

Donkey vs Elephant

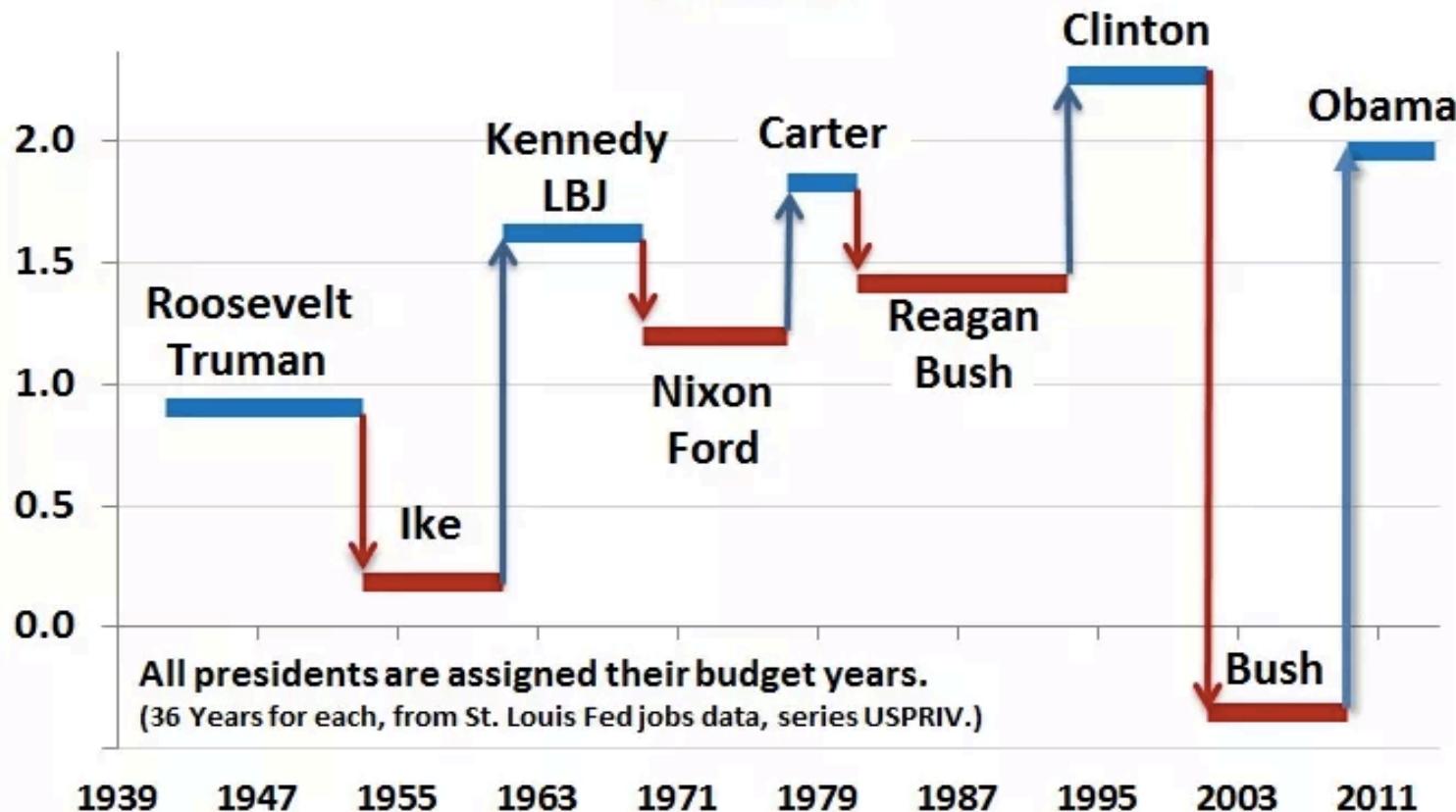
JASON YOO & NANCY NAN

Work of Economist Steven Stoft

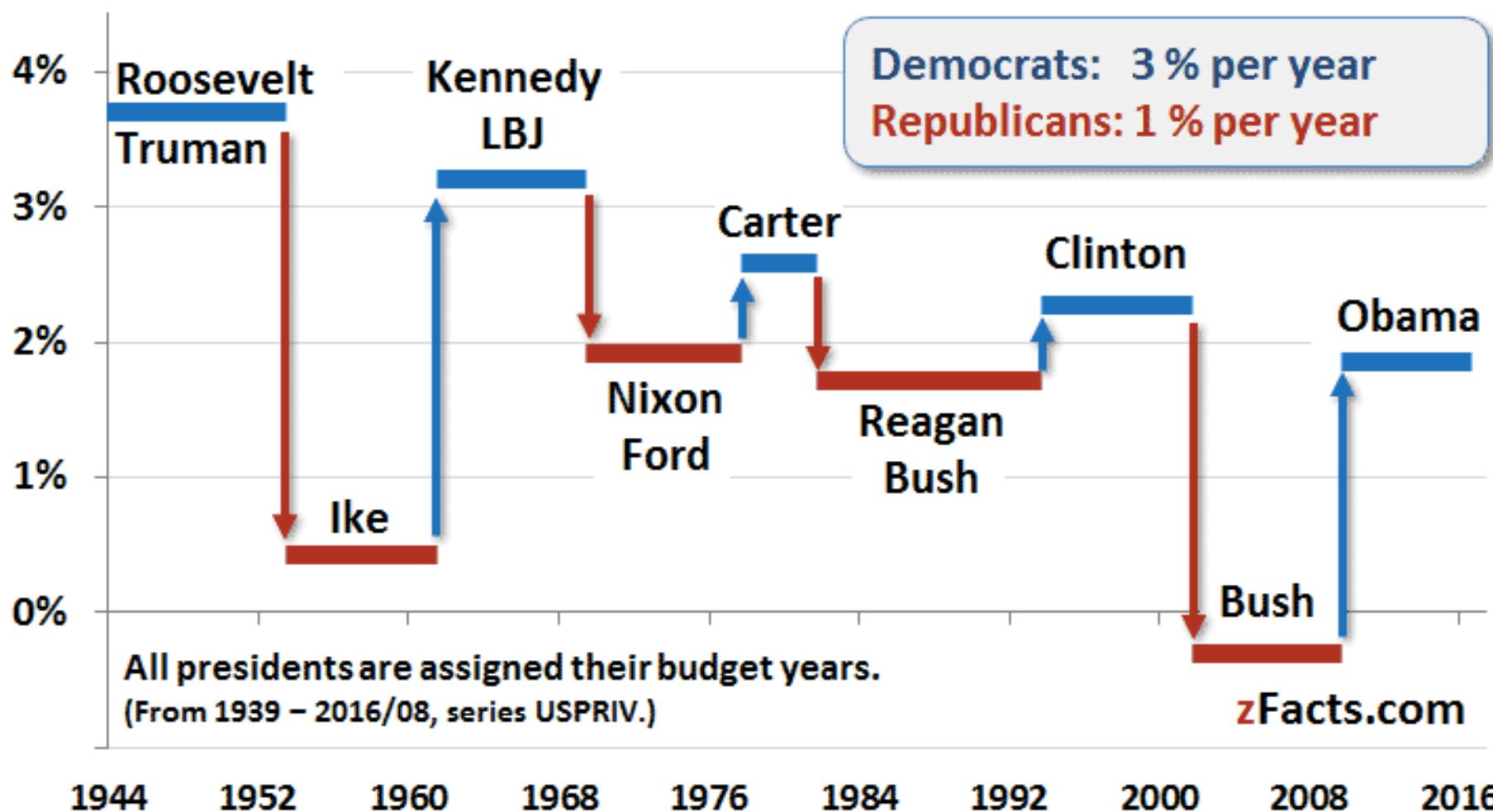
Millions of Private-Sector Jobs per Year

Democrats: 58 million, Republicans: 26 million

[zFacts.com](#)



Percent Increase in Private-Sector Jobs per Year



Who created more jobs?

**President
&
Party**



**Number of
Jobs
Created**

**CASH
RULES
EVERYTHING
AROUND
ME**

1947 ~ 2016



Data Exploration

Data Exploration

Adjusted Presidency & Party

Historical Debt Outstanding - Annual 2000 - 2015

Includes legal tender notes, gold and silver certificates, etc.

The first fiscal year for the U.S. Government started Jan. 1, 1789. Congress changed the beginning of the fiscal year from Jan. 1 to Jul. 1 in 1842, and finally from Jul. 1 to Oct. 1 in 1977 where it remains today.

```
> summary(data)
```

	Year	Month
Min.	:1948	Min. : 1.000
1st Qu.	:1965	1st Qu.: 3.500
Median	:1982	Median : 6.000
Mean	:1982	Mean : 6.493
3rd Qu.	:1999	3rd Qu.: 9.000
Max.	:2016	Max. :12.000

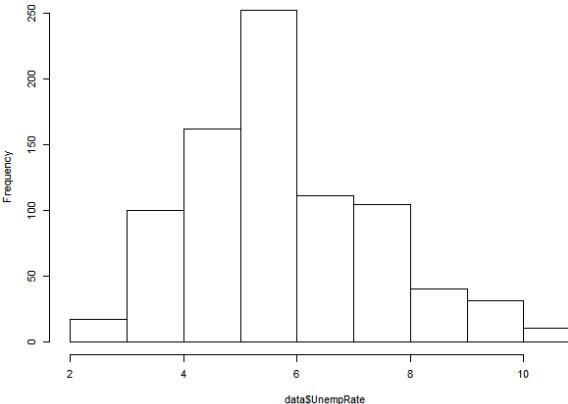
	Party	Presidents
Min.	:100.0	Min. : 1.000
1st Qu.	:100.0	1st Qu.: 4.000
Median	:200.0	Median : 8.000
Mean	:152.2	Mean : 7.005
3rd Qu.	:200.0	3rd Qu.:10.000
Max.	:200.0	Max. :12.000

	UnempRate	UnempNetChange	UnempGrowth
Min.	: 2.500	Min. :-1.500000	Min. :-0.1898734
1st Qu.	: 4.700	1st Qu.:-0.100000	1st Qu.:-0.0208333
Median	: 5.600	Median : 0.000000	Median : 0.0000000
Mean	: 5.812	Mean : 0.001451	Mean : 0.0009472
3rd Qu.	: 6.900	3rd Qu.: 0.100000	3rd Qu.: 0.0198039
Max.	:10.800	Max. : 1.300000	Max. : 0.2857143

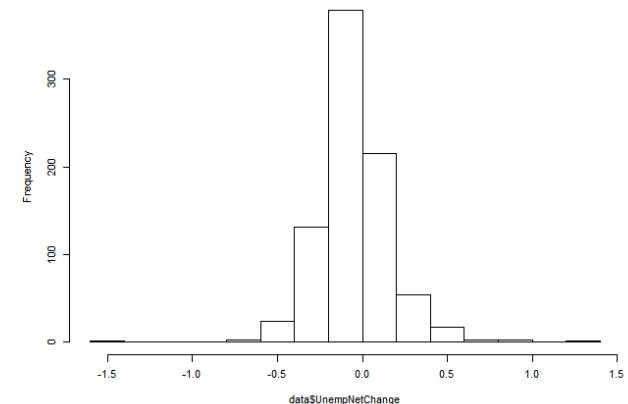
	NPEmployment	NPENetChange	NPEmpGrowth
Min.	: 42950	Min. :-834.0	Min. :-1.90481
1st Qu.	: 60131	1st Qu.: 17.0	1st Qu.: 0.02136
Median	: 90882	Median : 153.0	Median : 0.16405
Mean	: 92917	Mean : 121.3	Mean : 0.14325
3rd Qu.	:129655	3rd Qu.: 260.0	3rd Qu.: 0.28678
Max.	:145128	Max. :1115.0	Max. : 1.61806

	AdjParty	AdjPresidents
Min.	:100.0	Min. : 1.000
1st Qu.	:100.0	1st Qu.: 4.000
Median	:200.0	Median : 8.000
Mean	:152.6	Mean : 6.907
3rd Qu.	:200.0	3rd Qu.:10.000
Max.	:200.0	Max. :12.000

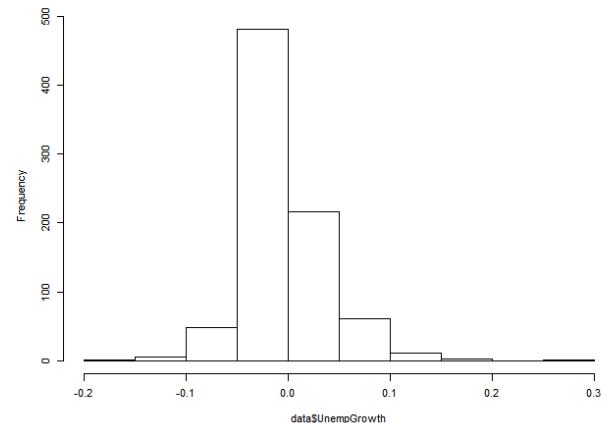
Histogram of data\$UnempRate



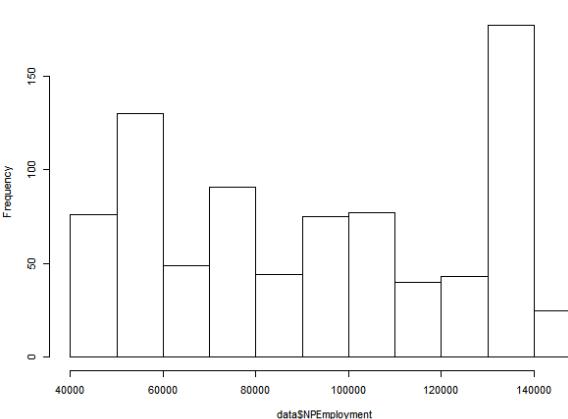
Histogram of data\$UnempNetChange



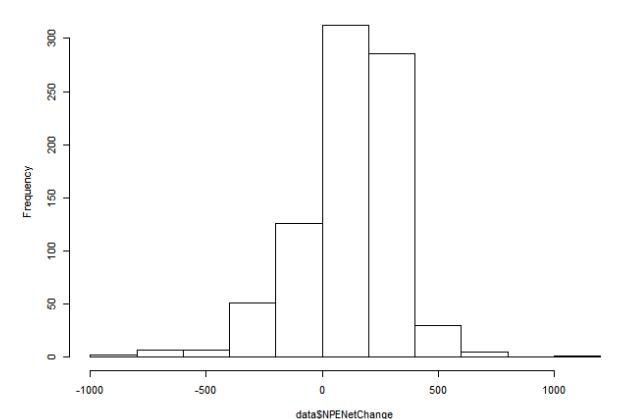
Histogram of data\$UnempGrowth



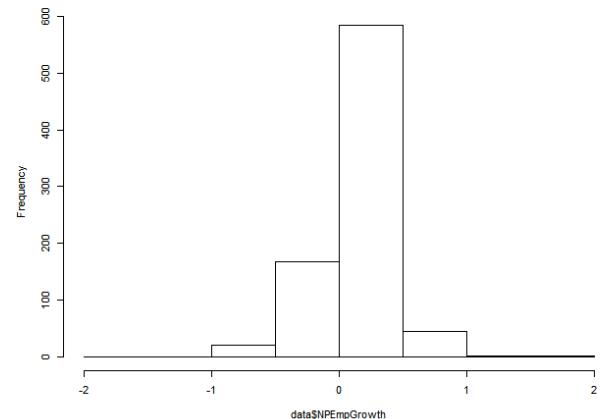
Histogram of data\$NPEmployment



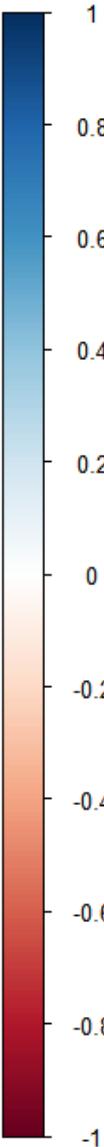
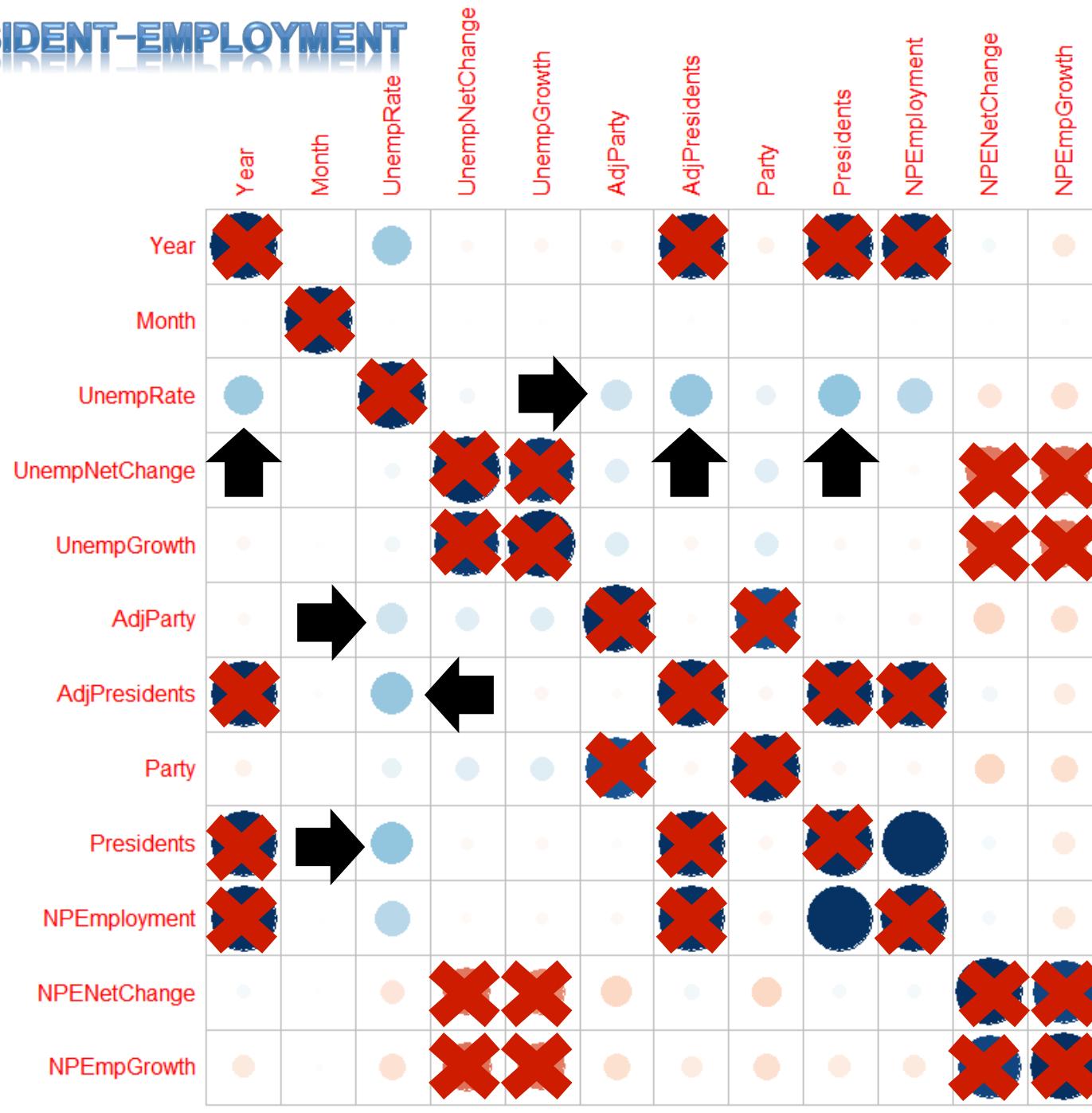
Histogram of data\$NPENetChange



Histogram of data\$NPEmpGrowth

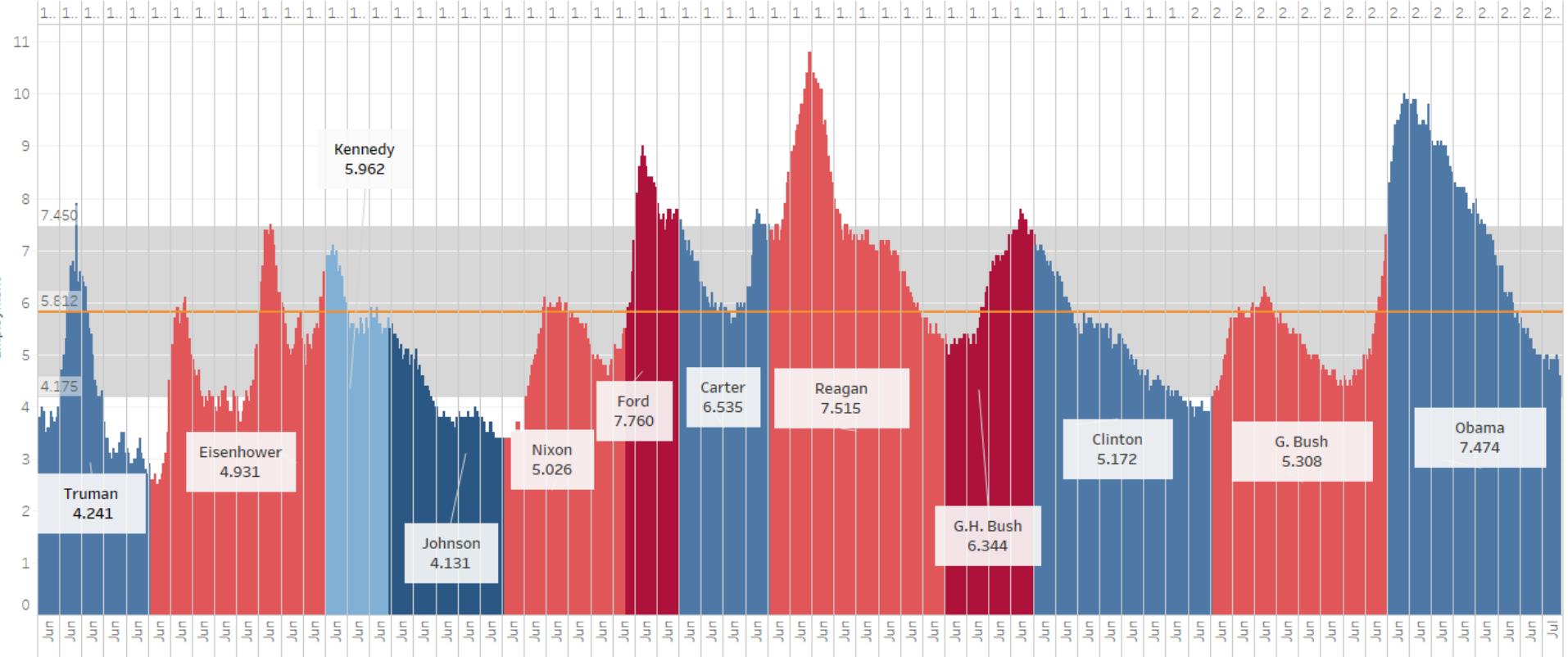


PRESIDENT-EMPLOYMENT

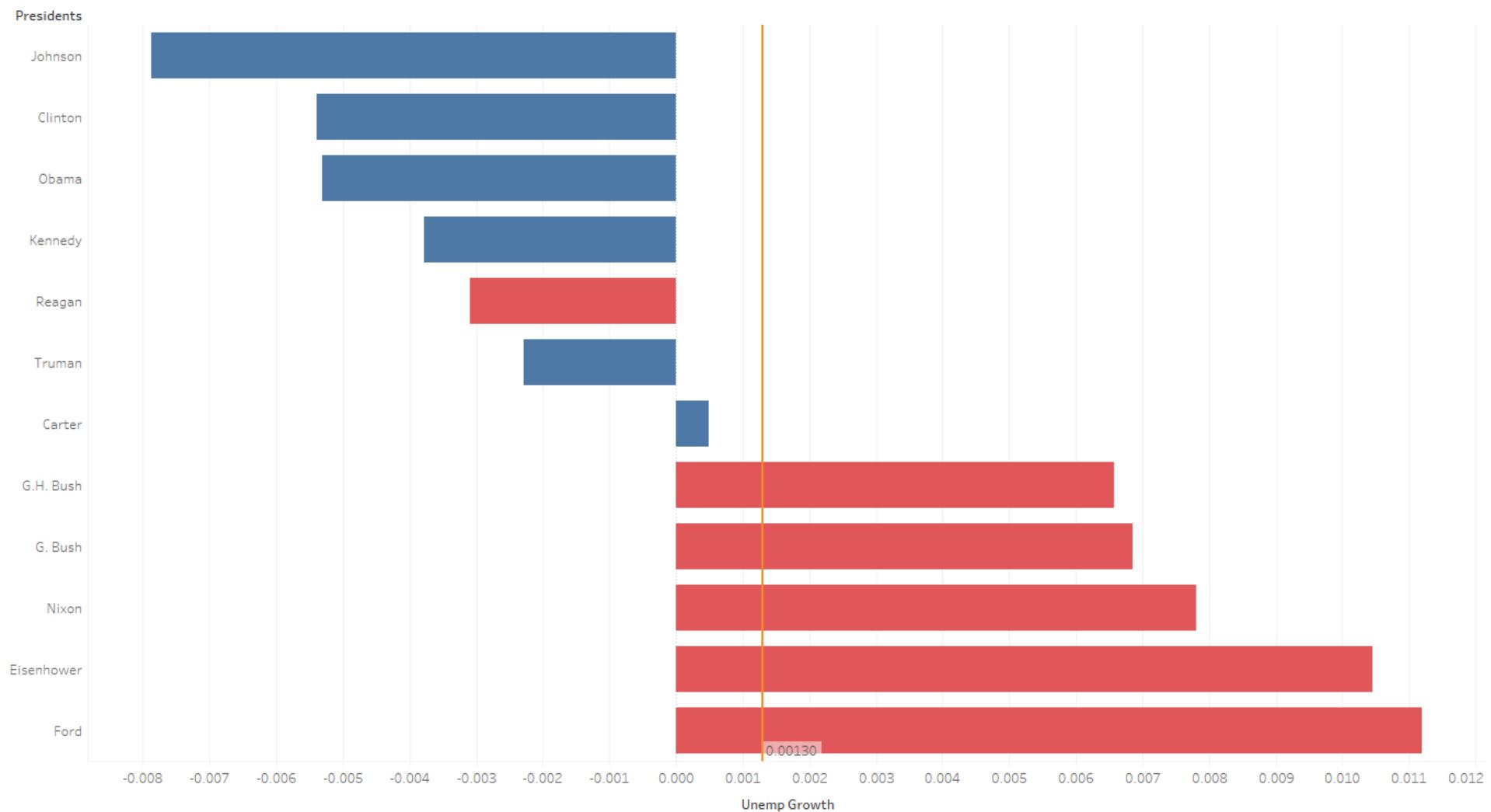


Unemployment Rate (No Adj)

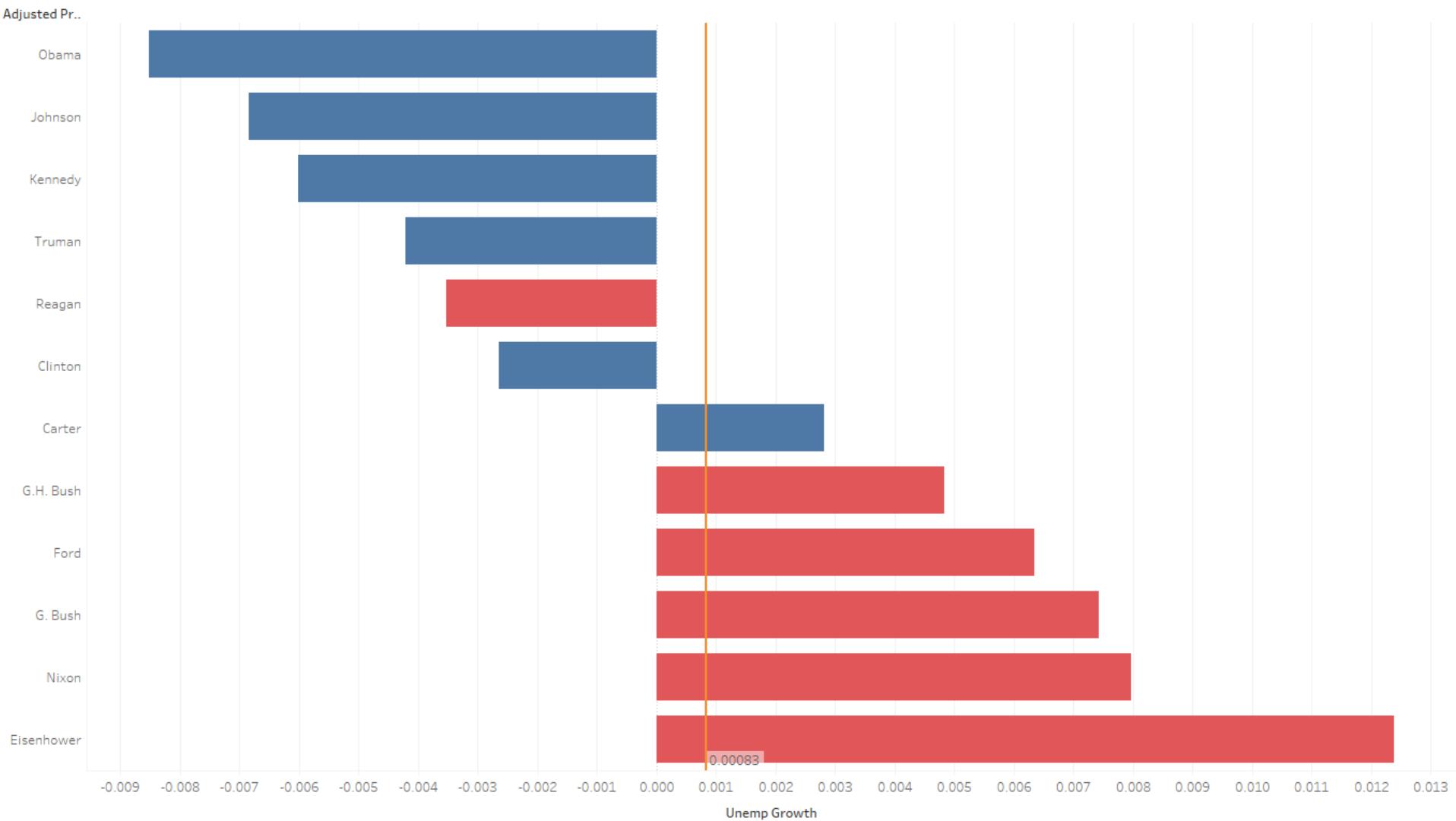
Month / Period



Unemployment Growth Ranking (No Adj)

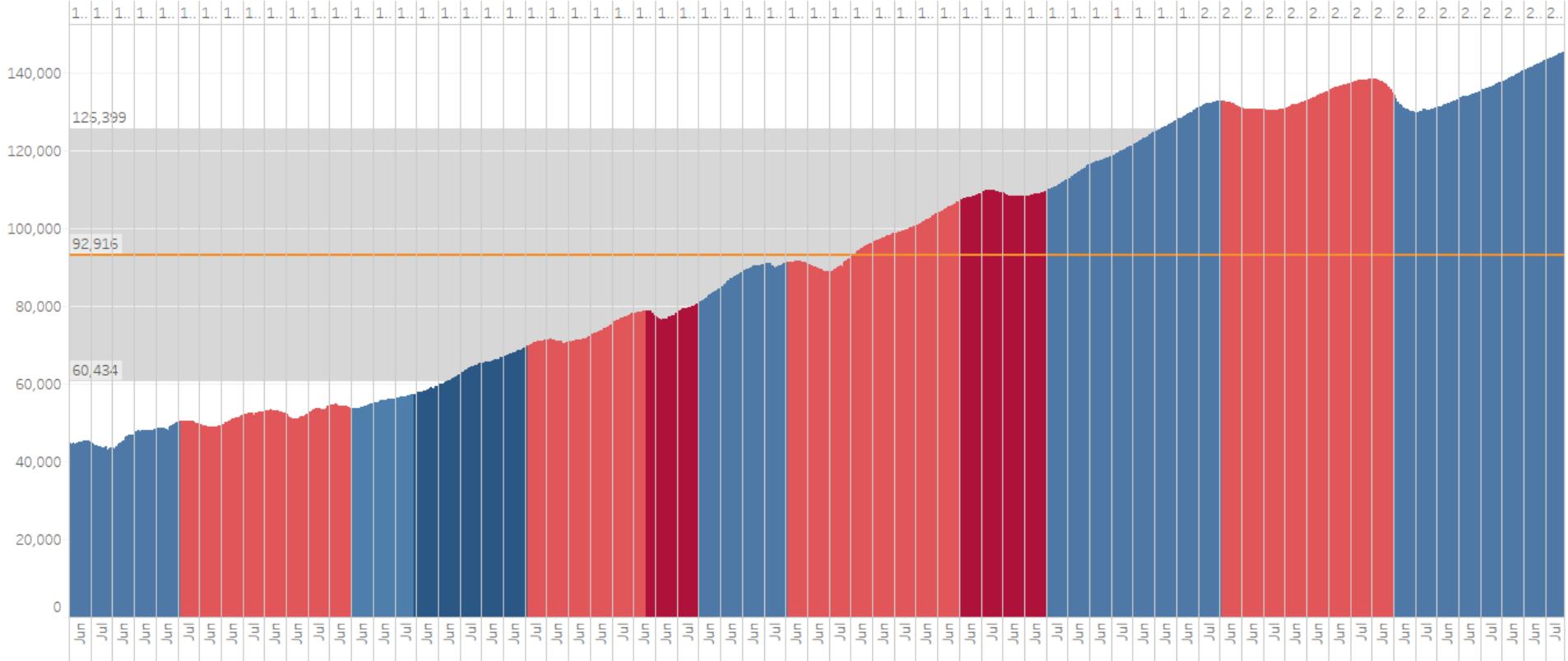


Unemployment Rate Growth (Adj)

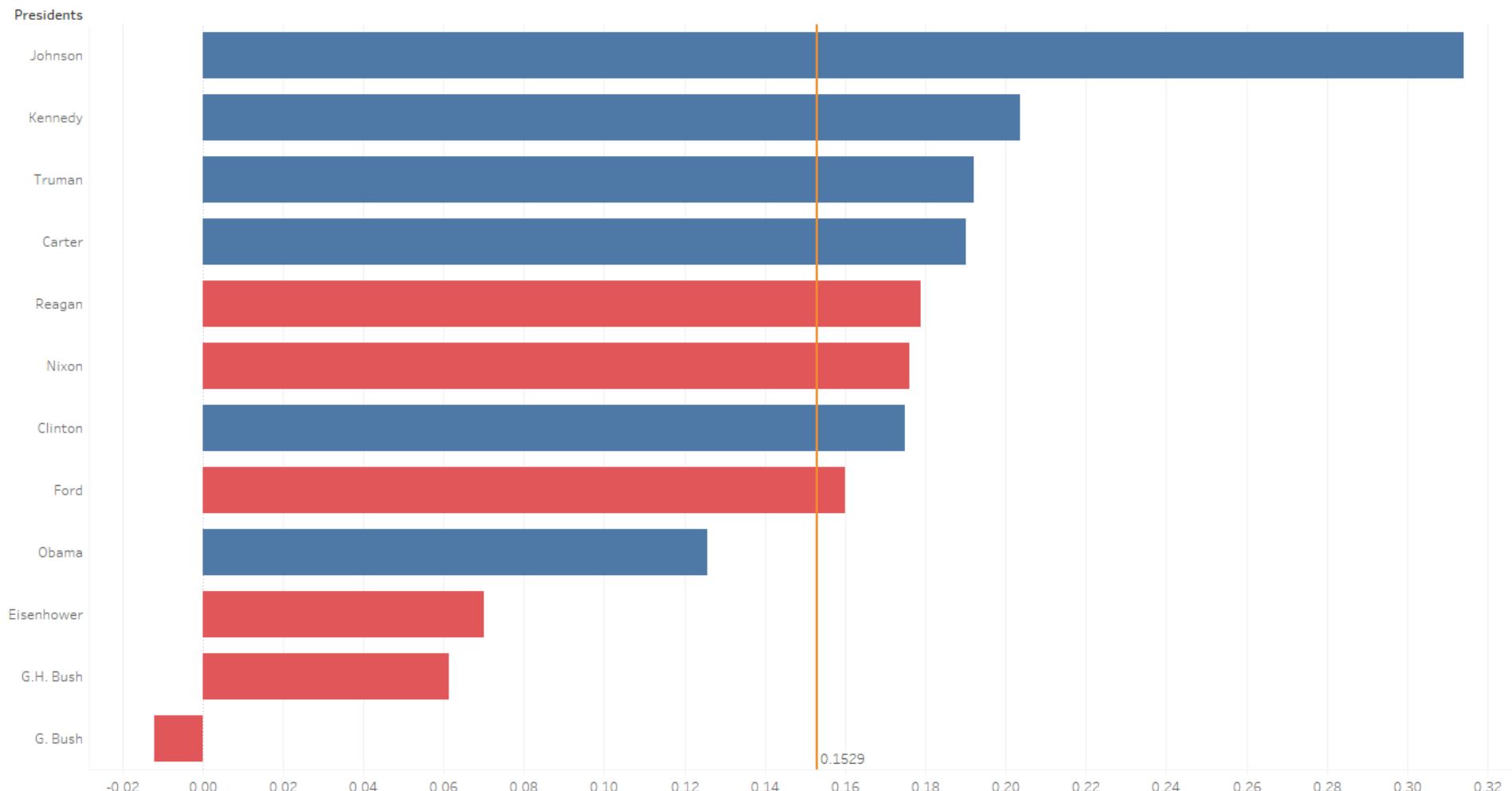


Nonfarm Payroll Employment (No Adj)

Month / Period



Employment Growth Ranking (No Adj)



Avg. Payroll Employment Growth Ranking (Adj)

Adjusted Pr..

Johnson



Kennedy

Truman

Carter

Reagan

Nixon

Clinton

Ford

Obama

Eisenhower

G.H. Bush

G. Bush

0.1529

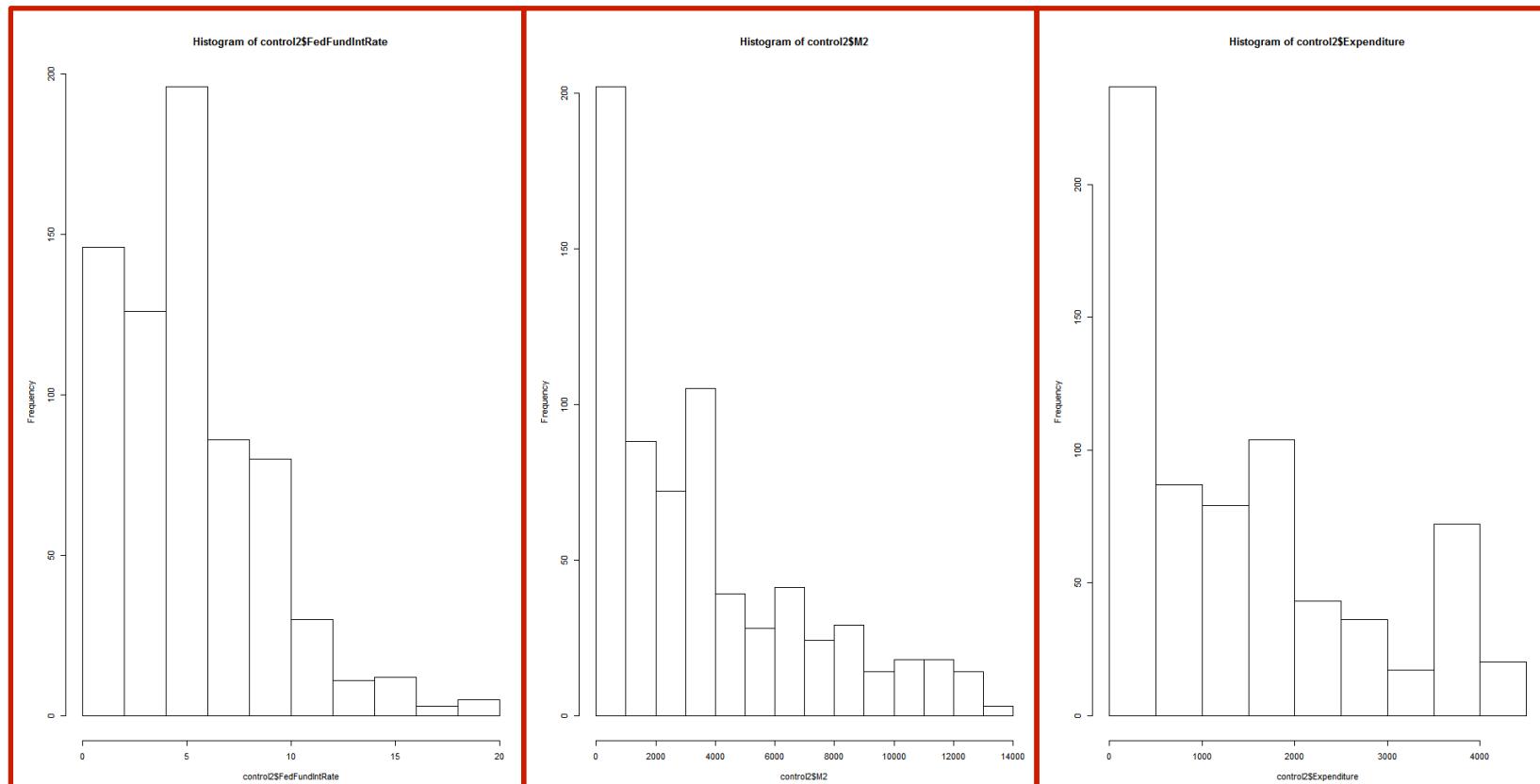
No Control

Control

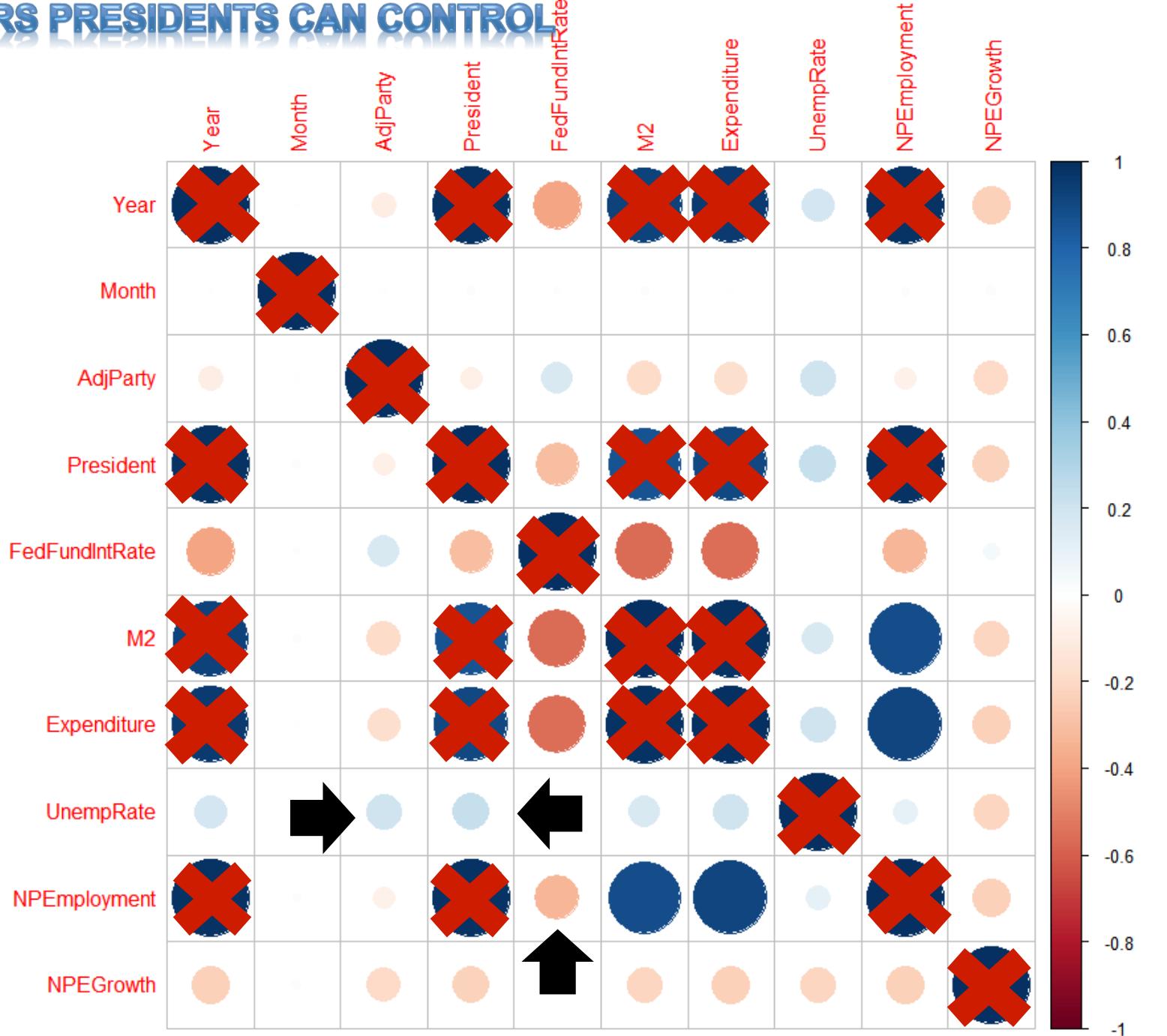


Number of
Jobs
Created

Year	Month	AdjParty	President	UnempRate	NPEmployment
Min. :1959	Min. : 1.000	Min. :100.0	Min. : 2.000	Min. : 3.400	Min. : 52480
1st Qu.:1973	1st Qu.: 3.500	1st Qu.:100.0	1st Qu.: 5.000	1st Qu.: 5.000	1st Qu.: 76572
Median :1987	Median : 6.000	Median :200.0	Median : 8.000	Median : 5.700	Median :103664
Mean :1987	Mean : 6.492	Mean :153.1	Mean : 7.934	Mean : 6.062	Mean :101277
3rd Qu.:2002	3rd Qu.: 9.000	3rd Qu.:200.0	3rd Qu.:11.000	3rd Qu.: 7.100	3rd Qu.:130628
Max. :2016	Max. :12.000	Max. :200.0	Max. :12.000	Max. :10.800	Max. :145128
NPEGrowth					
Min. :-0.87170	Min. : 0.070	Min. : 286.6	Min. : 89.1		
1st Qu.: 0.03646	1st Qu.: 2.875	1st Qu.: 834.9	1st Qu.: 287.1		
Median : 0.16575	Median : 4.990	Median : 2826.4	Median :1099.7		
Mean : 0.14780	Mean : 5.144	Mean : 3666.9	Mean :1438.2		
3rd Qu.: 0.27702	3rd Qu.: 6.860	3rd Qu.: 5507.8	3rd Qu.:2140.4		
Max. : 1.23707	Max. :19.100	Max. :13258.1	Max. :4187.5		



FACTORS PRESIDENTS CAN CONTROL

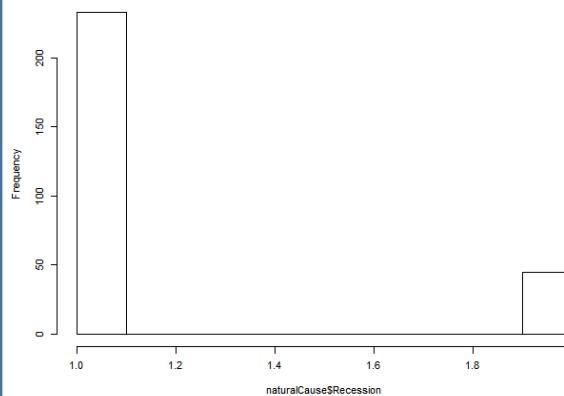


> summary(naturalCause)

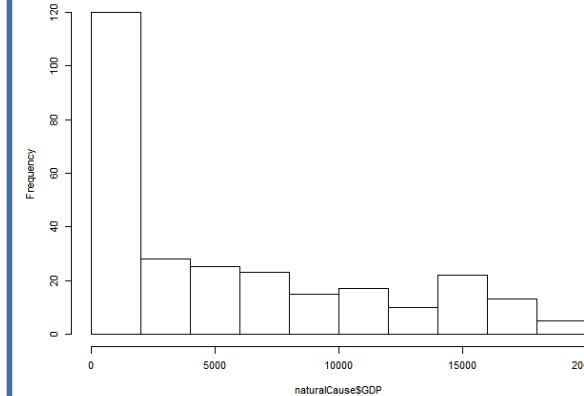
Year	Month	AdjParty	AdjPresident	NPEmployment	UnempRate	Recession
Min. :1947	Min. : 3.0	Min. :100.0	Min. : 1.000	Min. : 43517	Min. : 2.500	Min. :1.000
1st Qu.:1964	1st Qu.: 6.0	1st Qu.:100.0	1st Qu.: 4.000	1st Qu.: 59033	1st Qu.: 4.625	1st Qu.:1.000
Median :1982	Median : 7.5	Median :200.0	Median : 8.000	Median : 90783	Median : 5.600	Median :1.000
Mean :1982	Mean : 7.5	Mean :152.2	Mean : 6.831	Mean : 92392	Mean : 5.799	Mean :1.162
3rd Qu.:1999	3rd Qu.: 9.0	3rd Qu.:200.0	3rd Qu.:10.000	3rd Qu.:128879	3rd Qu.: 6.875	3rd Qu.:1.000
Max. :2016	Max. :12.0	Max. :200.0	Max. :12.000	Max. :144808	Max. :10.800	Max. :2.000

GDP	GDPGrowth	Productivity	Inflation	ConsConf
Min. : 246.3	Min. : -7.700	Min. : -11.300	Min. : 22.00	Min. : 54.40
1st Qu.: 694.2	1st Qu.: 4.125	1st Qu.: 0.025	1st Qu.: 31.12	1st Qu.: 80.22
Median : 3278.7	Median : 6.000	Median : 1.750	Median : 94.25	Median : 90.70
Mean : 5555.5	Mean : 6.546	Mean : 2.200	Mean : 104.14	Mean : 87.22
3rd Qu.: 9529.5	3rd Qu.: 8.800	3rd Qu.: 4.000	3rd Qu.: 165.90	3rd Qu.: 95.15
Max. :18657.9	Max. :26.800	Max. : 17.800	Max. : 241.43	Max. :110.10

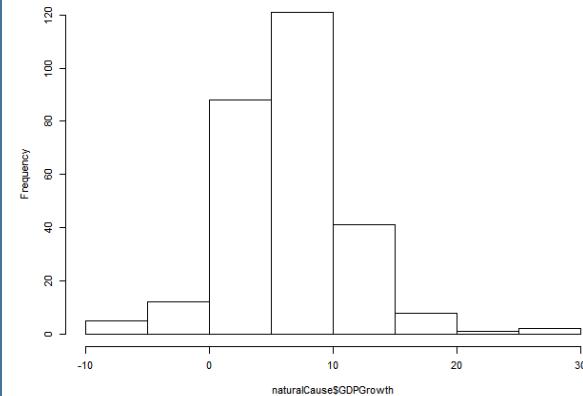
Histogram of naturalCause\$Recession



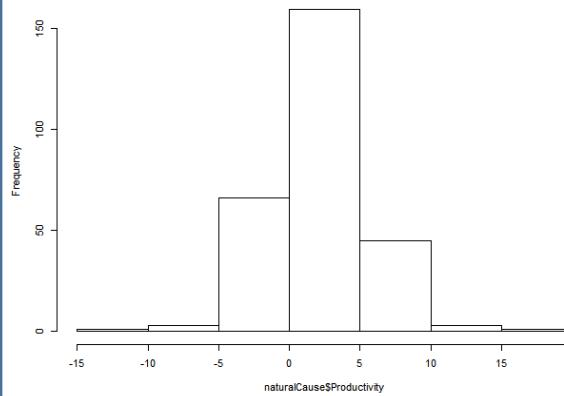
Histogram of naturalCause\$GDP



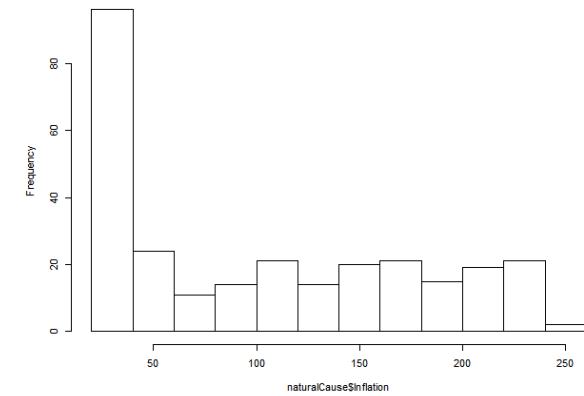
Histogram of naturalCause\$GDPGrowth



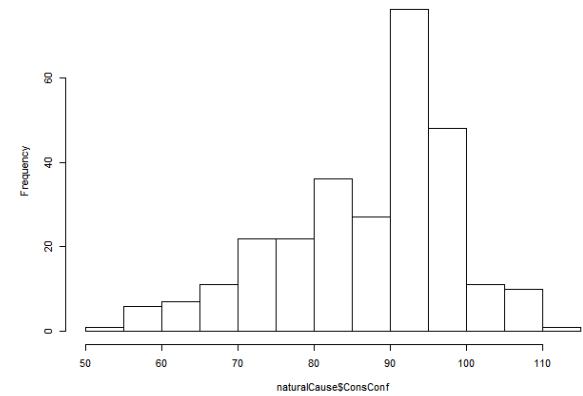
Histogram of naturalCause\$Productivity

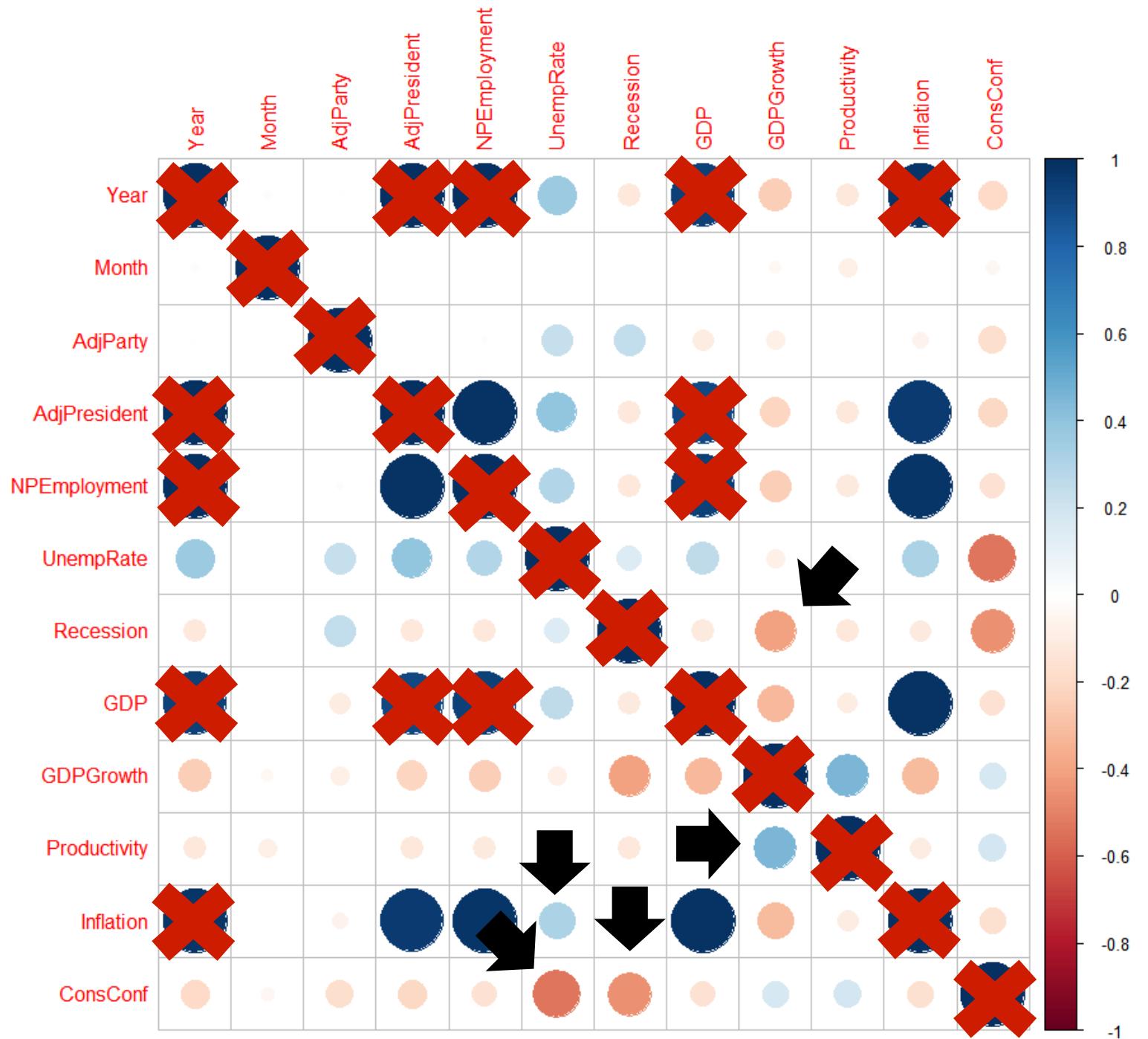


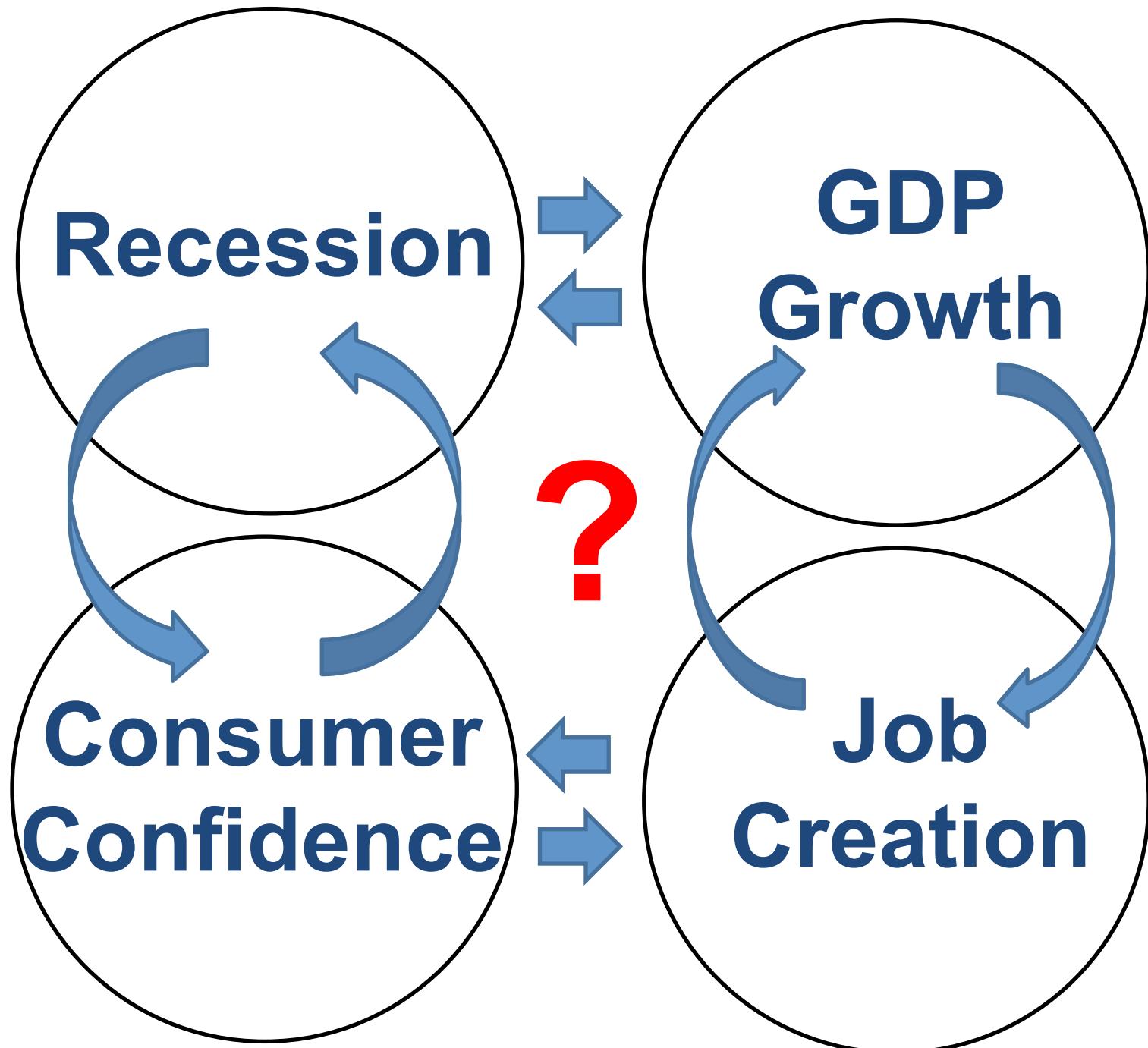
Histogram of naturalCause\$Inflation



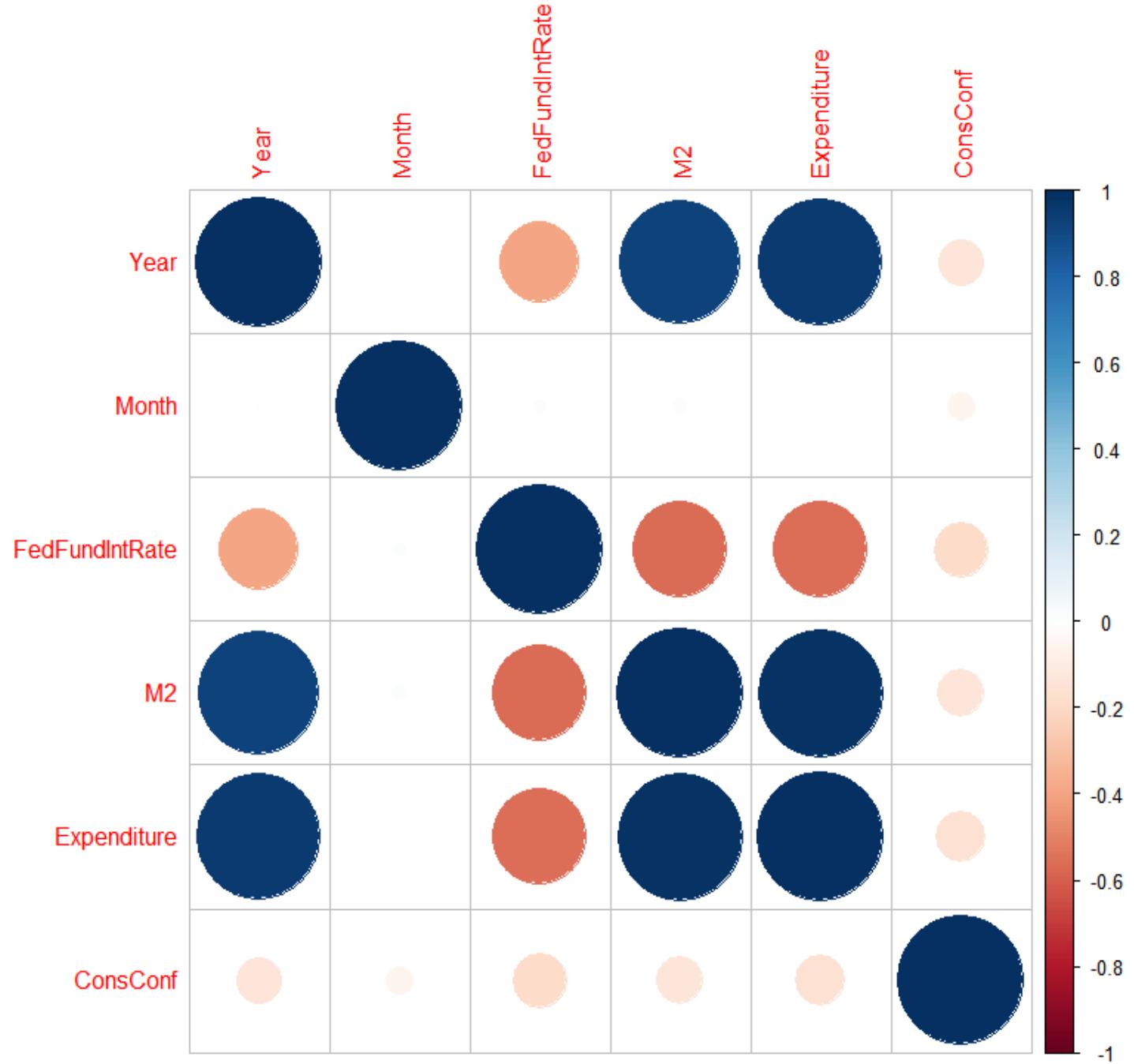
Histogram of naturalCause\$ConsConf



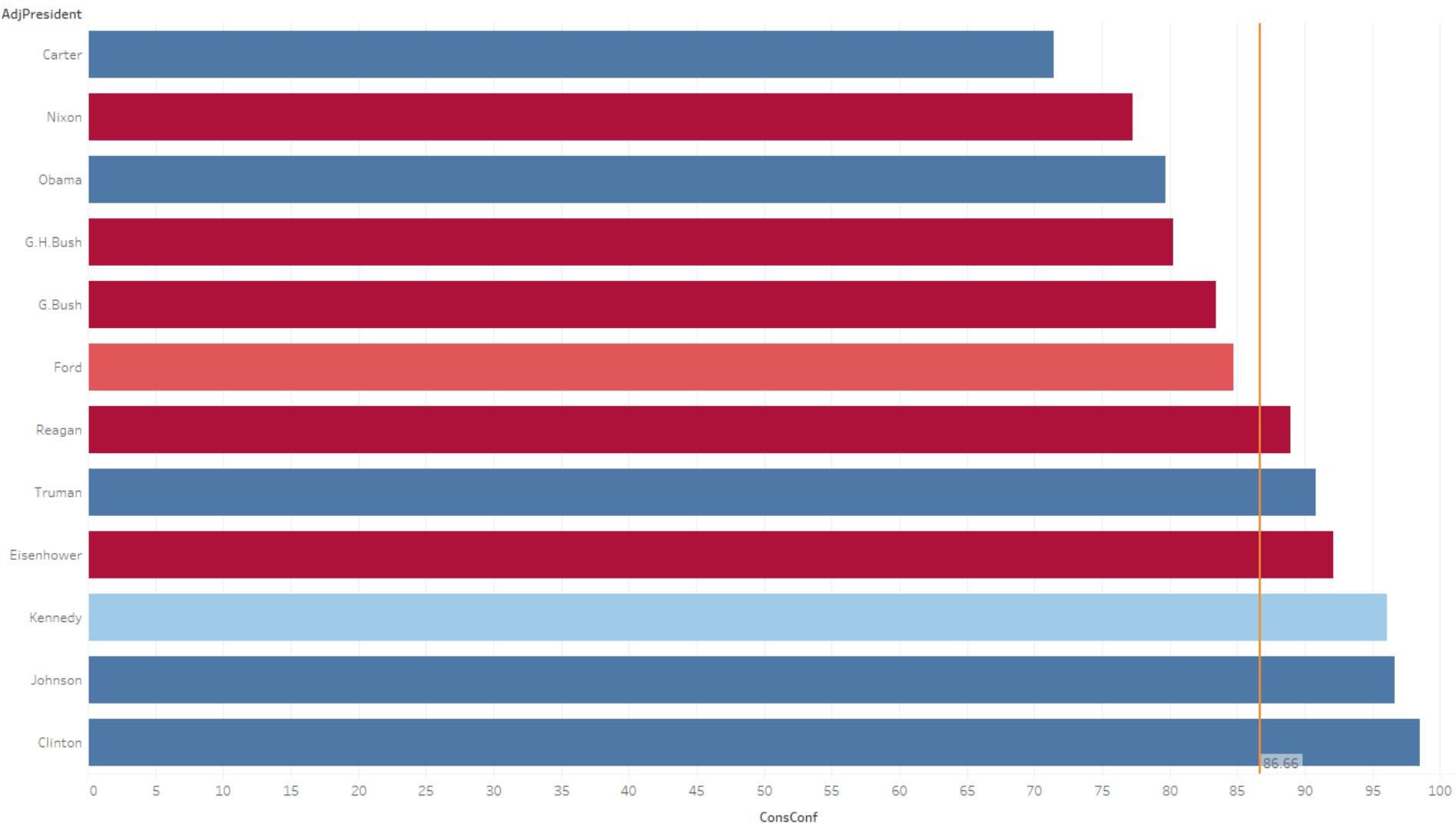








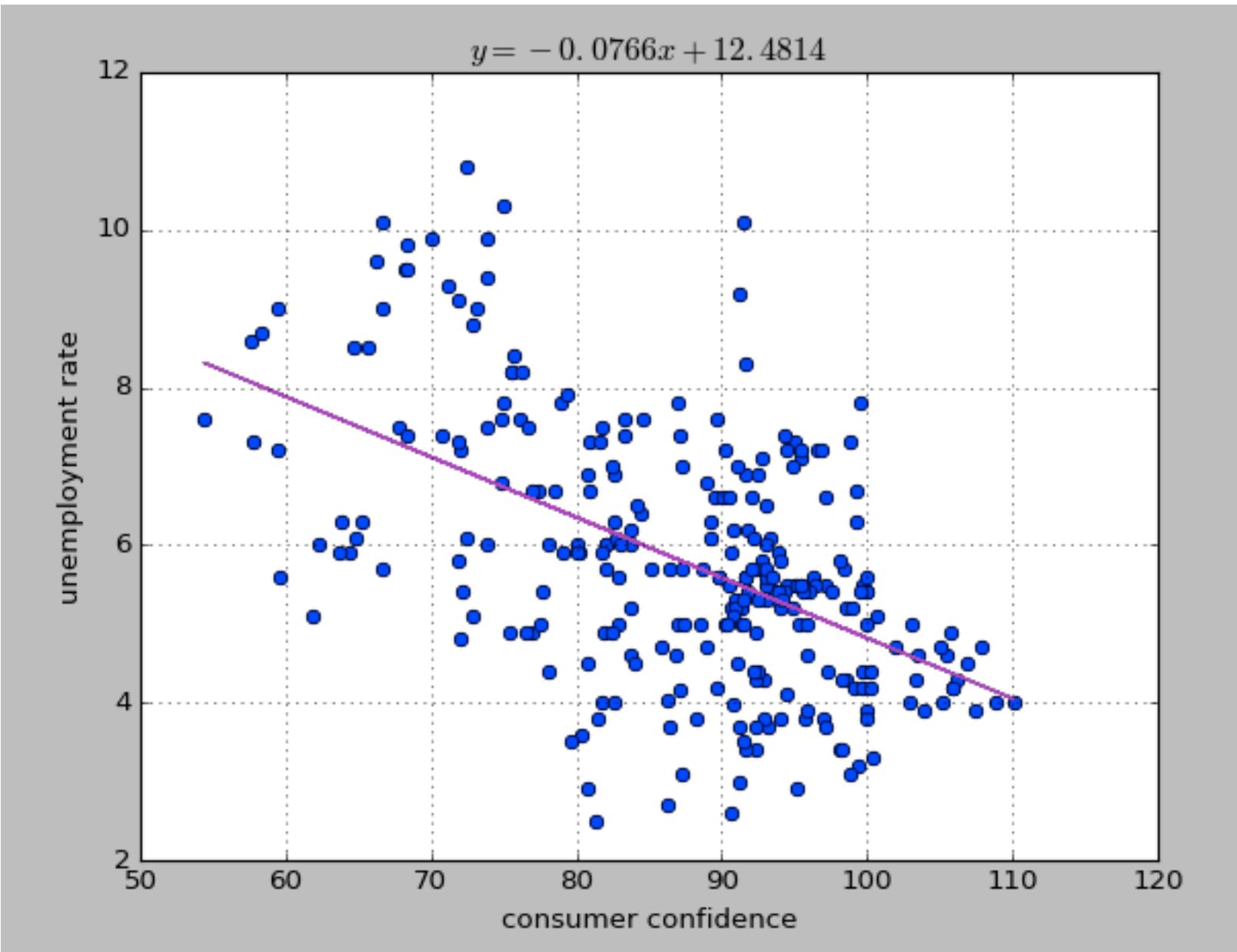
Consumer Confidence Ranking



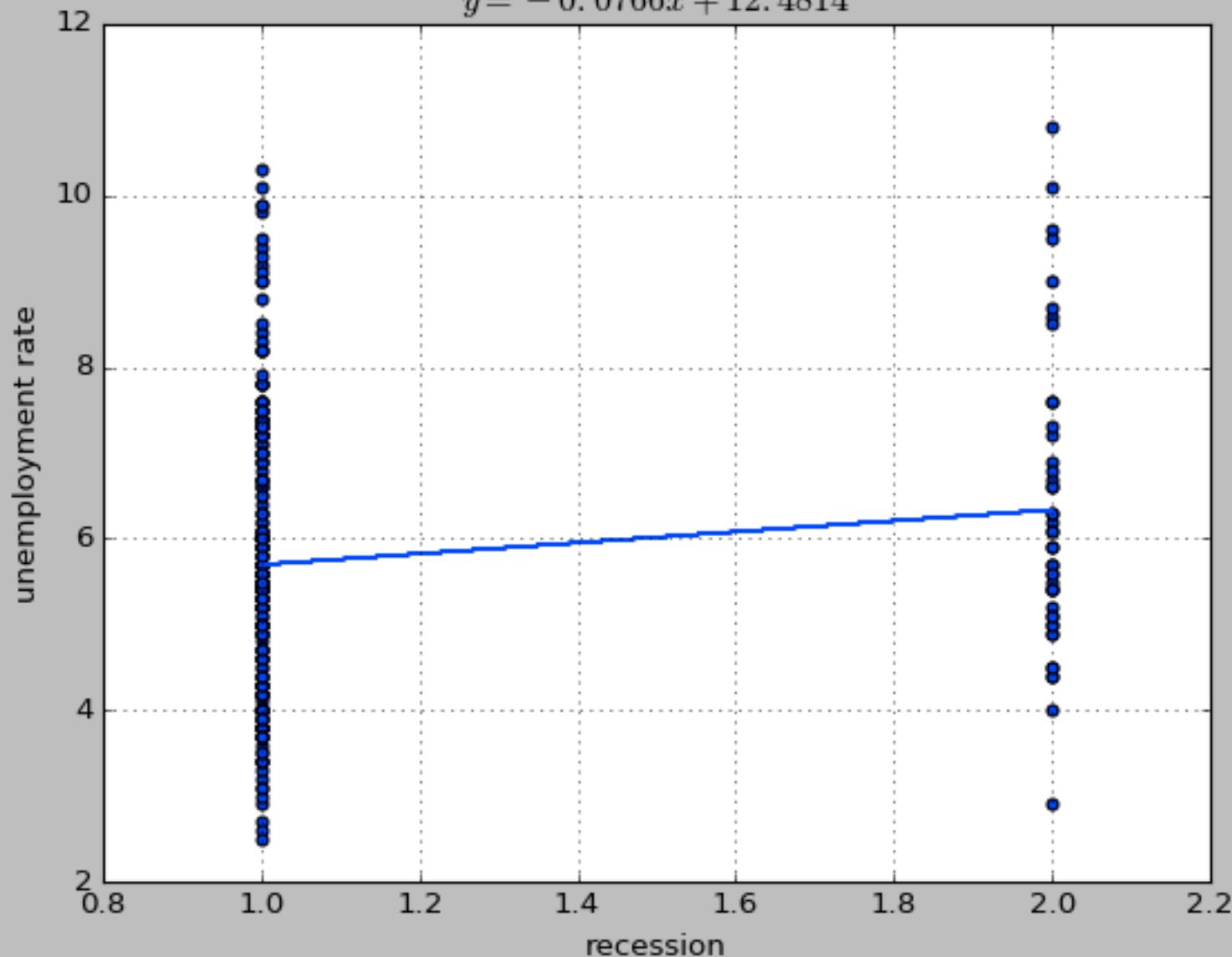
	Democrat	Republican
Sample Mean	89.34	85.27
Sample Deviation	12.03	10.58
Sample Size	133	145
Tobs = 2.99 > Two-tail = 1.98		

Forecasting

Logistics



$$y = -0.0766x + 12.4814$$



P=0.016

269 89.8
270 80.9
271 82.8
272 90.8
273 91.3
274 95.5
275 94.2
276 92.4
277 91.5
278 90.3
279* 90.6211
280* 90.3883
281* 89.9177
282* 89.5108
283* 89.2744
284* 89.0168
285* 88.7222
286* 88.4427
287* 88.1933
288* 87.9521
289* 87.7123
290* 87.4802

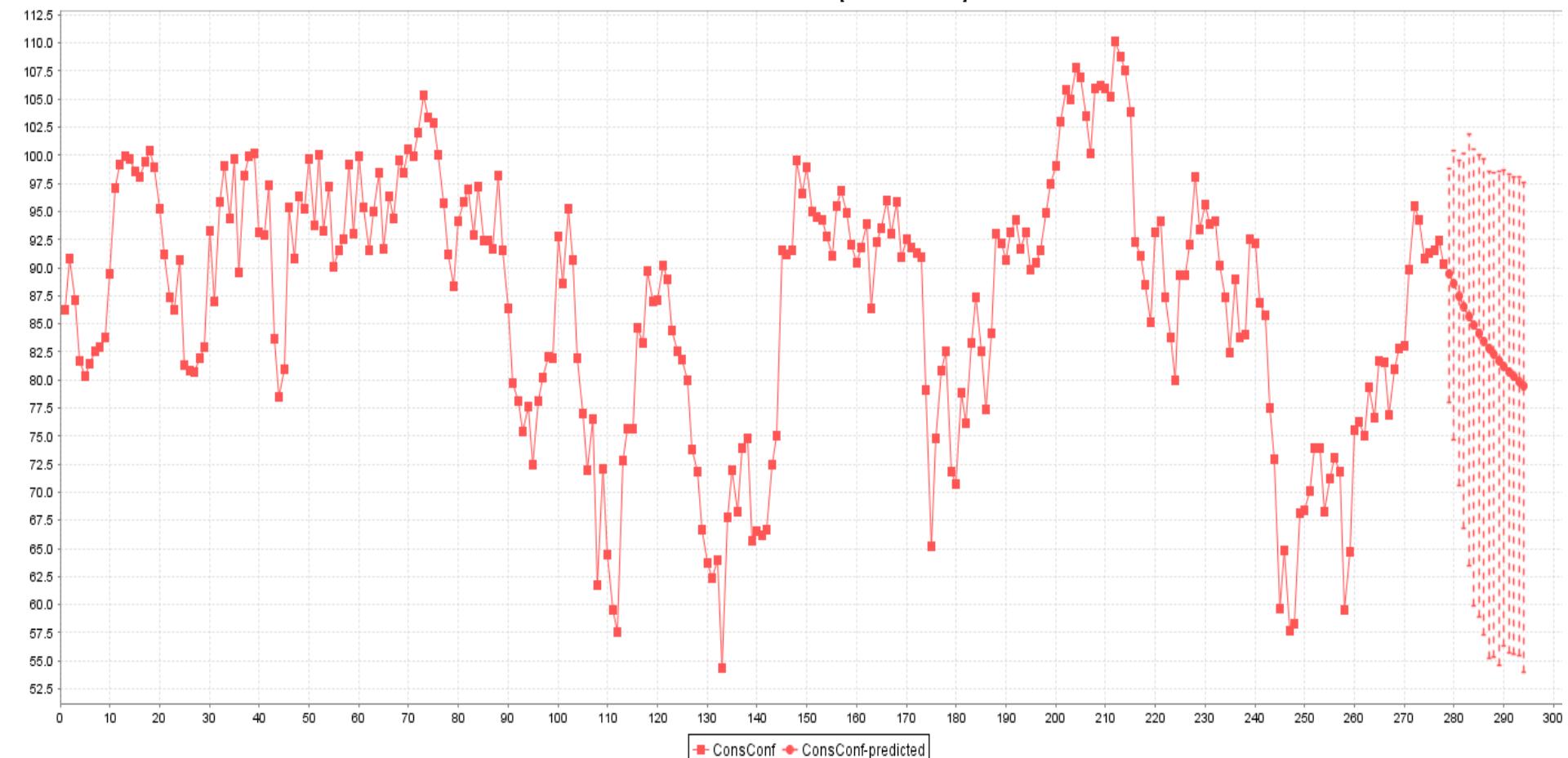
==== Evaluation on training data ===

Target	1-step-ahead	2-steps-ahead	3-steps-ahead	4-steps-ahead	5-steps-ahead	6-steps-ahead	7-steps-ahead	8-steps-ahead	9-steps-ahead	10-steps-ahead	11-steps-ahead	12-steps-ahead
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ConsConf

N	274	273	272	271	270	269	268	267	266	265	264	263
Mean absolute error	4.8909	5.7427	6.0303	6.402	7.2048	7.6912	8.1721	8.4937	8.6399	8.7695	9.003	9.1878
Root mean squared error	6.4852	7.5443	7.8973	8.3378	9.1365	9.8167	10.2184	10.5602	10.6938	10.7646	10.9948	11.1981

Future forecast for: ConsConf [95% conf. intervals]

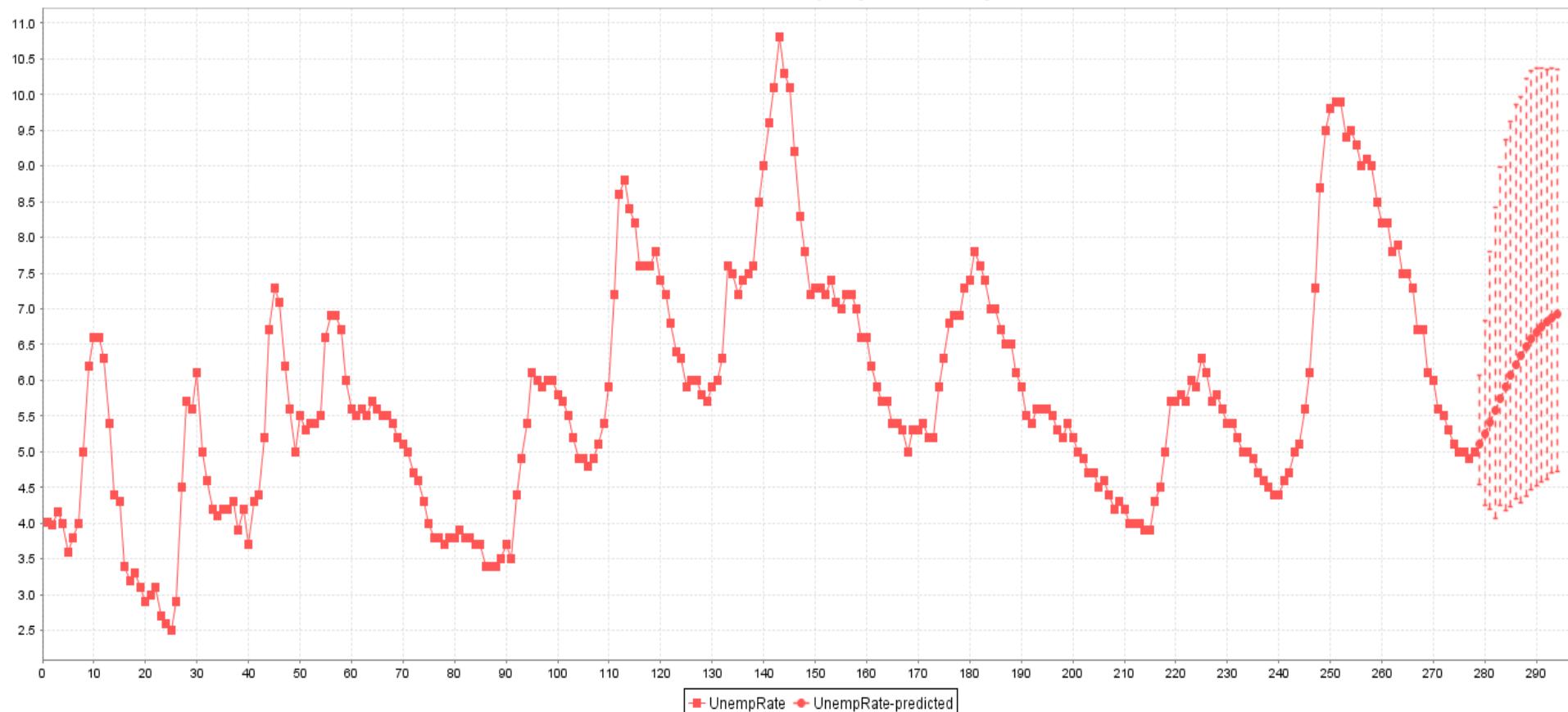


269	5.6
270	6.7
271	6.1
272	5.1
273	5
274	5.5
275	5.3
276	4.9
277	5
278	5
279*	5.0824
280*	5.068
281*	5.0745
282*	5.0793
283*	5.0986
284*	5.11
285*	5.1194
286*	5.127
287*	5.1362
288*	5.1453
289*	5.1538
290*	5.1615

==== Evaluation on training data ===

Target	1-step-ahead	2-steps-ahead	3-steps-ahead	4-steps-ahead	5-steps-ahead	6-steps-ahead	7-steps-ahead	8-steps-ahead	9-steps-ahead	10-steps-ahead	11-steps-ahead	12-steps-ahead
<hr/>												
UnempRate												
N	274	273	272	271	270	269	268	267	266	265	264	263
Mean absolute error	0.5175	0.6615	0.7532	0.8368	0.9268	1.0128	1.0712	1.113	1.139	1.1552	1.1841	1.2016
Root mean squared error	0.7405	0.8873	1.0018	1.0994	1.203	1.2994	1.3597	1.4035	1.4456	1.4708	1.4998	1.5248

Future forecast for: UnempRate [95% conf. intervals]



The image features a central cluster of hexagonal tiles in various shades of blue and grey. A large, dark blue hexagon contains the word "Conclusion" in a bold, yellow, sans-serif font. The surrounding hexagons are arranged in a roughly circular pattern, with some being solid shades of blue and others being lighter, semi-transparent ones.

Conclusion

FUTURE WORK

Tax?

tax:

Recession

recession

Consumer
confidence

confidence

?

Job creation

job creation