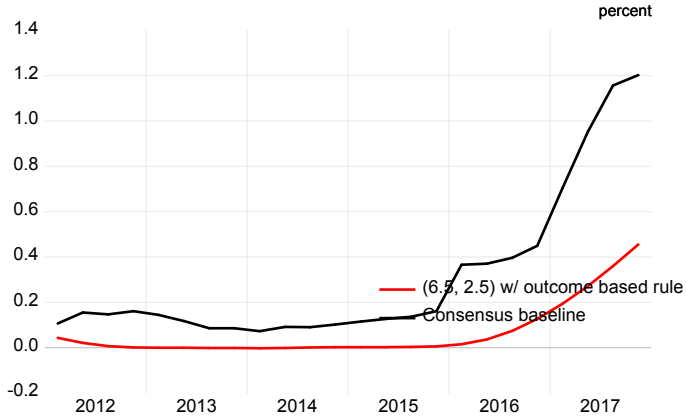
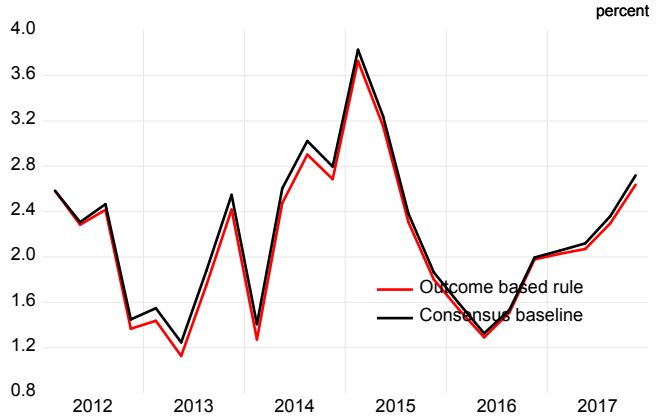
1. ZLB Imposed

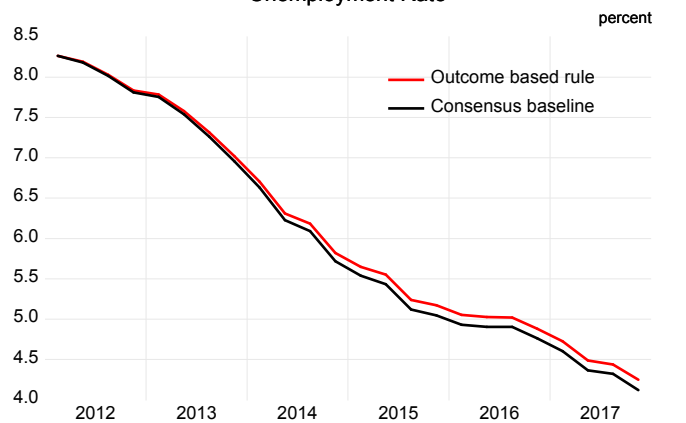
Federal Funds Rate



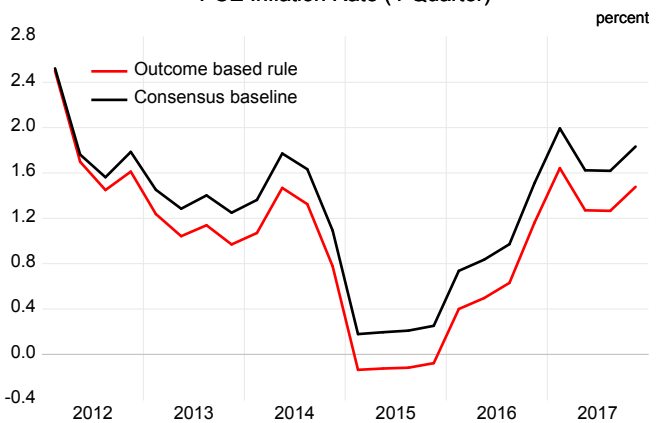
Year to Year % Change in Real GDP



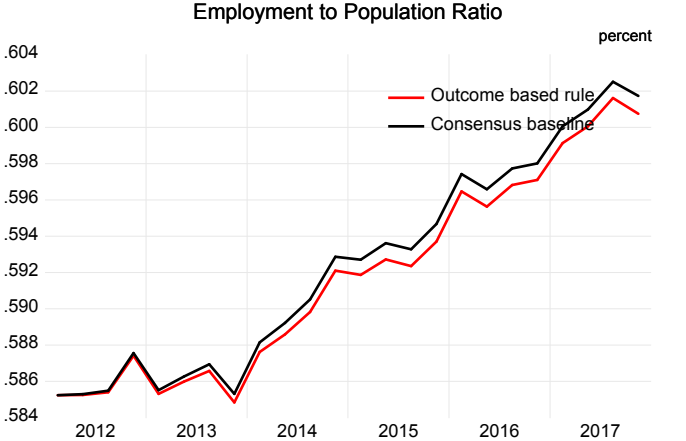
Unemployment Rate



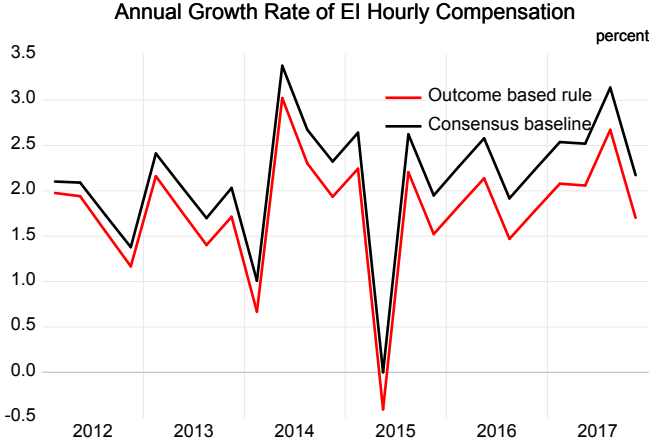
PCE Inflation Rate (4-Quarter)



Employment to Population Ratio

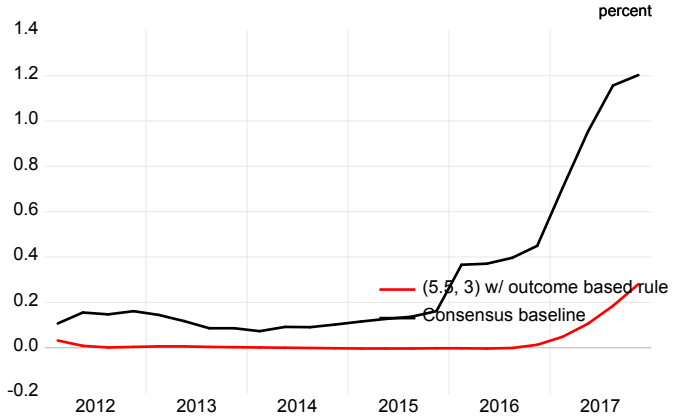


Annual Growth Rate of EI Hourly Compensation

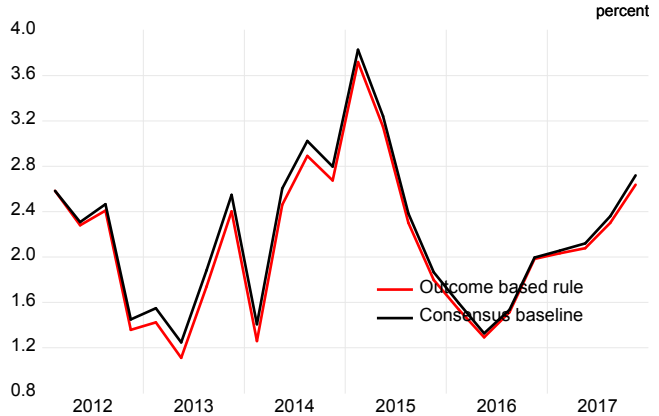


2. ZLB Imposed

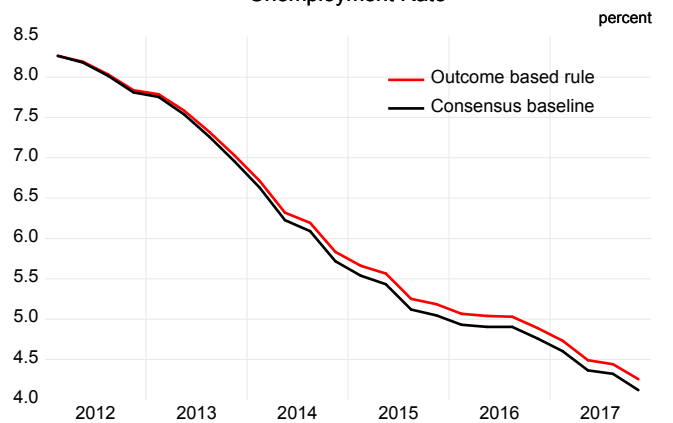
Federal Funds Rate



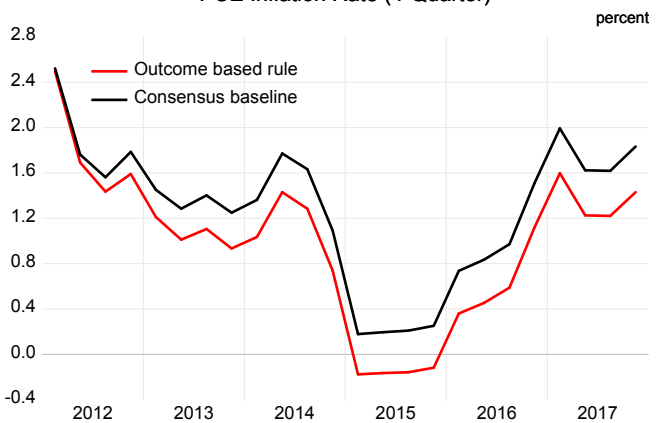
Year to Year % Change in Real GDP



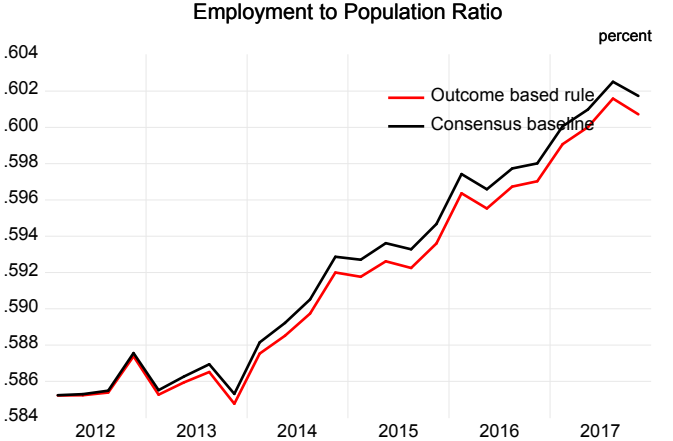
Unemployment Rate



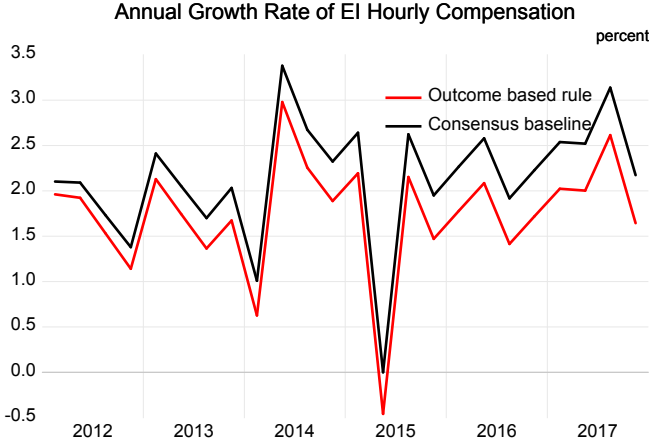
PCE Inflation Rate (4-Quarter)



Employment to Population Ratio

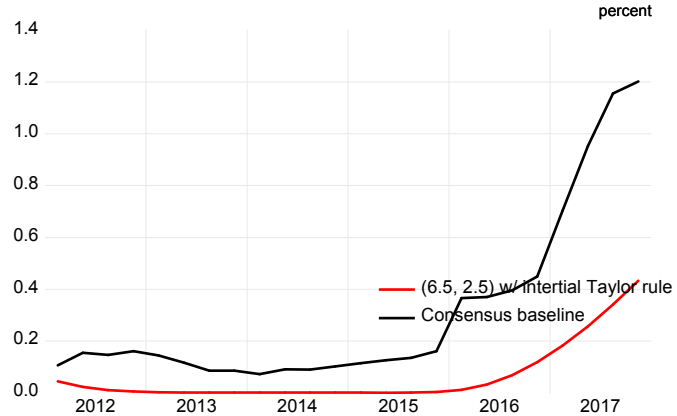


Annual Growth Rate of EI Hourly Compensation

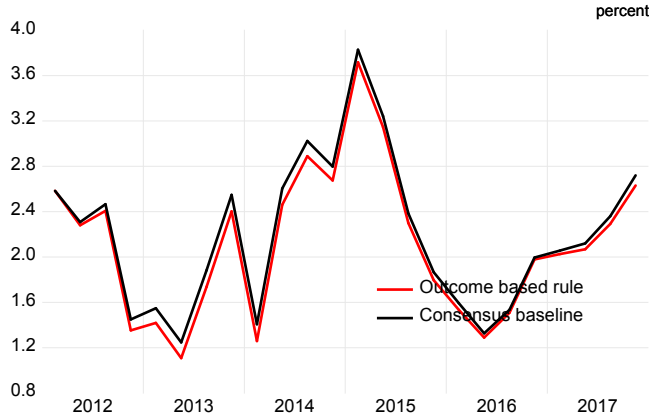


3. ZLB Imposed

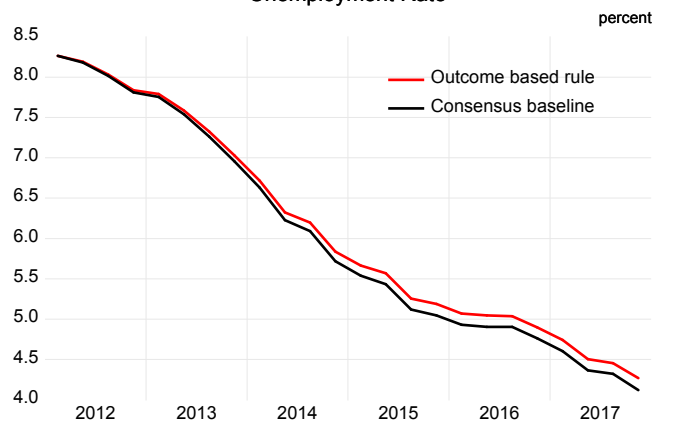
Federal Funds Rate



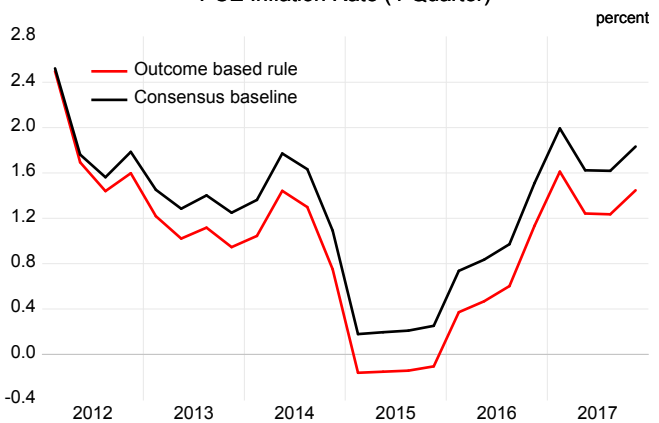
Year to Year % Change in Real GDP



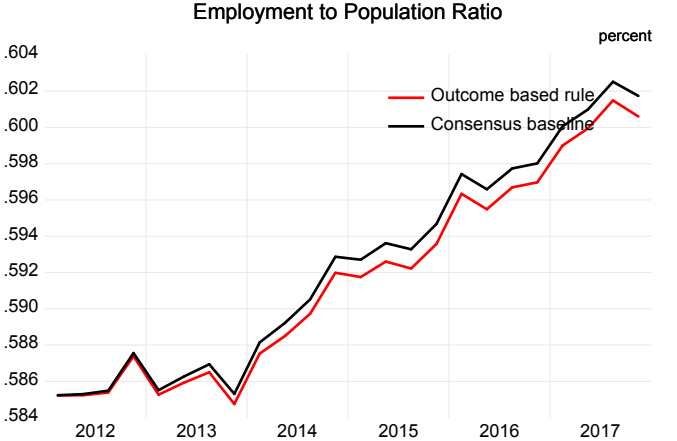
Unemployment Rate



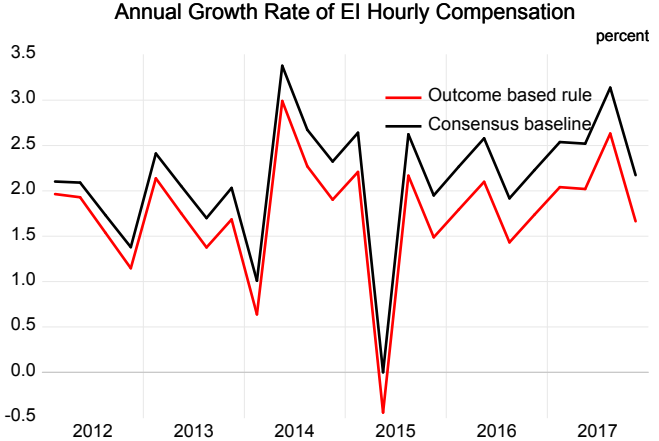
PCE Inflation Rate (4-Quarter)



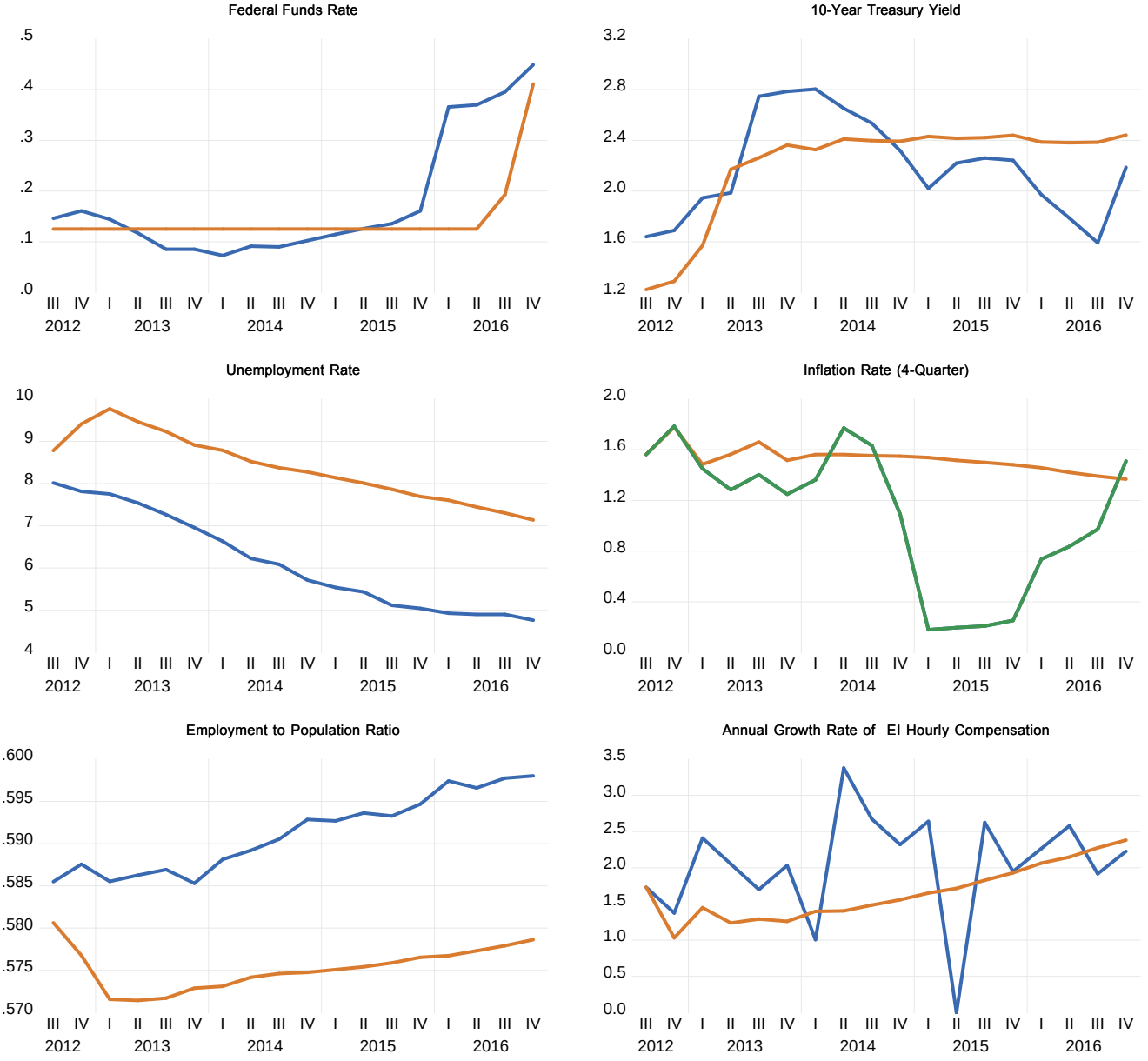
Employment to Population Ratio



Annual Growth Rate of EI Hourly Compensation

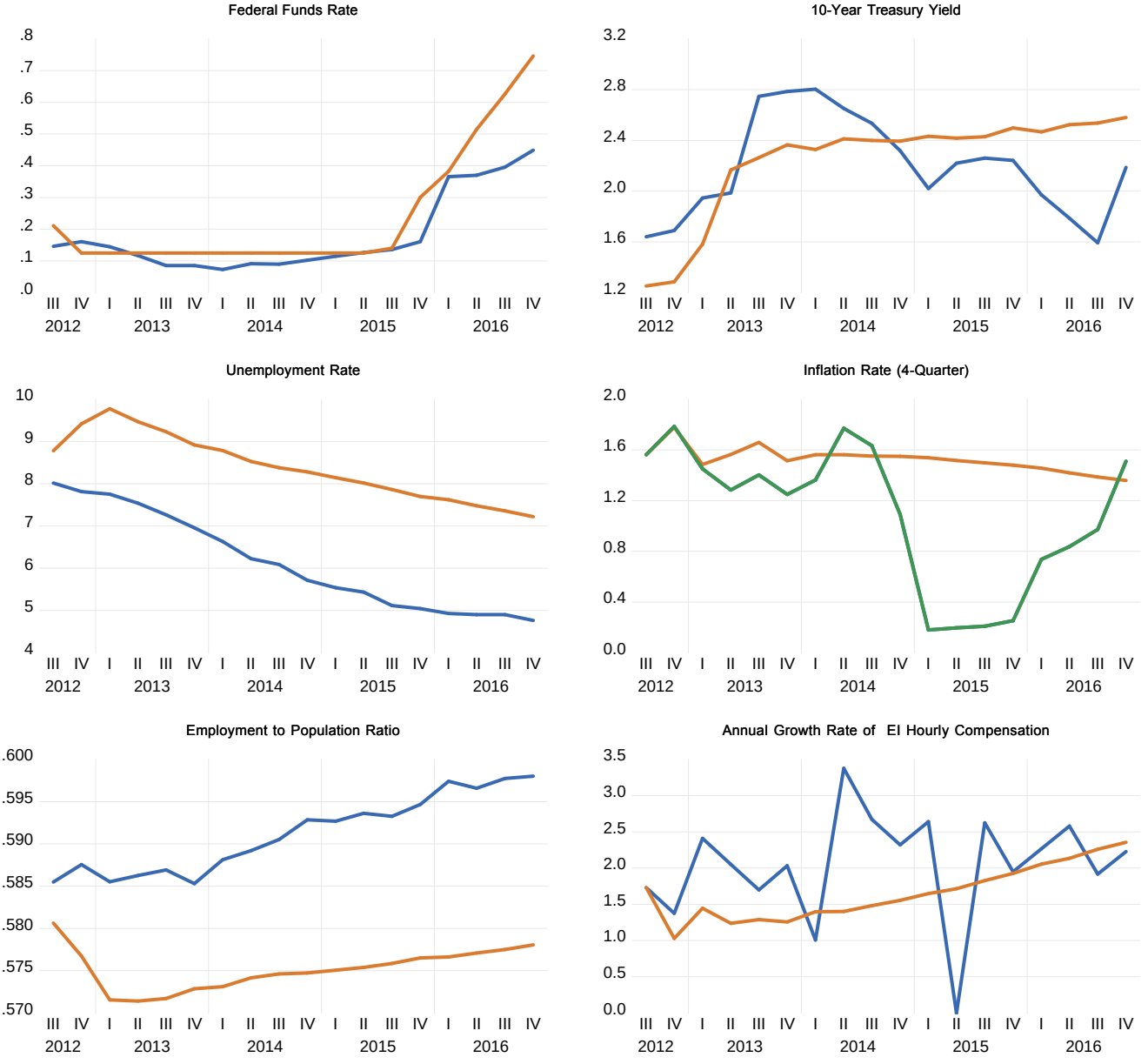


4. Macroeconomic Effects of Negative AD Shock
(VAR Expectations; Policy = rfftay)
(ZLB and Thresholds Imposed)



Blue: Actual; Red: Simulated

5. Macroeconomic Effects of Negative AD Shock
(VAR Expectations; Policy = rfftay)
(ZLB and Thresholds Imposed)



Blue: Actual; Red: Simulated

Vector Autoregression Estimates

Vector Autoregression Estimates
Date: 06/24/20 Time: 13:54
Sample: 2012Q3 2017Q4
Included observations: 22
Standard errors in ( ) & t-statistics in [ ]

	PIECI	LUR	XGDP
PIECI(-1)	-0.265354	0.065073	19.94952
	(0.28294)	(0.03724)	(23.7970)
	[-0.93783]	[1.74744]	[0.83832]
PIECI(-2)	0.066934	-0.060809	41.59231
	(0.27499)	(0.03619)	(23.1280)
	[0.24340]	[-1.68017]	[1.79835]
LUR(-1)	-1.889259	1.302079	-274.2548
	(1.61157)	(0.21210)	(135.541)
	[-1.17231]	[6.13888]	[-2.02340]
LUR(-2)	1.840685	-0.407455	211.0998
	(1.91982)	(0.25267)	(161.466)
	[0.95878]	[-1.61258]	[1.30739]
XGDP(-1)	-0.000748	-0.000660	0.710062
	(0.00333)	(0.00044)	(0.27983)
	[-0.22483]	[-1.50742]	[2.53745]
XGDP(-2)	0.001132	0.000492	0.179220
	(0.00299)	(0.00039)	(0.25174)
	[0.37823]	[1.24857]	[0.71193]
C	-3.933912	3.435975	2220.722
	(38.2073)	(5.02857)	(3213.42)
	[-0.10296]	[0.68329]	[0.69108]
R-squared	0.216035	0.995595	0.993311
Adj. R-squared	-0.097551	0.993833	0.990636
Sum sq. resids	8.490130	0.147065	60056.11
S.E. equation	0.752335	0.099017	63.27512

Vector Autoregression Estimates

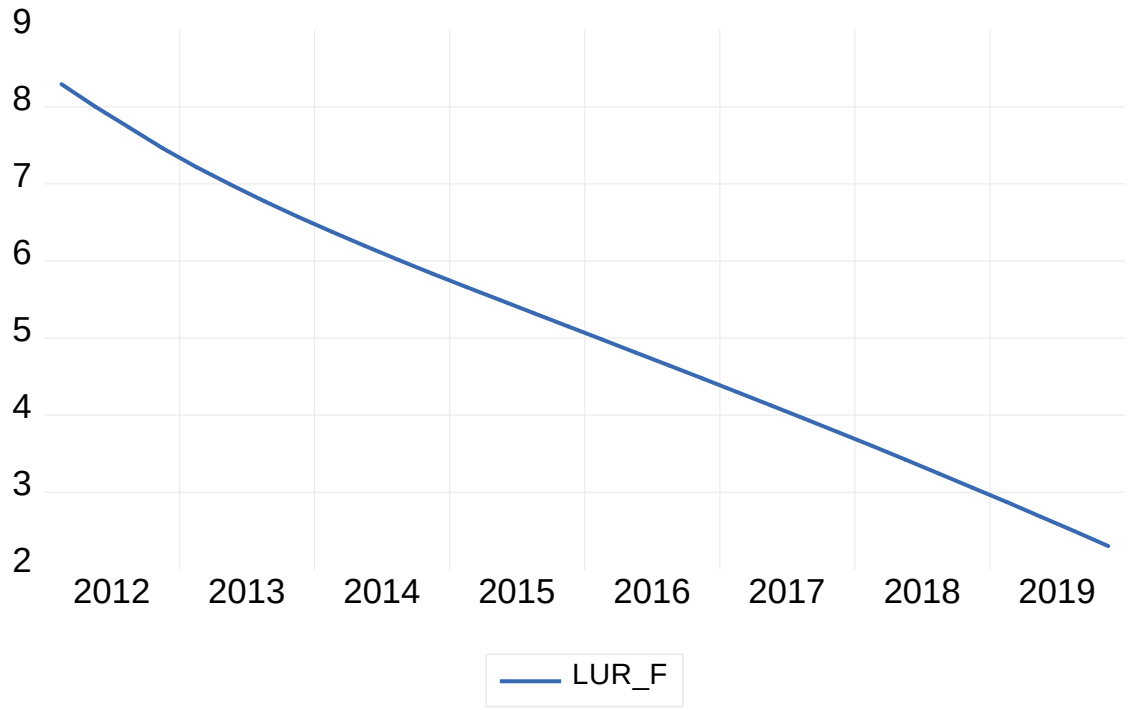
F-statistic	0.688917	565.0279	371.2538
Log likelihood	-20.74313	23.87048	-118.2486
Akaike AIC	2.522103	-1.533680	11.38623
Schwarz SC	2.869252	-1.186530	11.73338
Mean dependent	2.147497	5.820750	17222.40
S.D. dependent	0.718123	1.260867	653.8705

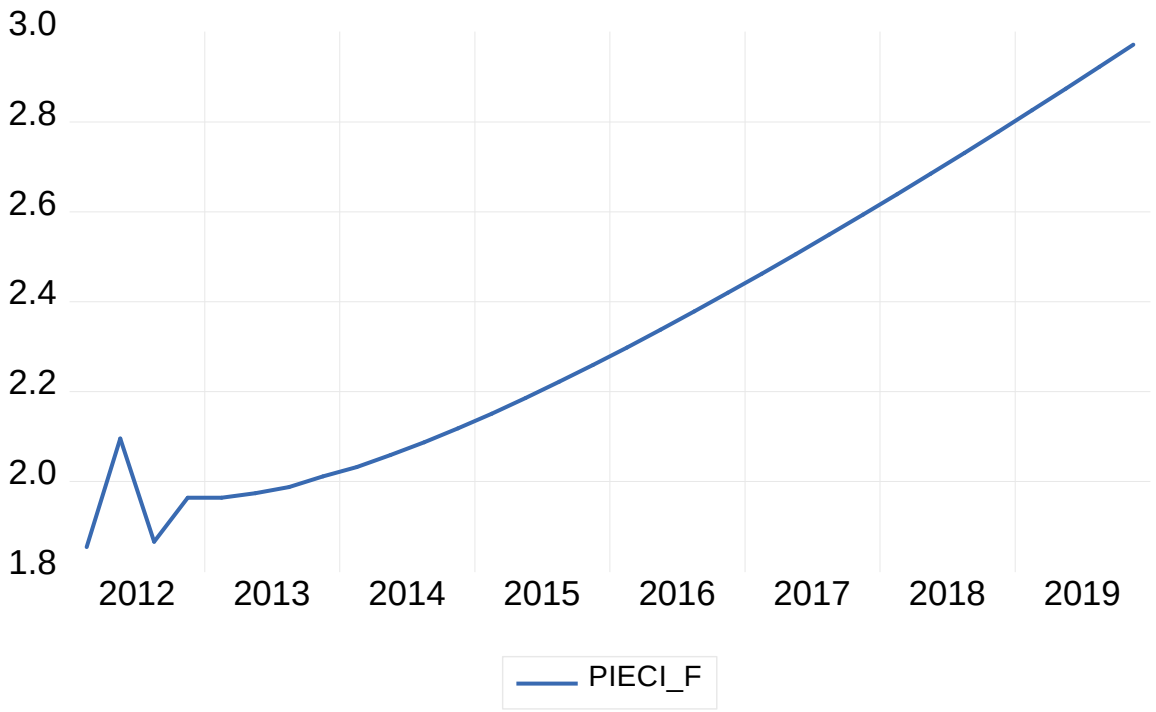
Determinant resid covariance (dof adj.)	17.54734
Determinant resid covariance	5.561821
Log likelihood	-112.5251
Akaike information criterion	12.13865
Schwarz criterion	13.18010
Number of coefficients	21

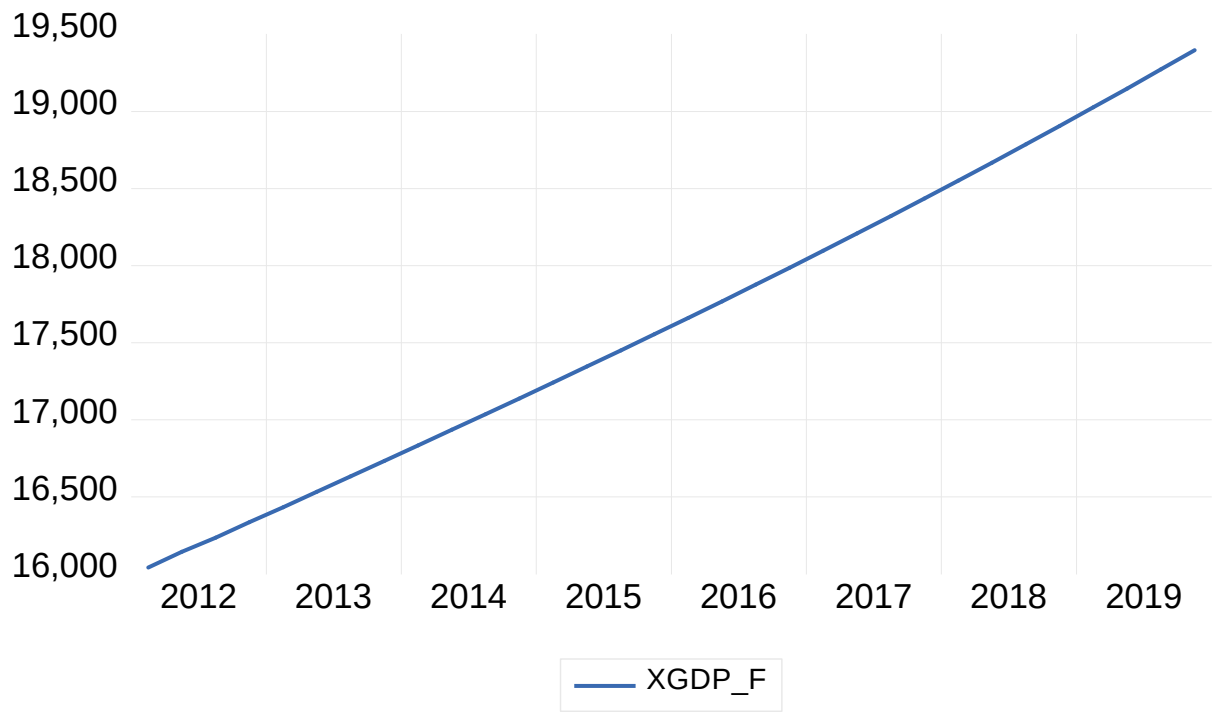
Forecast Evaluation
Date: 06/25/20 Time: 19:23
Sample: 2012Q1 2019Q4
Included observations: 32

Variable	Inc. obs.	RMSE	MAE	MAPE	Theil
LUR	32	0.505119	0.386988	10.76048	0.045655
PIECI	32	0.615263	0.419586	18.52674	0.128568
XGDP	32	114.6754	100.5193	0.563833	0.003252

RMSE: Root Mean Square Error
MAE: Mean Absolute Error
MAPE: Mean Absolute Percentage Error
Theil: Theil inequality coefficient

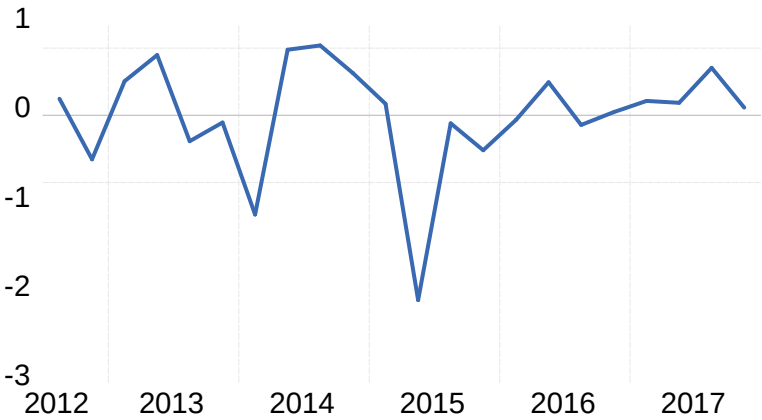



3.0
2.8
2.6
2.4
2.2
2.0
1.8
2012
2013
2014
2015
2016
2017
2018
2019
PIECI_F

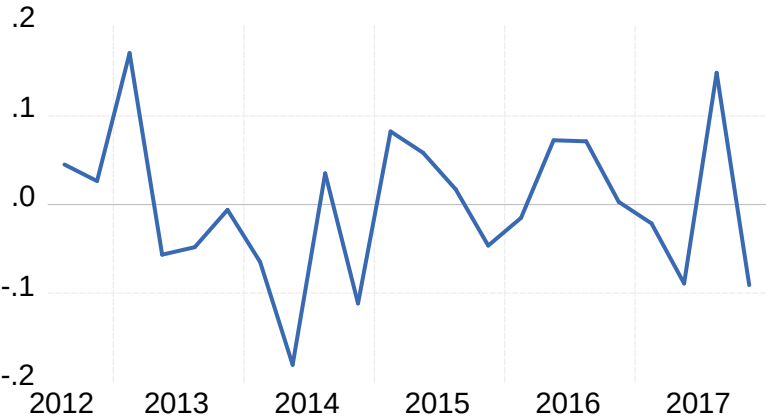

19,500
19,000
18,500
18,000
17,500
17,000
16,500
16,000
2012
2013
2014
2015
2016
2017
2018
2019
XGDP_F

VAR Residuals

PIECI Residuals



LUR Residuals



XGDP Residuals