

REVIEW OF FORECAST ACCURACY

CHAPMAN RANKS #1

We have compared Chapman’s forecasts to those reported in the “Blue Chip Economic Indicators” surveys regularly since 2004. The most recent analysis, conducted two years ago (see *Review*, Vol. 34, No. 1, pp. 30–31), showed that Chapman’s forecast accuracy for real GDP over the 2004 through 2014 period ranked number 1 when compared to forecasts issued by the organizations participating in the Blue Chip survey. The Chapman model also outperformed the highly regarded “Blue Chip Consensus” forecast, which represents the average of the survey participants’ forecasts.

In addition, we reported on a forecast accuracy ranking that included not only real GDP but also the unemployment rate, GDP price deflator, housing starts and 10-year treasury bond rate. Chapman ranked fifth in this more comprehensive comparison against the Blue Chip forecasts.

We recently updated the ranking analysis through the 2016 time period. As in our previous rankings, we measured comparative forecast accuracy by calculating the relevant z values as:

$$z_i = (\bar{e}_i - \bar{e}) / sd$$

where \bar{e}_i = mean error of forecasting agency *i* over forecast period

\bar{e} = mean error of all forecasts over forecast period

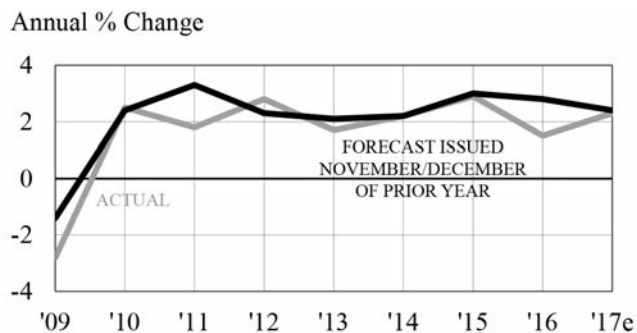
sd = standard deviation of all forecasts

The resulting z values, reported in Table 1, reveal that Chapman again ranked number one in forecasting real GDP. As shown in Table 2, Chapman moved up from fifth place to number one in the more comprehensive comparison that includes real GDP as well as the unemployment rate, GDP price deflator and housing starts. Similar to the 2004 through 2014 test, we gave the same weight to each of the variables. This means that real GDP was as important as any other variable in the ranking analysis. In addition to equal weights, we normalized the actual and forecast deviations by using z values. Normalizing the deviations was necessary in order to adjust for the fact that different variables are measured in different units.

CHAPMAN’S 2017 FORECASTS

Throughout the current recovery, now in its eighth year, Chapman’s forecasts for weak but sustained real GDP growth have been on the mark.

REAL GDP



The Chapman U.S. forecasts presented last December (see *Review*, Vol. 35, No. 1), called for real GDP to ratchet up from 2016’s 1.5 percent growth pace to 2.4 percent in 2017.

That forecast of 2.4 percent for real GDP growth compares closely with the currently estimated 2.3 percent growth for this year.

The table below presents a comparison of our forecasts with the current estimates for key U.S. variables.

U.S. VARIABLES

	2016 Actual	Dec. 2016 Forecast for 2017	Current Estimate for 2017
Real GDP (% Change)	1.5	2.4	2.3
Total Nonfarm Payroll Jobs (% Change)	1.7	1.8	1.5
CPI (% Change)	1.3	1.8	2.0
Housing Starts (Thousands)	1,177	1,215	1,207
Treasury Bill Rate, 90-Day (%)	0.3	0.7	0.9
Treasury Bond, 10-Year (%)	1.9	2.5	2.3
30-Yr. Fixed Mortgage Rate (%)	3.7	4.2	4.0

Note that in addition to our December 2016 forecasts being near current estimates, we correctly forecasted the direction of change in all of the above U.S. variables, with the exception of total nonfarm payroll jobs.

**TABLE 1.
ACCURACY RANKING FOR
FORECASTS OF REAL GDP
2004 THROUGH 2016**

Organization¹	Z Score²	Rank
Chapman's Anderson Center	-1.51	1
Northern Trust Company	-1.24	2
Econoclast	-1.17	3
UCLA Business Forecasting Project ..	-1.10	4
Morgan Stanley	-1.04	5
Georgia State University	-0.84	6
Goldman Sachs & Company	-0.70	7
Consensus	-0.57	8
Eaton Corporation	-0.37	9
Inforum-University of Maryland	-0.30	10
Nomura Securities	-0.17	11
Ford Motor Company	-0.10	12
Swiss Re	0.03	13
Conference Board	0.10	14
SOM Economics, Inc.	0.10	14
General Motors Corporation	0.16	16
Turning Points (Micrometrics)	0.63	17
Comerica	0.77	18
Federal Express Corporation	0.90	19
Credit Suisse	1.03	20
Wells Capital Management	1.03	20
U.S. Chamber of Commerce	1.23	22
Naroff Economic Advisors	2.57	23

**TABLE 2.
ACCURACY RANKING FOR
FORECASTS OF FOUR VARIABLES³
2004 THROUGH 2016**

Organization¹	Z Score²	Rank
Chapman's Anderson Center	-4.07	1
Northern Trust Company	-3.58	2
Eaton Corp	-3.57	3
Morgan Stanley	-2.60	4
Goldman Sachs & Company	-2.13	5
Consensus	-1.26	6
Inforum-University of Maryland	-0.88	7
Turning Points (Micrometrics)	-0.73	8
SOM Economics, Inc.	-0.54	9
Nomura Securities	-0.51	10
Econoclast	-0.45	11
Comerica	-0.09	12
Federal Express Corporation	0.70	13
Conference Board	0.78	14
Swiss Re	1.09	15
U.S. Chamber of Commerce	1.44	16
Ford Motor Company	1.46	17
Georgia State University	1.70	18
UCLA Business Forecasting Project	2.09	19
General Motors Corp	2.28	20
Wells Capital Management	2.72	21
Naroff Economic Advisors	4.89	22

¹ The organizations listed provided forecasts for all variables for all years.

² Higher negative z values denote a higher level of forecast accuracy.

³ The four forecast variables include:

- Real GDP
- Unemployment Rate
- GDP Price Deflator
- Housing Starts