Prediction for the 2020 United States Presidential Election using Linear Regression Model

Sinha, Pankaj and Verma, Aniket and Shah, Purav and Singh, Jahnavi and Panwar, Utkarsh

Faculty of Management Studies, University of Delhi

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Pankaj Sinha *Aniket Verma* *Purav Shah* *Jahnavi Singh* *Utkarsh Panwar*

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ABSTRACT

The paper identifies various crucial factors, economic and non-economic, essential for predicting the 2020 United States presidential election results. Although it has been suggested by the contemporary discussions on the subject of United States presidential election that inflation rate, unemployment rate, and other such economic factors will play an important role in determining who will win the forthcoming United States Presidential Elections in November, it has been found in this study that, non-economic variables have a significant influence on the voting behaviour. Various non-economic factors like the performance of the contesting political parties in the midterm elections, the June Gallup Rating for the incumbent President, Average Gallup rating during the tenure of the incumbent President, Gallup Index, and Scandals of the Incumbent President were found to have a massive impact on the election outcomes. In the research conducted by Lewis-Beck and Rice (1982) , it was proposed that the Gallup rating for the Incumbent President, obtained in the month of June of the election year, is a significant factor in determining the results of the Presidential Elections. The major reason behind obtaining the Gallup Rating in June of the election year, post-primaries and pre-conventions, is that it is a relative political calm period. However, it has been found in this study that despite the existence of a relationship between the vote share of the incumbent President and his Gallup rating for June, the said Gallup rating cannot be used as the only factor for forecasting the results of the Presidential Election. The influence of all the aforementioned economic and non-economic factors and some other factors on the voter's voting behavior in the forthcoming United States Presidential Election is analyzed in this paper. The proposed regression model in the paper forecasts that Republican party candidate Donald Trump would receive a vote share of $46.74 \pm 2.638\%$.

INTRODUCTION

The importance of the result of the forthcoming United States Presidential Election is well known among the major developed and developing economies worldwide. In anticipation of the outcome of the election, various political scientists and economists worldwide have been trying their hands at predicting the election result. Some of these studies focus on the importance of the economic factors, whereas other factors on the role of non-economic factors in determining who will be elected for one of the most powerful jobs globally, i.e., of the President of the United States of America. Furthermore, various researchers have also attempted to determine the election results over the election years in the past. Some of these emphasize the economic variables and suggest that they be taken as independent variables. In contrast, other studies emphasize the non-economic variables and suggest that they be taken as the independent variable to determine the value of the dependant variable, i.e., the percentage of the vote share of the incumbent President in the election. Although both of these methods have their respective pros and cons, in our study, we explore how a combination of these

significant economic and non-economic variables influences voting behavior in the forthcoming Presidential Election.

Some of the previous studies on the subject of forecasting the result of Presidential Elections include the ones conducted by Fair (1978, 2016) , Silver (2011) , Jérôme and Jérôme (2011) , Cuzán, Heggen, and Bundrick (2016) , Abramowitz (1988), among various others. The focus is on the economic factors such as the unemployment rate, rate of inflation, growth rate of real per capita GDP, etc. in the forecasting model proposed by Fair (1978, 2016). The economic factors have been considered to play a significant role in determining the results of the Presidential Election in various other studies, but the research conducted by Silver (2011) shows that there exists only a small correlation between the vote share percentage of the incumbent President and the rate of employment in the economy during his tenure. On the other hand, in the model proposed by Jérôme and Jérôme (2011), the rate of unemployment in the economy during the tenure of the Incumbent President is considered to be the most important economic factor in forecasting the election result. Moreover, the model proposed by Abramowitz (1988) emphasizes the significance of the economy's rate of growth in the first six months of the year in which the election is to be held. Another study that used the economic growth rate as a significant factor in forecasting the election result was conducted by Lichtman (2005, 2008). A holistic view of the economic indicators was adopted in the study conducted by Erikson and Wlezien (1996), an index of major economic factors is considered to forecast the election result. On the other hand, the real disposable per capita income growth is considered an essential factor in the Bread and Peace model of Hibbs (2000, 2012). Furthermore, to determine the election result, with the help of Fair's model, Sinha and Bansal (2008) derived the predictive density function under the hierarchical priors.

In addition to the growth rate of the economy, another economic factor perceived to be significant in forecasting the election result is the rate of inflation in the economy. The absolute value of the growth rate of the GDP deflator is used in the model proposed by Fair (1978, 2016) to determine the election results. Moreover, by way of running simulation run on fiscal models, the study conducted by Cuzan, et al (2000) aims to forecast the presidential election result using a similar definition of inflation.

Another economic factor considered to be of major significance in forecasting the result of the forthcoming Presidential Election is the unemployment rate in the economy. In the research conducted over the years in determining the election results, the change in the rate of the unemployment rate is used in the model proposed by Jérôme and Jérôme -Speziari (2011). However, as per the study conducted by Silver (2011), only a small correlation exists between the vote share percentage of the Incumbent President and the rate of unemployment in the economy. Other economic factors that might influence the election result include the exchange rate, oil prices, and gold prices.

Emerging studies emphasize the importance of the non-economic factors in forecasting the results of the Presidential Elections. Gallup Rating, studied in the model proposed by Lewis-Beck and Rice (1982), is a portrayal of the approval rating of the performance of the incumbent President during his tenure. The Gallup rating, which is essentially a measure of the Incumbent President's popularity, is one of the significant non-economic factors that may influence the voting behavior in forthcoming United States Presidential Elections. A relationship seems to exist between the vote share percentage of the Incumbent President and the Gallup Rating obtained in June of the election year, as found in the study conducted by Lee Seigelman (1979).

However, it is also important to note that the June Gallup Rating itself cannot be considered as the only major indicator in determining the result of the Presidential Election. It is essential to analyze the influence of other economic and noneconomic factors in forecasting the election result.

The three major factors used in the study conducted by Abramowitz (1988) to forecast the vote share percentage of the Incumbent President in the Presidential election were the time for change factor, the growth of the economy, and the Gallup Rating. The incumbent party's duration is measured with the help of the "time for change" factor. As the voters might feel that the opportunity should be given to the opposition party if the incumbent party has been in power for two or more than two terms, the voters may not be as inclined to vote for the incumbent President. On the other hand, according to the model proposed by Ray (2002), to avoid uncertainty, the voters may be inclined to vote for the incumbent party, given the incumbent President is contesting for re-election.

Other non-economic factors that can influence the result of the forthcoming United States Presidential Election include military interventions, scandals, and international crises, as emphasized in the model proposed by the study conducted by Mueller (1970). It was also proposed by Mueller that when the performance of the economy is bad, only the economic factors have a significant impact on the results of the Presidential Election.

It has also been found in various studies conducted over the years that the country's involvement in the military intervention also impacts the voters' perception. War has been used as an essential non-economic factor in the studies conducted by Litchman and Keilis-Borok (1996), Fair (1978, 2012), and Hibbs (2000, 2012).

In addition to the Presidential Elections, the federal elections for Congress i.e., for the House and the Senate, are also some of the other Federal Elections in the United States. The performance of the incumbent party in the midterm elections, which are held every two years, serve as a referendum for the incumbent party, as found in the research conducted by Tufte (1975). Although it is almost inevitable, according to the model proposed by Tufte (1975) that the incumbent party will lose the majority of the seats in the election for the house, it has been proposed that it is important to note if the incumbent party loses the majority of the seats after the Midterm elections. Hence, the performance of the incumbent party in the midterm elections is also one of the major factors helpful in forecasting the results of the forthcoming United States Presidential Elections.

In light of the studies mentioned above, this paper aims at determining the result of the forthcoming Presidential election with the help of a regression model, using a combination of economic and non-economic factors. The influence of various non-economic and economic factors on the voting behavior in the forthcoming presidential election is analyzed in this paper, and a suitable regression model is developed for forecasting the result.

SIGNIFICANCE OF VARIABLES CONSIDERED

On the basis of the review of the studies mentioned above, we concluded that various economic and non-economic variables influence the voting behavior in the forthcoming United States Presidential Election. This section lists out all the economic and non-economic factors

considered in the paper for forecasting the election result. The various economic and non-economic variables considered in this paper include the following:

Economic Variables

In this section, the various economic factors considered for forecasting the result of the forthcoming United States Presidential Election are listed out. The perception of the voters is influenced by factors such as growth rate of the economy, unemployment rate, and rate of inflation. The state of the global economies may be indicated by global indicators such as exchange rates, gold rates and oil prices. The state of the global economies impacts the state of the United States economy and thus can impact the result of the forthcoming Presidential Election. The economic factors considered in this paper to determine the result of the forthcoming United States Presidential Election include the following: -

1. **Inflation:** Average percentage inflation rates for the calendar year prior to the election year have been considered. The year prior to the election year was considered because this year was exceptional due to the Covid-19 pandemic. Average percentage inflation rates are calculated by using the Consumer Price Index published monthly by the usinflationcalculator.com. (Refer Table 12)

2. **Unemployment Rate:** The average of the civilian unemployment rate (percent) for the January to March period of the election year has been considered, which is published by the U.S. Bureau of Labour Statistics. (Refer Table 12)

3. **Economic Growth:** The annual percentage rate of growth of the real GDP per capita of the election year is considered. The data has been taken from the Federal Bank of St. Louis. (Refer Table 12)

4. **Gold Prices:** The inflation-adjusted yearly average gold prices in dollars per ounce are considered with data from the National Mining Organization (U.S.). (Refer Table 12)

5. **Gold Price Index:**
    a. If the price of gold in dollars per ounce in the previous election year is greater than the price of gold in dollars per ounce in the current election year, then the index's value is 0.
    b. If the price of gold in dollars per ounce in the previous election year is lesser than the price of gold in dollars per ounce in the current election year, then the index's value is 1.

    (Refer Table 12)

6. **Oil Prices:** Average annual domestic crude oil prices in dollars per barrel, after being adjusted for inflation, have been considered for the respective election years. Prices are adjusted for inflation to January 2020 prices using CPI-U from the Bureau of Labor Statistics. (Refer Table 12)

7. **Exchange Rate:** The exchange rate has been considered as the U.S. Dollars to One British Pound (not seasonally adjusted) for June in the election year. (Refer Table 12)

Non-economic Variables

As understood from the review of previous studies done on forecasting the result of Presidential Elections, various non-economic and social factors influence voting behavior. The voters' perception of the incumbent party and the opposition, the non-incumbent party, is influenced by various non-economic factors. The Gallup Rating, for example, is a measure of the approval rating for the work done by the Incumbent President during his tenure. The noneconomic variables considered in this paper to forecast the result of the forthcoming United States Presidential Election include the following: -

1. **Gallup Job Approval Rating:** The Gallup Job Approval Rating or the Presidential Work Approval rating is a measure of the percentage of the United States population that approves or disapproves of the work done by the Incumbent President during his tenure as the President of the United States. The Gallup Job Approval Rating considered in this paper is for June of the election year. The major reason why the rating for June of the election year is considered instead of the rating for the months closer to the election month is that the Gallup Job Approval Rating for the month of June of the election year is relatively freer the larger electoral mood swings. (Refer Table 10)

2. **Average Gallup Rating:** It represents the Gallup approval rating for the incumbent President throughout the tenure. Data for both Gallup Job Approval Rating and Average Gallup Rating has been taken from the Gallup Rating website. (Refer Table 10)

3. **Crime Rate:** The Average annual total crime rate per 100,000 people in the United States during the incumbent President's tenure is considered. Total crime rate includes violence, property crimes, murder, rape, robbery, assault, burglary, larceny-theft & vehicle theft. (Refer Table 13)

4. **Power of Period:** It is an indicator of the amount of time that the incumbent President's party has been in power. It has been defined as a binary variable with two values 0 and 1

   a. 1, if the incumbent party was in the White House for two or more term **b.**

   0 otherwise.

   (Refer Table 13)

5. **Mid-Term Performance:** This variable is the same as defined in Sinha et al. (2012) for forecasting the results of 2012 elections. It is defined as :

$$M = (\text{House}_{\text{Seats}} * \text{House}_{\text{Results}} + \text{Senate}_{\text{Seats}} * \text{Senate}_{\text{Results}}) / (\text{House}_{\text{Seats}} + \text{Senate}_{\text{Seats}})$$

   (Refer Table 11)

6. **Campaign Spending Index:** Campaign spending data for both the incumbent and challenger party have been taken from the Federal Election Commission (U.S.)

Website. The campaign spending index is calculated by taking the ratio of the incumbent to non-incumbent campaign spending.

a. If the ratio is less than 1, the value of index is 0
b. If the ratio is less than 2, the value of index is 1
c. If the ratio is greater than or equal to 2, the value of index is 2

(Refer Table 13)

7. **Scandal Rating:** Scandals are perceived negatively by the voting population. This affects the incumbent party's popularity during Presidential elections. Scandal rating attempts to take into account the effect of scandals on the election outcome. The ratings to this variable are as follows:
   - No major scandal during Presidential tenure; rating = 0
   - At least one major scandal during Presidential term; rating = 1
   - The scandals that lead to termination of president during his term, rating = 2

   (Refer Table 9)

8. **Incumbent President Running**: Binary (0/1) variable indicating whether the incumbent president is contesting for the second term or not. (Refer Table 13)

DATA SOURCES

All the values for economic and non-economic variables are considered from 1952 till 2016. The data for growth of the economy has been taken from the Federal Bank of St. Louis. The data for inflation is considered average percentage inflation rates for the calendar year before the election year source is usinflationcalculator.com. Unemployment rate and oil price data is taken from the U.S. Bureau of Labour Statistics. Historical data for gold prices is taken from the National mining organization.

Non-economic factor like scandal rating have been arrived by secondary research on past U.S. Presidential tenure. Historical data previous to the tenure of Donald Trump have been gathered from Sinha et al. (2012) for forecasting the results of 2012 elections. The data has been collected from the articles and essays on the history of U.S. president, which include dedicated white house resource and other reliable resources like Miller Centre. The different Gallup ratings were taken from the Gallup Presidential Poll (2012). The crime rate data is collected form the The disaster center website which provides uniform crime rate data from 1960 to 2019. The Campaign spending data for both the incumbent and challenger party have been taken from the Federal Election Commission (U.S.) Website.

The dependent variable in our model is the vote percentage of the incumbent party Presidential election, which is obtained from uselectionatlas.org.

METHODOLOGY

Economic factors: The following table analyzed the influence of economic factors on the vote share of the incumbent party-

Table 1-Analysis of Influence of Economic Variables

Model	Year	R_2	P-value
INCUMBENT_VOTE_SHARE = β1+β2GROWTH +β3 UNEMPLOYMENT +β4 OIL_PRICE	1952- 2016	0.217	GROWTH = 0.217 UNEMPLOYMENT = 0.900 OIL_PRICE = 0.779
INCUMBENT_VOTE_SHARE = β1+β2GROWTH +β3UNEMPLOYMENT +β4EXCHANGE_RATE	1952- 2016	0.248	GROWTH = 0.067 UNEMPLOYMENT = 0.726 EXCHANGE RATE = 0.430
INCUMBENT_VOTE_SHARE = β1+β2GROWTH +β3EXCHANGE_RATE +β4GOLD_PRICE	1952- 2016	0.338	GROWTH = 0.048* EXCHANGE RATE = 0.189 GOLD PRICE = 0.954
INCUMBENT_VOTE_SHARE = β1+β2UNEMPLOYMENT +β3OIL_PRICE +β4EXCHANGE_RATE	1952- 2016	0.141	UNEMPLOYMENT = 0.289 OIL PRICE = 0.212 EXCHANGE RATE = 0.610
INCUMBENT_VOTE_SHARE = β1+β2GROWTH +β3INFLATION +B4GOLD_PRICE	1952- 2016	0.402	GROWTH = 0.046* INFLATION = 0.089 GOLD PRICE = 0.396
INCUMBENT_VOTE_SHARE = β1+β2INFLATION +β3OIL_PRICE +β4EXCHANGE_RATE	1952- 2016	0.194	INFLATION = 0.159 OIL PRICE = 0.849 EXCHANGE RATE = 0.388

(*- denotes significance at 5% level value)

The above analysis depicts that annual inflation, exchange rate, unemployment rate, gold & oil prices are not significant factors affecting the vote share. The only economic factor that turns out to be significant from the analysis is the growth of the economy.

Non-Economic Factors

The following table analysed the influence of non-economic factors on vote share of incumbent party:

Table 2-Analysis of Influence of Non-Economic Variables

Model	Year	R_2	P-value
INCUMBENT_VOTE_SHARE = β1+β2JUNE_GALLUP +β3AVG_GALLUP +β4CRIME_RATE	1952- 2016	0.642	JUNE_GALLUP =0.005* AVG_GALLUP = 0.752 CRIME_RATE = 0.843
INCUMBENT_VOTE_SHARE = β1+ β2JUNE_GALLUP +β3AVG_GALLUP +β4SCANDAL_RATING	1952- 2016	0.797	JUNE_GALLUP = 0.000* AVG_GALLUP = 0.279 SCANDAL_RATING = 0.003*
INCUMBENT_VOTE_SHARE = β1+β2CRIME_RATE +β3MIDTERM_VALUES +β4INCUMBENT_PRESIDENT_RUNNING	1952- 2016	0.253	CRIME_RATE = 0.138 MIDTERM_VALUES = 0.329 INCUMBENT_PRESIDENT_RUNNING = 0.211
INCUMBENT_VOTE_SHARE =	1952- 2016	0.472	MIDTERM_VALUES =0.115

β1+β2MIDTERM_VALUES +β3INCUMBENT_PRESIDENT_RUNNING +β4PERIOD_OF_POWER			INCUMBENT_PRESIDENT_RUNNING = 0.184 PERIOD_OF_POWER = 0.012*
INCUMBENT_VOTE_SHARE = β1+β2JUNE_GALLUP +β3SCANDAL_RATING +B4PERIOD_OF_POWER	1952- 2016	0.830	JUNE_GALLUP = 0.000* SCANDAL_RATING = 0.004* PERIOD_OF_POWER = 0.060
INCUMBENT_VOTE_SHARE = β1+β2AVG_GALLUP +β3CRIME_RATE +β4CAMPAIGN_SPENDING	1952- 2016	0.181	AVG_GALLUP = 0.323 CRIME_RATE = 0.277 CAMPAIGN_SPENDING = 0.727
INCUMBENT_VOTE_SHARE = β1+β2PERIOD_OF_POWER +β3SCANDAL_RATING +β4CAMPAIGN_SPENDING	1952- 2016	0.335	PERIOD_OF_POWER = 0.034* SCANDAL_RATING = 0.770 CAMPAIGN_SPENDING = 0.596

(*- denotes significance at 5% level value)

The above analysis depicts that the average Gallup rating, crime rate, midterm values, incumbent president running and campaign spending are not significant factors affecting the vote share. The non-economic factors that turn out to be significant from the analysis are June Gallup rating, scandal rating and period of power of the President running.

PROPOSED REGRESSION MODEL

The analysis of economic and non-economic variables provides us with four significant factors – Growth of economy, June Gallup rating, Period of Power, and Scandal rating. On combining the economic and non-economic factors, the model we arrive depicts that the economy's growth is not a significant factor.

Table 3- Collective analysis of significant economic and non-economic variables

Model	Year	R_2	P-value
INCUMBENT_VOTE_SHARE = β1+β2GROWTH +β3JUNE_GALLUP +β4PERIOD_OF_POWER + β5SCANDAL_RATING	1952- 2016	0.857	GROWTH = 0.137 JUNE_GALLUP =0.000* PERIOD_OF_POWER = 0.046* SCANDAL_RATING = 0.005*

(*- denotes significance at 5% level value)

Thus, our proposed model considers the impact of three independent variables - June Gallup rating, period of power, and Scandal rating to predict the Incumbent party's vote share in the forthcoming Presidential election.

INCUMBENT_VOTE_SHARE = β1+ β2JUNE_GALLUP +β3PERIOD_OF_POWER + β4SCANDAL_RATING

According to this model the following variables can be used to forecast the vote share of incumbent party in 2020 US presidential elections

- June Gallup
- Period of Power
- Scandal Rating

The proposed model exhibits R^2 of 0.830 and adjusted R^2 of 0.793 for the period 1952 to 2016. At a 5% level of significance June Gallup and Scandal Rating in the above model are significant while Period of Power is significant at a 6% level of significance.
Estimation result of the model is given in the following table:

Table 4 – Proposed Estimated model using data from 1952-2016 for forecasting 2020 elections

Dependent Variable: INCUMBENT_VOTE_SHARE
Method: Least Squares
Sample: 1952-2016
Included observations: 17

Variable	Coefficient	Std. error	t-statistic	Probability
C	31.54282	3.551502	8.881544	0.000
June Gallup	0.539017	0.081907	6.580871	0.000
Period of Power	-3.117406	1.526898	-2.041660	0.0605
Scandal Rating	-5.281903	1.510569	-3.496632	0.0036

Parameters	Values
R-squared	0.829693
Adjusted R-squared	0.793199
S.E. of regression	2.991520
Log likelihood	-43.00313
F-statistic	22.73486
Prob(F-statistic)	0.000012
Mean dependent var	49.84444
S.D. dependent var	6.578326
Akaike info criterion	5.222570
Schwarz criterion	5.420431
Hannan-Quinn criterion	5.249852
Durbin-Watson stat	1.972235

Forecasting 2020 U.S. presidential election using the proposed regression model

The 2016 presidential election was fought between Donald Trump and Hilary Clinton. Following data have been used:

Table 5 – Values of variables for year 2016

Independent Variable	Values

June Gallup	48
Period of Power	1
Scandal Rating	1

Using the data from 1952 to 2012 the forecasting model for the 2016 presidential election has the following parameters. The table below shows it in details:

Table 6 – Proposed Estimated model using data from 1952-2012 for forecasting 2016 elections

Dependent Variable: INCUMBENT_VOTE_SHARE
Method: Least Squares
Sample: 1952-2012
Included observations: 16

Variable	Coefficient	Std. error	t-statistic	Probability
C	31.429	3.696	8.504	0.000
June Gallup	0.543	0.086	6.333	0.000
Period of Power	-2.993	1.640	-1.826	0.091
Scandal Rating	-5.341	1.576	-3.388	0.005

Parameters	Values
R-squared	0.830
Adjusted R-squared	0.791
Sig. F change	0.000
S.E. of regression	3.09492
Durbin-Watson stat	1.979

The model predicts 49.16% vote share for the incumbent party in the 2016 presidential election while the actual vote share was 48.2%. Therefore we can say that our proposed model gives an error of 0.96%. Our model overpredicts the vote share for the incumbent by 0.96%.

Forecasting 2020 U.S. presidential election using the proposed regression model

The 2020 Presidential election is being contested between Democratic party candidate Joe Biden and Republican party candidate Donald Trump. Forecasting vote percentage share of incumbent candidate Donald Trump, we have used the following data for the independent variables for the year 2020-

Table 7 – Values of variables for year 2020

Independent Variable	Values
June Gallup	38
Period of Power	0
Scandal Rating	1

The Proposed model forecasts that the vote percentage share of Republican party candidate Donald Trump is likely to be 46.74% in the forthcoming Presidential election. The forecast has following statistics:

- Theil inequality coefficient - 0.026
- Root mean square error - 2.638
- Mean Absolute error - 2.021

Thus, we conclude that with 95% confidence level, the vote share of Republican Party candidate Donald Trump will be 46.74% with standard error of ±2.638%. Summarizing the results on the basis of the above model we conclude that Democratic Party candidate Mr. Joe Biden will win the 2020 US Presidential election.

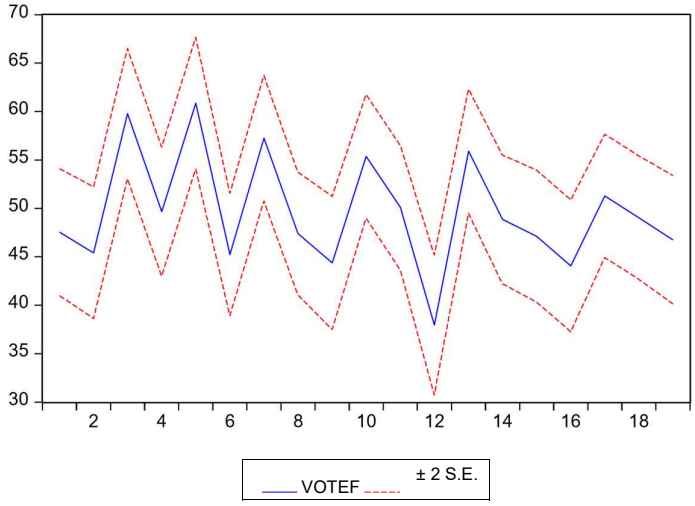

FIGURE 1- Forecasted vote percentage for all the observations

CONCLUSION

The proposed model predicts the victory of the Republican party candidate Mr. Joe Biden in the 2020 U.S. Presidential election. The model was also tested for predicting the 2016 U.S. Presidential election successfully, with the vote share of the incumbent party being 49.16%, which is quite close to the actual vote percentage (48.2%) received by the Democratic party candidate Hilary Clinton.

The suggested model highlights the importance of non-economic variables for the U.S. Presidential outcome forecast. The analysis of economic variables depicts the significance of the growth of the economy as the only significant variable leaving aside the annual inflation, exchange rate, unemployment rate, gold price, and oil prices. On the other hand, while developing the final model, it turns out that the only significant factors are the non-economic factors - The Gallup job approval rating in June of the election year, the period of running of the incumbent party, and the scandal rating.

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APPENDIX

Table 8: Popular and Electoral Votes received by Incumbent party candidates

Source: uselectionatlas.org

Year	Popular vote	Electoral vote
952	44.33%	16.80%
1956	57.37%	86.10%
1960	49.55%	40.80%
1964	61.05%	90.30%
1968	42.72%	35.50%
1972	60.67%	96.70%
1976	48.01%	44.60%
1980	41.01%	9.10%
1984	58.77%	97.60%
1988	53.37%	79.20%
1992	37.45%	31.20%
1996	49.23%	70.40%
2000	48.38%	49.40%
2004	50.73%	53.20%
2008	45.60%	32.20%
2012	51.01%	61.70%
2016	48.02%	42.20%

Table 9: Scandals during Presidential Terms and the Corresponding Ratings

Year	Incumbent President	Scandals	Rating
1952	Harry S. Truman	• Continuous accusations of spies in the US Govt. • Foreign policies: Korean war, Indo China war White house renovations • Steel and coal strikes • Corruption charges	1
1956	Dwight D. Eisenhower	• None	0
1960	Dwight D. Eisenhower	• U-2 Spy Plane Incident • Senator Joseph R. McCarthy Controversy • Little Rock School Racial Issues	1
1964	John F. Kennedy	• Extra-marital relationship	0
	Lyndon B. Johnson	• None	
1968	Lyndon B. Johnson	• Vietnam war • Urban riots • Phone Tapping	1
1972	Richard Nixon	• Nixon Shock	0
1976	Richard Nixon	• Watergate	2
	Gerald Ford	• Nixon Pardon	
1980	Jimmy Carter	• Iran hostage crisis • 1979 energy crisis • Boycott of the Moscow Olympics	1
1984	Ronald Reagan	• Tax cuts and budget proposals to expand military spending	0
1988	Ronald Reagan	• Iran-Contra affair • Multiple corruption charges against high ranking officials	1
1992	George H W Bush	• Renegation on election promise of no new taxes • "Vomiting Incident"	1
1996	Bill Clinton	• Firing of White House staff • "Don't ask, don't tell" policy	1
2000	Bill Clinton	• Lewinsky Scandal	2
2004	George W Bush	• None	0
2008	George W Bush	• Midterm dismissal of 7 US attorneys • Guantanamo Bay Controversy and torture	1

2012	Barack Obama	• None	0
2016	Barack Obama	• None	0
2020	Donald Trump	• Ukraine Impeachment Scandal Tax • Evasion	1

Table 10: Gallup Ratings

Source: Gallup Presidential Poll (2020)

Year	Incumbent President	June Gallup Rating	Average Gallup Rating
1952	Harry S. Truman	31.5	36.5
1956	Dwight D. Eisenhower	72	69.6
1960	Dwight D. Eisenhower	59	60.5
1964	Lyndon B. Johnson	74	74.2
1968	Lyndon B. Johnson	41	50.3
1972	Richard Nixon	57.5	55.8
1976	Gerald Ford	45	47.2
1980	Jimmy Carter	33.6	45.5
1984	Ronald Reagan	54	50.3
1988	Ronald Reagan	50	55.3
1992	George H W Bush	37.3	60.9
1996	Bill Clinton	55	49.6
2000	Bill Clinton	57.5	60.6
2004	George W Bush	48.5	62.2
2008	George W Bush	29	36.5
2012	Barack Obama	46.4	49.0
2016	Barack Obama	51.6	48.0
2020	Donald Trump	38	41

Table 11: Mid-Term Election Results (1948-2018);

Source: Office of the Clerk (US)

Year	Incumbent Party	Mid Term Election Year	House Seats		House Result	Senate Seats		Senate Result	Midterm Values
			D	R		D	R		
		1948	263	171		54	42		
1952	Democratic	1950	234	199	1	48	47	1	1
		1952	213	221		46	48		
1956	Republican	1954	232	203	-1	48	47	-1	-1
		1956	234	201		49	47		
1960	Republican	1958	283	153	-1	64	34	-1	-1
		1960	262	175		64	36		
1964	Democratic	1962	258	176	1	67	33	1	1
		1964	295	140		68	32		
1968	Democratic	1966	248	187	1	64	36	1	1
		1968	243	192		58	42		
1972	Republican	1970	255	180	-1	54	44	-1	-1
		1972	242	192		56	42		
1976	Republican	1974	291	144	-1	61	37	-1	-1
		1976	292	143		61	38		
1980	Democratic	1978	277	158	1	58	41	1	1
		1980	242	192		46	53		
1984	Republican	1982	269	166	-1	46	54	1	-0.63
		1984	253	182		47	53		
1988	Republican	1986	258	177	-1	55	45	-1	-0.63
		1988	260	175		55	45		
1992	Republican	1990	267	167	-1	56	44	-1	-1
		1992	258	176		57	43		
1996	Democratic	1994	204	230	-1	48	52	-1	-1
		1996	207	226		45	55		
2000	Democratic	1998	211	223	-1	45	55	-1	-1
		2000	212	221		50	50		
2004	Republican	2002	204	229	1	48	51	1	1
		2004	202	232		44	55		
2008	Republican	2006	233	202	-1	49	49	0	-0.82
		2008	256	178		55	41		
2012	Democratic	2010	193	242	-1	51	47	1	-0.63
		2012	200	234		53	45		
2016	Democratic	2014	188	247	-1	44	54	1	-0.63
2020	Republican	2016	194	241	-1	46	52	1	-0.63

		2018	235	199		45	53		

Table 12: Economic Data

Source: a: Bureau of Labour Statistics; b: usinflationcalculator.com; c: National Mining Organization; d: inflationdata.com; e: Federal Bank of St. Louis

Year	Unemployment[a]	Inflation[b]	Gold_price_index[c]	Gold Price ($/ounce)[c]	Oil Prices[d]	Ex. rate (USD/GBP)[e]
1952	3.07	7.9		34.6	26.92	2.79
1956	4.03	-0.4	1	34.99	27.92	2.80
1960	5.13	0.7	1	35.27	25.41	2.80
1964	5.47	1.3	0	35.1	24.95	2.79
1968	3.73	3.1	1	39.31	23.55	2.39
1972	5.77	4.4	1	58.42	22.21	2.57
1976	7.73	9.1	1	124.74	59.4	1.76
1980	6.3	11.3	1	615	117.3	2.34
1984	7.87	3.2	0	361	71.41	1.38
1988	5.7	3.6	1	437	32.48	1.78
1992	7.37	4.2	0	343.82	35.39	1.86
1996	5.53	2.8	1	387.81	33.63	1.54
2000	4.03	2.2	0	279.11	41.02	1.51
2004	5.7	2.3	1	409.72	51.39	1.83
2008	5	2.8	1	871.96	109.25	1.97
2012	8.27	3.2	1	1668.98	97.17	1.56
2016	4.93	0.1	0	1250.74	39.02	1.42
2020	3.83	1.8	1	1392.6	39.42	1.25

Table 13: Non-Economic Data

Source: a: http://www.disastercenter.com/crime/uscrime.html ; b: Wikipedia; c: Wikipedia; d: Federal Election Commission (www.fec.gov)

Year	Crime rate[a]	Incumbent President Running[b]	Period of power[c]	Campaign spending Index[d]
1952		0	1	0
1956		1	0	2
1960		0	1	1
1964	1998.35	1	0	0
1968	2624.4	0	1	0
1972	3549.85	1	0	2
1976	4566.18	1	1	1
1980	5267.7	1	0	0
1984	5646.73	1	0	1
1988	5317.2	0	1	1
1992	5780.83	1	1	0
1996	5448.25	1	0	1
2000	4724.23	0	1	0
2004	4119.85	1	0	1
2008	3854.08	0	1	0
2012	3444.35	1	0	1
2016	3049.85	0	1	1
2020	2672.35	1	0	0