 1952, 1968, \text{ and } 1972, \text{ and } 0 \text{ otherwise.}$$

Three alternatives to WAR are tested for the market models to examine effects of definitions of war years.

$$WAR1 = 1 \text{ for } 1920, 1944, 1948, 1952, 1968, 1972, 2004, 2008, \text{ and } 0 \text{ otherwise}$$

$$WAR2 = 1 \text{ for } 1944, 1952, 1968, 1972, \text{ and } 0 \text{ otherwise}$$

$$WAR3 = 1 \text{ for } 1944, 1952, 1968, 1972, 2004, 2008, \text{ and } 0 \text{ otherwise}$$

Growth

Economic growth measures for the market model, G, are constructed in an analogous manner to INF. The values of G are time-weighted variations of real per capita GDP and real GDP as a ratio to population (POP), for election year T.

- (1) declining weighted average election year first and second quarters:

$$G1 = (2/3) (GDP/POP)_{T,2} + (1/3) (GDP/POP)_{T,1}$$

- (2) average election year first and second quarters:

$$G2 = (1/2) (GDP/POP)_{T,2} + (1/2) (GDP/POP)_{T,1}$$

- (3) average election year three quarters:

$$G3 = (1/3) (GDP/POP)_{T,3} + (1/3) (GDP/POP)_{T,2} + (1/3) (GDP/POP)_{T,1}$$

These growth measures are highly correlated. The smallest correlation coefficient among them is 0.85.

Fair's Other Factors

Fair's measures of GOODNEWS, PERSON, DURATION, and PARTY are also included.

$$GOODNEWS = \text{quarters in first 15 of an administration when real } \% \Delta GDP/POP > 3.2 \%$$

PARTY = 1 with a Democratic incumbent and -1 with a Republican incumbent
PERSON = 1 if the incumbent person is running for reelection, and 0 otherwise
DURATION = 0 if incumbent party has been in power 1 term; =1 if for 2 consecutive terms;
=1.25 if for 3 consecutive terms; and =1.50 for 4 consecutive terms

PRIMARY AND MARKET MODELS

A primary regression model is selected for presidential elections from 1920 through 2008. The model is the foundation to test the importance of financial markets and economic variables to predict whether the incumbent party would receive the largest popular vote in 2012. President Obama was reelected with almost 52 (51.96) percent of the two major party popular vote.

Autocorrelation is removed with a traditional AR(1) and/or AR(2) transformation in each case. Variables with coefficients that are not statistically significant at the 5 percent level are eliminated to select the model as a basis for 2012 forecasts.

Primary Model

To allow tests for the importance of financial markets and economic factors during election years, a primary model is estimated for 1920-2008 elections that include measures of growth, inflation, wars and other factors that influence the presidential election vote of the incumbent party (VOTE). Model (1.1) in Table 1 has the most statistically significant coefficients with variables determined by Fair and some alternatives described above. PERSON and DURATION were eliminated from earlier models because their coefficients were not statistically significant at any meaningful level and the importance of each remaining variable is enhanced. In another paper Walker (2006) has shown the importance of removing auto-correlation in similar models.

The measures of INF and G that have the most statistically significant coefficients are $INF = INF1$ and $G = G1$. These are the inflation and economic growth measures on the basis of only election year data (T) weighted twice as heavily for the second quarter as the first quarter of the election year ($2/3, T$) and ($1/3, T$). The other measures for INF and G provide similar results, but their coefficients have less statistical significance. Among the representations of WAR, the coefficient of WAR3 has the most statistical significance; this reflects the military actions in which the US engaged after 9/11, debates and voter reactions to these military actions, and the military activity ongoing during the 2008 campaign.

Potential Role of Financial Markets

Whether financial markets reflect past, present, or future political results is a subject of a vast literature. Linn and her colleagues (2009) find the daily closing price for the Dow Jones Industrial Average did not have a significant impact on candidate support in the 2008 presidential election. Santa-Clara and Valkanov (2003), Ferri (2008), and many others have offered a variety of insights. These studies do not preclude the impact of financial markets on a lengthy time series of the markets' experience throughout numerous US presidential elections. It is hypothesized (i) that financial markets *may* influence presidential voting distinctly from macro-economic variables included in model (1.1) and (ii) that financial markets may *become* more important in presidential voting over time. Three variables are tested to examine the impact of financial markets on presidential vote shares.

The impacts of financial markets are represented by the percentage change in the Dow Jones Industrial Average ($\% \Delta DJ = DJCH$) between January 1 and October 31 of the presidential election year. Other financial markets indices would be highly correlated with $\% \Delta DJ$, but in many cases consistent data are not available for the whole period since the election of 1920. For example, the S&P 500 index in its current form, was first published in 1957.

Variations of $\% \Delta DJ$ reflect some of the changes in the potential importance of financial markets over time. An increasing percentage of the population has invested in financial markets and instruments in recent years. A 2011 Gallop Poll reports that 54 percent of Americans owned stocks, stock mutual funds, or individual stocks in their retirement accounts. Eighty years ago the comparable number was tiny. One

representation of this trend is to multiply a time variable, t by $\% \Delta DJ$; $DJCHT = t \times \% \Delta DJ$. With $t=1$ for 1920 and incremented by 1 for each succeeding presidential election, potential increasing impacts of financial markets can be tested. For the 2012 election $t = 24$.

TABLE 1
ECONOMICS AND MARKET MODELS 1920 – 2008

	MODEL <u>1.1</u>	MODEL <u>1.2</u>	MODEL <u>1.3</u>	MODEL <u>1.4</u>
CONSTANT	46.2771 31.28	46.4252 32.66	48.2559 30.58	46.553 35.54
GROWTH	0.6239 4.65	0.6173 4.79	0.6237 4.54	0.6097 5.16
INFLATION	-0.2990 -2.47	-0.3191 -2.72	-0.3254 -2.52	-0.2438 -2.24
GOODNEWS	0.9624 4.44	0.8760 4.08	0.9444 4.24	0.8414 4.24
%Δ DJIA		0.1146 1.65		
t *%Δ DJIA			0.0042 0.73	
DJEXP15				1.9146 2.25
PARTY	-1.8368 -2.54	-1.8242 -2.63	-1.8828 -2.54	-1.6449 -2.56
WAR	3.3239 2.28	3.1218 2.22	3.3412 2.24	3.0335 2.35
DW	2.38	2.27	2.36	2.31
e(t-1)	-0.7289 -4.11	-0.7007 -3.63	-0.7148 -3.78	-0.7392 -4.17
adj. R-square	0.68	0.71	0.67	0.75
F statistic	8.38	8.39	7.04	9.86

Another variation of financial market impacts reflects the possibility that financial markets have increasing importance from an initial influence at $t_0 = 1920$ and reaching a plateau at some point. Some

portion of the American population will never choose to become active investors in financial markets. This potential impact of financial markets on presidential elections can be represented by an exponential probability distribution from t_0 to t as

$$DJEXPr = \% \Delta DJ \times [r \exp(-r(t-t_0))]$$

with a range of values for r to be explored where t_0 is year 1 (1920), $t = 1, 2, \dots, 23$ to estimate the model. For 2008, $t = 23$. The long-term coefficient for DJEXPr is stable.

Market Models

Models (1.2), (1.3), and (1.4) in Table 1 provide results of introducing financial market variables into Model (1.1). At the five percent significance level, the coefficient of DJEXPr when $r = .15$ (DJEXP15) is statistically significant. Each of these extensions strengthens the basic model, (1.1), somewhat. Among the three representations of financial market activity, the t -statistic is highest for DJEXP15. Including DJEXP15 increases the adjusted R-square to 0.75, reduces the Durbin-Watson statistic to 2.31, and introduces a variable whose coefficient is statistically significantly different from zero at the 5 percent level. The value of DJEXP15, is zero at $t_0 = 1920$ and rises steadily in succeeding years. For $r = 0.15$, 99 percent of the value of the coefficient is captured after about 30 presidential elections, by 2032. These effects of financial market participation would be fairly stable beyond that time. The great majority of voters in 2032 will have been born after 1950.

Model (1.4), including DJEXP15, is an effective Market Model with macro-economic variables. The volatility of financial markets in recent years suggests that including the impact of financial markets may have been an increasingly important factor for the 2012 presidential election and for future presidential elections.

MARKET MODEL 2012 ELECTION FORECASTS

On election day, the values of some of the variables in the model are known, voters have experienced some circumstances, but for other factors, voters are influenced by perceptions or expectations. To apply the model, the values of the unknown factors are assumed to be what actually occurred or what forecasts were available on election day. For example, the GDP growth for the third quarter of the election year is unknown on election day, only five weeks after the end of that quarter, but voters have experienced and observed economic activity.

The U.S. is not at war so $WAR = 0$. $e(t-1) = e(2008)$ -- the errors for Model (1.4) estimated through 2008 -- after estimating models with data through the 2008 election. For 2012, $PARTY = 1$ since there was an incumbent Democrat.

Some 2012 election expectations are based upon fall 2012 alternatives for GROWTH and INFLATION. However, the expectations of these economic variables are part of what is hypothesized or experienced to determine voters' decisions.

Goodnews and Growth

A key factor is the number of quarters among the first 15 quarters during a presidential administration for which GDP growth is greater than 3.2 percent (GOODNEWS). On the basis of the data published by the Bureau of Economic Analysis (2012) by election day, for two of the first 14 quarters of the Obama Administration, GDP growth exceeded 3.2 percent. For the fourth quarter of 2009 and the second quarter of 2011, the GDP growth rates were 4.0 and 4.1, percent, respectively. Therefore GOODNEWS was believed to equal 2.

On July 31, 2013, the Bureau of Economic Analysis (2013) released a comprehensive revision of the national income and product accounts for 1929 through the first quarter of 2013. On the basis of these comprehensive revisions, on election day 2012, the GDP growth rates that voters had experienced during

the Obama Administration were different from the announced data. According to the comprehensive revisions, the GDP growth rates that exceeded 3.2 were:

- 3.9% for 2009-II
- 3.9% for 2010-II
- 4.9% for 2011-IV
- 3.7% for 2012-I

Therefore, on election day 2012 GOODNEWS = 4.

The November 2012 Federal Reserve Bank of Philadelphia (2012) real GDP growth survey forecasted GDP growth for 2012 to be 2.2 percent. *The Economist* (2013) poll also expected GDP growth for the 2012 to be 2.2 percent. The revised data for the first three quarters of 2012 are that GDP growth was 2.6 percent and inflation was 2.1 percent.

Inflation

The November 2012 Federal Reserve Bank of Philadelphia survey expected inflation to be 2.0 for 2012. *The Economist* (2013) poll expected 2012 inflation to be 2.1 percent. Since actual GDP growth and inflation for 2012 are unknown until well after the election, election day predictions and *ex post* data are examined for the Market Model for scenarios of GROWTH and INFLATION. Reasonable pairs are:

GROWTH	2.6	2.5	2.4	2.3	2.2	2.1	2.0
INFLATION	1.6	1.7	1.8	1.9	2.0	2.1	2.2

The actual 2012 results, GROWTH = 2.6 and INFLATION = 2.1, will also be analyzed.

Dow Jones Industrial Average

On January 1, 2012 the Dow Jones Industrial Average (DJIA) was 12,217.56. It had increased by 7.19 percent to 13,096.46 by the end of October, 2012.

Election Forecasts

Table 2 provides incumbent presidential party forecasts on the basis of the Market Model (1.4), under the assumptions discussed above and two scenarios for GOODNEWS: GOODNEWS = 2 and GOODNEWS = 4. Election forecasts of the two major party vote shares are for the incumbent party vote. The actual election result was 51.96 percent of the two party vote for President Obama.

The Federal Reserve Bank of Philadelphia and *The Economist* annual 2012 forecasts available on election day (GROWTH = 2.2 and INFLATION = 2.0) and the actual rates for the first three quarters of 2013 (GROWTH = 2.6 and INFLATION = 2.1) will be the focus among the alternatives in Table 2. For GROWTH = 2.2, INFLATION = 2.0 with GOODNEWS = 2, the Democratic incumbent candidate is forecasted to have received 49.2 of the two party vote. However, for the July 31, 2013 revised data, GOODNEWS becomes 4. For GOODNEWS = 4, if GROWTH = 2.2 and INFLATION = 2.0, the Democratic incumbent is forecasted to receive 50.9 percent of the two party vote. For the actual rates, GROWTH = 2.6 and INFLATION = 2.1, the incumbent is forecasted to receive 51.12 percent of the two party vote.

TABLE 2
VOTE SHARE OF DEMOCRAT 2012
%Δ DJIA January 1 to October 31, 2012 = 7.19%

GROWTH	INFLATION	GOODNEWS =2	GOODNEWS=4
2.0	2.2	49.04	50.73
2.1	2.1	49.13	50.81
2.2	2.0	49.21	50.90
2.3	1.9	49.30	50.98
2.4	1.8	49.38	51.07
2.5	1.7	49.47	51.15
2.6	1.6	49.56	51.24
2.6	2.1	49.43	51.12

ECONOMIC AND MARKET MODELS VERSUS THE POLLS

The effectiveness of the Economic and Market Models can be judged in several ways. One contrast for the Market Model is Ray Fair's Economics Model (2013) since his work is the foundation for developing the Market Model. Of the two major parties popular vote, Fair predicted the Democrat would receive 51.6 percent, which is close to the actual percentage of 51.96 that President Obama received among votes for the two major parties.

In most cases, presidential election forecasts and polls predict the popular percentage vote for the Democrat (D), the Republican (R), and others (O) including undecided voters. For contrasts between models in this paper and pollsters and forecasters' predictions, others are *allocated* between the two parties on the basis of the percentages voting for the two major parties. Therefore, the democratic share is $D/(D+R)$ and the republican share is $R/(D+R)$.

The Democratic vote predictions from the models and the major polls are listed in Table 3, along with the polling date. The error between the actual two party vote shares for President Obama and the forecast is shown in parentheses. In every case, the forecast or prediction was below the actual vote the President received. Only Fair, the Iowa Electronic Market (IEM), the NBC-*Wall Street Journal*, and the Financial Market Model with GOODNEWS = 4 predicted the President would receive more than 50 percent of the two party vote. Five of the 12 polls or predictions listed in Table 3 predicted the incumbent would receive 49.5 percent of the two party vote shares.

The Iowa Electronic Market (Berg et. al, 2008, Forsythe, et. al., 1992) is included as a representative of numerous markets that allow investors to purchase shares or contracts of political candidates across the internet. The IEM has forecasted presidential vote shares more accurately than the major of pollsters and models for the past six presidential elections.

TABLE 3
DEMOCRATIC SHARE OF THE TWO PARTY ELECTION POLLS AND FORECASTS

<u>Poll/Predictions</u>	<u>Date</u>	<u>Incumbent Two Party Share (error) ¹</u>	<u>Source</u>
Final Vote Tally	Mar. 3, 2013	52.0	http://uselectionatlas.org/RESULTS/national.php
Fair	Oct. 26	51.6 (0.4)	http://fairmodel.econ.yale.edu/vote2012/index2
Market Model GOODNEWS = 4		51.1 (0.9)	
Iowa Electronic Market	Nov. 5	50.6 (1.4)	www.iemweb.biz.uiowa.edu/PriceHistory
<i>NBC/Wall Street Journal</i>	Nov. 4	50.5 (1.5)	http://firstread.nbcnews.com/_news/2012/11/01
CNN	Nov. 4	50.0 (2.0)	www.cnn.com/POLITICS/pollingcenter/index
Politico/GW	Nov. 4-5	50.0	www.politico.com2012-election-polls/president
Gallup	Nov. 5	49.5 (2.5)	www.gallup.com/poll/158519 Gallup Editors
Rasmussen Reports	Nov. 1-4	49.5 (2.5)	www.politico.com2012-election-polls/president
<i>NY Times/CBS</i>	Oct. 30	49.5 (2.5)	www.nytimes.com/2012/10/31/us/politics Zeleny and Connelly
<i>ABC/ Washington Post</i>	Oct. 27	49.5 (2.5)	ABC NEWS/WASHINGTON POST POLL, Election Tracking No. 7
NPR	Oct. 23-25	49.5 (2.5)	NPR/Resurgent Republic/Democracy Corps, Post-Debate Survey, qu. 21
Market Model GOODNEWS = 2		49.4 (2.6)	

¹ Polls collect data on the Democrat (D), the Republican (R), and others (O) including undecided voters. For contrasts between models in this paper and pollsters and forecasters' predictions, others are allocated between the two parties on the basis of the percentages responding to the two major parties. Therefore, the democratic share is $D/(D+R)$. error = final vote tally – forecast or prediction

Except for the Gallup and Rasmussen polls, the polls or predictions developed closest to Election Day were closer to the final vote tally. The approaches that rely heavily on economic and financial variables performed at least as well or better than others, except the NBC – *Wall Street Journal* poll. Fair, the IEM, and the Market Model are three of the four predictions that President Obama would receive more than 50 percent of the two party vote.

Over time, the models and methods used by pollsters and financial economists will be revised to attempt to forecast results that are closer to the actual outcome. The forecast error of the Market Model should be reduced over future elections because the market variable, $DJEXPr = \% \Delta DJ \times [r \exp(-r(t-t_0))]$, is an increasing function of time; for 2016, $t = 25$, for example.

Nate Silver (2012a) correctly predicted the presidential election winner in each of the 50 states for 2012 and in 49 of the 50 states in 2008. On November 1, 2012, he predicted that the chance that President Obama would win was 79.0 percent.

CONCLUSIONS

This study contrasts 2012 presidential election predictions by pollsters and several financial and economic models. The financial markets model includes impacts *and* their expected increasing role in future president elections for a Market Model that expands on the work of Ray Fair. On the basis of the data and expectations on election day 2012, the financial model indicates that the incumbent Democrat would win the popular vote in the 2012 presidential election if the economic growth the voters experienced during the Obama Administration had been reflected in the published data. GOODNEWS increases to 4.

The Market Model predicted the incumbent Democrat's share of the two party popular vote would be 51.1 percent, when the Dow Jones Average increased by 7.19 percent over the first 10 months of 2012. Ray Fair's economic model, estimated through 2008, forecasted the 2012 election with less error than any of the polls and the Market Model.

REFERENCES

Ambramowitz, A.I. (2008). Forecasting the 2008 Presidential Election with the Time-for-Change Model. *PS, Political Science and Politics*, 37, (4), 691-695.

Bureau of Economic Analysis.(2013). National Income and Product Accounts, Gross Domestic Product, 3rd Quarter 2013. U.S. Department of Commerce. July 31.

Bureau of Economic Analysis.(2012). National Income and Product Accounts, Gross Domestic Product, 2nd Quarter 2012. U.S. Department of Commerce. July 27.

Berg, J. E., Nelson, F. D. & Rietz, T.A. (2008). Prediction Market Accuracy in the Long Run. *International Journal of Forecasting*, 24, (2), 283-298.

Berg, J., Forsythe, R., Nelson, F. & Rietz, T. (2004). Results from a Dozen Years of Election Futures Markets Research. *The Handbook of Experimental Economic Results*, C. Plott and V.L. Smith, eds., Elsevier Science B.V., Amsterdam, The Netherlands.

Campbell, J.E. (2013a). Recap: Forecasting the 2012 Election. *PS: Political Science and Politics*, 46, (1), 40-41.

Campbell, J.E. (2013b). The Miserable Presidential Election of 2012: A First Party-Term Incumbent Survives. *The Forum*, 10, (4), 20-28.

- Campbell, J.E. (2012). Forecasting the Presidential and Congressional Elections of 2012: The Trial-Heat and Seats-in Trouble Models. *PS: Political Science and Politics*, 45, (4), 630-635.
- Campbell, J.E. (2008). An Exceptional Election: Performance, Values, and Crisis in the 2008 Presidential Election. *The Forum*, 6, (4), 1-20.
- Campbell, J.E. (2004a). The Fundamentals in U.S. Presidential Elections: Public Opinion, the Economy, and Incumbency in the 2004 Presidential Election, September. University of Buffalo, Buffalo, NY.
- Campbell, J.E. (2004b), Forecasting the Presidential Vote in 2004: Placing Preference Polls in Context. *PS: Political Science and Politics*, 37, (4), 763-767.
- Campbell, J.E. (2004c). Introduction – The 2004 Presidential Election Forecasts. *PS: Political Science and Politics*, 37, (4), 679-682.
- Campbell, J.E. (2000). *The American Campaign: U.S. Presidential Elections and Campaigns and the National Vote*, Texas A & M Press, College Station, Texas.
- Campbell, J.E. (1996). Polls and Votes: The Trial Heat Presidential Election Forecasting Model, Certainty and Political Campaigns. *American Politics Quarterly*, 24, (4), 408-433.
- Campbell, J.E. & Garand, J.C., eds. (2000). *Before the Vote: Forecasting American National Elections*, Sage Publications, Thousand Oaks, CA.
- Campbell, J.E. & Lewis-Beck, M.S., eds. (2008). *International Journal of Forecasting*, 24, (2).
- Campbell, J.E. & Wink, K.A. (1990). Trial Heat Forecasts of the Presidential Vote. *American Politics Quarterly*, 18, (3), 513-524.
- Ceaser, J.W. & DiSalvo, D. (2009). The Magnitude of the 2008 Democratic Victory: By the Numbers. *The Forum*, 6, (4), article 8.
- Congressional Quarterly Inc. 1994. *Guide to U.S. Elections*, 3rd edition, Washington, DC.
- Erikson, R.S. (2009). The American Voter and the Economy, 2008. *PS, Political Science and Politics*, 42, (2), 467-472.
- Erikson, R.S. & Wlezien, C. (2008). Are Political Markets Really Superior to Polls as Election Predictors? *Public Opinion Quarterly*, 72, (2), 190-215.
- Fair, R.C. (2009a). Interpreting the Predictive Uncertainty of Elections. *Journal of Politics*, 71, (2), 612-626.
- Fair, R.C. (2009b). Presidential and Congressional Vote-Share Equations. *American Journal of Political Science*, 53, (1), 55-72.
- Fair, R.C. (2008). The Effect of Economic Events on Votes for President: 2008 Update. <http://fairmodel.econ.yale.edu/vote2008/computev.htm>
- Fair, R.C. (2004). The Effect of Economic Events on Votes for President: 2000 Update. <http://fairmodel.econ.yale.edu/vote2004/computev.htm>

- Fair, R.C. (2002). *Predicting Presidential Elections and Other Things*, Stanford University Press, Stanford, CA.
- Fair, R.C. (1996). Econometrics and Presidential Elections. *The Journal of Economic Perspectives*, 10, (3), 89-102.
- Fair, R.C. (1978). The Effect of Economic Events on Votes for President. *Review of Economics and Statistics*, 60, (2), 159-173.
- Farrell, M.L. (1972). *The Dow Jones Averages, 1885 – 1970*, Dow Jones & Company, New York, NY.
- Federal Reserve Bank of Philadelphia. 2012. Fourth Quarter 2012 Survey of Professional Forecasters. November 9, 2012, Philadelphia, PA.
- Federal Reserve Bank of St. Louis, (2013), FRED data base.
- Ferri, M. (2008). The Response of U.S. Equity Values to the 2004 Presidential Election. *Journal of Applied Finance*, 18, (1), 29-37.
- Forsythe, R., Nelson, F., Neumann, G. R. & Wright J. (1992). Anatomy of an Experimental Political Stock Market. *American Economic Review*, 82, (5), 1142-1161.
- Grier, K.B. & McGarrity, J.P. (2002). Presidential Party, Incumbency, and the Effects of Economic Fluctuations on House Elections, 1916-1996. *Public Choice*, 110, (1-2), 143-162.
- Holbrook, T. (2009). Economic Considerations and the 2008 Presidential Election. *PS:Political Science and Politics*, 42, (2), 473-478.
- Jacobson, G.C. (2009). The 2008 Presidential and Congressional Elections. *PSQ*, 124, (1), 1-30.
- Kramer, G.H. (1971). Short-Term Fluctuations in U.S. Voting Behavior, 1896-1964. *The American Political Science Review*, 65, (1), 131-143.
- Lewis-Beck, M.S. with Nadeau, R. & Belanger, E. (2013). Economics and Elections Revisited, *Comparative Political Studies*, May, forthcoming.
- Lewis-Beck, M.S. (2009). The Economy, Obama, and the 2008 Election. *PS:Political Science and Politics*, 42, (3), 457-458.
- Lewis-Beck, M.S. & Nadeau, R. (2009). Obama, and the Economy in 2008. *PS, Political Science and Politics*, 42, (3), 479-483.
- Lewis-Beck, M.S. (2006). Does Economics Still Matter? Econometrics and the Vote. *Journal of Politics*, 68, (1), 208-212.
- Lewis-Beck, M.S. (2001a). Modelers v. Pollsters: The Election Forecasts Debate. *The Harvard International Journal of Press/Politics*, 6, (2), 10-14.
- Lewis-Beck, M.S. & Tien, C. (2001b). Election 2000: How Wrong was the Forecast? *American Politics Research*, 29, (3), 302-306.

- Lewis-Beck, M.S. & Paldam, M. (2000a). Economic Voting: An Introduction. *Electoral Studies*, 19, (2-3), 113-122.
- Lewis-Beck, M.S. & Tien, C. (2000b). The Future in Forecasting: Prospective Presidential Models. in J.E. Campbell and J. C. Garand, eds. (2000). *Before the Vote: Forecasting American National Elections*, Sage Publications, Thousand Oaks, CA.
- Linn, S., Moody, J. & Asper, S. (2009). Explaining the Horse Race of 2008 Obama, and the 2008 Election. *PS, Political Science and Politics*, 42, (2), 459-465.
- Lynch, G. P. (2002). Midterm Elections and Economic Fluctuations: The Response of Voters over Time. *Legislative Studies Quarterly*, 27, (2), 265-294.
- Markus, G.B. (1992). The Impact of Personal and National Economic Conditions on Presidential Voting, 1956-1988. *American Journal of Political Science*, 36, (3), 829-834.
- Matuz, R. (2009). *The Presidents Fact Book*, Black Dog & Leventhal Publishers, New York, N.Y.
- Nadeau, R. & Lewis-Beck, M. S. (2001). National Economic Voting in U.S. Presidential Elections. *The Journal of Politics*, 63, (1), 159-181.
- Powell, G.B. Jr., & Whitten, G.D.. (1993). A Cross-National Analysis of Economic Voting: Taking Accounting of the Political Context. *American Journal of Political Science*, 37, (2), 391-414.
- Santa-Clara, P. & Valkanov, R. (2003). The Presidential Puzzle: Political Cycles and the Stock Market. *The Journal of Finance*, 58, (5), 1841-1872.
- Silver, Nate. (2012a). Nate Silver 538 Blog: Why NYT Pollster is Right About Election 2012. <http://www.policymic.com/articles/18098/nate-silver-538-blog-why-nyt-pollster-is-right-about-election-2012>, November 1, 12:53 AM ET.
- Silver, Nate. (2012b). *The Signal and the Noise Why So Many Predictions Fail- but Some Don't*, The Penguin Press, New York, NY.
- The Economist*. (2013). Economic and Financial Indicators. January 12, p. 84.
- U.S. Government Printing Office. (2005). *Statistics of the Presidential and Congressional Election of November 2004*. Washington, DC.
- Walker, D.A. (2008). Presidential Election Forecasts. *The Forum*, 6, (4), article 6.
- Walker, D.A. (2006). Predicting Presidential Election Results. *Applied Economics*, 38, (5), 483-490.
- www.fairmodel/econ.yale.edu/vote2012.index2
- www.realclearpolitics.com/epolls/2008/president/us, Real Clear Politics
- www.bea.gov/newsreleases/glance.htm

APPENDIX: DEFINITIONS OF VARIABLES

V = VOTE = incumbent party share of the two-party presidential vote

G = weighted average growth rate of real per capita GDP prior to third quarter of election year

INF = alternative weighted percentage changes of the consumer price index over various time periods before election day; for example $INF_{T,3} = (CPI_{T,3} - CPI_{T-1,3}) - 1$

GOODNEWS = quarters in first 15 of an administration when real % Δ GDP/POP >3.2 %

PARTY = 1 if there is a Democratic incumbent party at the time of the election and -1 if there is a Republican incumbent party; -1 for 2008; +1 for 2012.

PERSON = 1 if the incumbent person is running for election, and 0 otherwise.

DURATION = 0 if incumbent party has been in power 1 term, =1 if for two consecutive terms, =1.25 if for 3 consecutive terms, =1.50 for 4 consecutive terms

WAR = 1 for 1920, 1944, 1948, 1952, 1968, 1972, and 0 otherwise.

% Δ DJ = % Δ in the Dow Jones average January 1 - October 31 presidential election year.

t x % Δ DJ = time x % Δ DJ, t = 1 for 1920, 2 for 1924, ..., 23 for 2008.

[% Δ DJ] [r exp(-r(t-t0))], an exponential distribution, where % Δ DJ and t are defined above.

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