

HOME PRICE EXPECTATIONS SURVEY

Top-10 Rankings for 2018

1-Year Horizon (Dec 2018 / Dec 2017)				Benchmark: US ZHVI 7.64%				
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:				
				Q1 2018	Q2 2018	Q3 2018	Q4 2018	
2018 Expectations	1	Rajeev Dhawan	Director, Economic Forecasting Center	Georgia State University	7.30%	8.00%	7.70%	7.00%
	2	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	6.44%	7.50%	7.50%	7.70%
	3	Edward Pinto	Resident Fellow	American Enterprise Institute	6.80%	8.20%	7.50%	7.40%
	4	Joel Naroff	President	Naroff Economic Advisors Inc	6.60%	7.50%	7.70%	6.70%
	5	Kathy Bostjancic / Gregory Daco	Head of U.S. Macro Investors Service / Head of U.S. Macroeconomics	Oxford Economics	5.90%	7.50%	7.60%	7.00%
	6	Douglas Holtz-Eakin	President	American Action Forum	6.50%	7.00%	8.00%	6.50%
	7	Nathaniel Karp	Chief U.S. Economist	BBVA Research	5.80%	7.10%	8.10%	7.10%
	8	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	8.00%	6.00%	7.50%	5.80%
	9	TIE Timothy Hopper	Managing Director	Macro Fund Advisors	6.50%	7.00%	6.00%	6.80%
	10	Chris Stroud	Co-founder, Chief of Research	HouseCanary	5.00%	6.90%	7.20%	7.20%
	Chris Rupkey	Chief Financial Economist	MUFG Union Bank	6.00%	7.50%	8.50%	6.00%	

2-Year Horizon (Dec 2018 / Dec 2016)				Benchmark: US ZHVI 15.65%				
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:				
				Q1 2017	Q2 2017	Q3 2017	Q4 2017	
2017 Expectations	1	Joel Naroff	President	Naroff Economic Advisors Inc	12.57%	12.04%	14.60%	14.27%
	2	Edward Pinto	Resident Fellow	American Enterprise Institute	12.36%	12.36%	13.74%	13.74%
	3	Raymond Hodgdon	CEO	Enlightened Economics	13.96%	12.25%	12.25%	12.89%
	4	Kathy Bostjancic / Gregory Daco	Head of U.S. Macro Investors Service / Head of U.S. Macroeconomics	Oxford Economics	12.04%	13.53%	12.89%	12.78%
	5	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	8.68%	13.42%	13.16%	17.50%
	6	Matthew Fienuip	Economist, Economic Forecasting and Research Center	California Lutheran Univ. Ctr for Economic Forecasting & Research	11.51%	11.51%	12.57%	13.10%
	7	Stacy Simans	Director	FSU Center for Real Estate Education & Research	11.83%	11.57%	11.83%	12.89%
	8	Michael Englund	Chief Economist	Action Economics LLC	11.83%	11.83%	11.83%	12.15%
	9	Stephen Stanley	Chief Economist	Amherst Pierpont Securities	10.25%	12.47%	12.36%	12.36%
	10	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	11.25%	10.49%	12.57%	12.79%

2-Year Horizon (Dec 2018 / Dec 2016)				Benchmark: US ZHVI 15.65%				
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:				
				Q1 2016	Q2 2016	Q3 2016	Q4 2016	
2016 Expectations	1	Joel Naroff	President	Naroff Economic Advisors Inc	13.10%	13.32%	11.09%	11.61%
	2	Ingo Winzer	President	Local Market Monitor	10.88%	11.83%	11.83%	11.30%
	3	Edward Pinto	Resident Fellow	American Enterprise Institute	8.68%	9.73%	10.88%	11.09%
	4	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	10.25%	8.68%	9.41%	11.41%
	5	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	8.16%	10.25%	10.25%	10.19%
	6	Paul Carrillo	Professor of Economics	George Washington University	9.73%	9.20%	9.20%	9.73%
	7	Sibel Korkmaz	Economist	AIG Global Economics	9.41%	9.41%	8.89%	10.11%
	8	Michael Englund	Chief Economist	Action Economics LLC	9.73%	8.89%	9.52%	9.52%
	9	Kevin Cummins	Senior U.S. Economist	NatWest Markets	10.25%	10.25%	9.20%	7.12%
	10	Andrea Heuson	Professor of Finance	University of Miami	10.25%	9.20%	8.16%	9.20%

2-Year Horizon (Dec 2018 / Dec 2016)				Benchmark: US ZHVI 15.65%				
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:				
				Q1 2015	Q2 2015	Q3 2015	Q4 2015	
2015 Expectations	1	Rajeev Dhawan	Director, Economic Forecasting Center	Georgia State University	12.34%	12.34%	12.34%	13.74%
	2	Ingo Winzer	President	Local Market Monitor	11.94%	12.15%	12.47%	10.56%
	3	Joel Naroff	President	Naroff Economic Advisors Inc	12.25%	13.42%	10.35%	9.41%
	4	Paul Carrillo	Professor of Economics	George Washington University	10.25%	9.20%	10.25%	9.73%
	5	Michael Englund	Chief Economist	Action Economics LLC	10.25%	9.62%	9.62%	9.73%
	6	Robert Dye	Chief Economist	Comerica Bank	10.04%	9.73%	8.58%	10.67%
	7	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	11.11%	9.37%	7.94%	7.98%
	8	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	8.16%	10.25%	11.30%	6.09%
	9	Barry Habib	CEO	MBS Highway	6.09%	10.13%	8.68%	10.24%
	10	Amy Crews Cutts	Economist	Independent	8.68%	9.20%	8.99%	8.16%

2-Year Horizon (Dec 2018 / Dec 2016)				Benchmark: US ZHVI 15.65%				
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:				
				Q1 2014	Q2 2014	Q3 2014	Q4 2014	
2014 Expectations	1	Ingo Winzer	President	Local Market Monitor	14.49%	14.49%	11.51%	11.09%
	2	Rajeev Dhawan	Director, Economic Forecasting Center	Georgia State University	13.36%	13.36%	13.31%	11.28%
	3	Joel Naroff	President	Naroff Economic Advisors Inc	9.30%	9.30%	12.36%	15.13%
	4	Michael Englund	Chief Economist	Action Economics LLC	11.41%	11.41%	10.99%	10.46%
	5	Don Rissmiller	Chief Investment Strategist	Strategas Research Partners LLC	10.25%	10.25%	10.25%	10.25%
	6	Grant Thrall	President	American Real Estate Society	10.87%	10.87%	10.87%	7.74%
	7	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	10.31%	10.31%	9.30%	9.66%
	8	Robert Dye	Chief Economist	Comerica Bank	9.20%	9.20%	10.46%	8.37%
	9	Andrea Heuson	Professor of Finance	University of Miami	8.16%	8.16%	9.20%	10.25%
	10	Peter Linneman	Founder and CEO	American Land Fund	8.16%	8.16%	8.68%	9.20%

HOME PRICE EXPECTATIONS SURVEY

Top-10 Rankings for 2018

3-Year Horizon (Dec 2018 / Dec 2015)				Benchmark: US ZHVI 23.70%			
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:			
				Q1 2016	Q2 2016	Q3 2016	Q4 2016
1	Joel Naroff	President	Naroff Economic Advisors Inc	19.10%	19.55%	18.09%	18.31%
2	Ingo Winzer	President	Local Market Monitor	15.76%	17.31%	17.64%	17.42%
3	Edward Pinto	Resident Fellow	American Enterprise Institute	14.11%	16.09%	16.87%	17.31%
4	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	15.21%	14.11%	14.88%	17.42%
5	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	12.49%	15.59%	15.59%	16.27%
6	Barry Habib	CEO	MBS Highway	12.04%	16.52%	16.74%	14.54%
7	Paul Carrillo	Professor of Economics	George Washington University	14.22%	14.66%	15.10%	14.66%
8	Michael Englund	Chief Economist	Action Economics LLC	14.66%	13.68%	14.99%	14.99%
9	Sibel Korkmaz	Economist	AIG Global Economics	13.90%	13.90%	14.33%	15.88%
10	Kevin Cummins	Senior U.S. Economist	NatWest Markets	15.76%	15.76%	14.12%	11.94%

2016 Expectations

3-Year Horizon (Dec 2018 / Dec 2015)				Benchmark: US ZHVI 23.70%			
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:			
				Q1 2015	Q2 2015	Q3 2015	Q4 2015
1	Rajeev Dhawan	Director, Economic Forecasting Center	Georgia State University	22.45%	22.45%	21.55%	23.07%
2	Joel Naroff	President	Naroff Economic Advisors Inc	19.10%	21.13%	18.74%	16.74%
3	Ingo Winzer	President	Local Market Monitor	17.87%	18.43%	18.09%	15.10%
4	Paul Carrillo	Professor of Economics	George Washington University	15.76%	15.75%	15.76%	15.21%
5	Robert Dye	Chief Economist	Comerica Bank	16.31%	15.32%	12.38%	16.65%
6	Michael Englund	Chief Economist	Action Economics LLC	15.76%	14.88%	14.99%	14.66%
7	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	17.12%	14.50%	12.27%	12.14%
8	Amy Crews Cutts	Economist	Independent	14.11%	13.57%	14.99%	12.81%
9	Barry Habib	CEO	MBS Highway	9.27%	16.08%	14.77%	14.87%
10	Peter Linneman	Founder and CEO	American Land Fund	13.57%	13.57%	15.21%	12.48%

2015 Expectations

3-Year Horizon (Dec 2018 / Dec 2015)				Benchmark: US ZHVI 23.70%			
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:			
				Q1 2014	Q2 2014	Q3 2014	Q4 2014
1	Ingo Winzer	President	Local Market Monitor	22.50%	22.50%	18.87%	17.76%
2	Rajeev Dhawan	Director, Economic Forecasting Center	Georgia State University	30.36%	30.36%	23.28%	21.30%
3	Joel Naroff	President	Naroff Economic Advisors Inc	16.08%	16.08%	19.66%	20.08%
4	Michael Englund	Chief Economist	Action Economics LLC	18.09%	18.09%	17.09%	15.98%
5	Grant Thrall	President	American Real Estate Society	18.96%	18.96%	18.96%	11.86%
6	Don Rissmiller	Chief Investment Strategist	Strategas Research Partners LLC	15.76%	15.76%	15.76%	15.76%
7	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	15.84%	15.84%	13.87%	14.84%
8	Robert Dye	Chief Economist	Comerica Bank	14.66%	14.66%	16.98%	13.35%
9	Peter Linneman	Founder and CEO	American Land Fund	13.57%	13.57%	14.11%	14.66%
10	Andrea Heuson	Professor of Finance	University of Miami	12.49%	12.49%	14.66%	15.76%

2014 Expectations

4-Year Horizon (Dec 2018 / Dec 2014)				Benchmark: US ZHVI 30.48%			
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:			
				Q1 2015	Q2 2015	Q3 2015	Q4 2015
1	Rajeev Dhawan	Director, Economic Forecasting Center	Georgia State University	29.18%	29.18%	27.38%	28.23%
2	Joel Naroff	President	Naroff Economic Advisors Inc	25.41%	28.27%	25.98%	24.21%
3	Ingo Winzer	President	Local Market Monitor	25.29%	24.94%	23.52%	21.08%
4	Paul Carrillo	Professor of Economics	George Washington University	22.13%	22.12%	22.13%	20.40%
5	Robert Dye	Chief Economist	Comerica Bank	22.94%	21.43%	16.87%	22.48%
6	Michael Englund	Chief Economist	Action Economics LLC	21.67%	21.55%	20.74%	19.48%
7	Barry Habib	CEO	MBS Highway	13.64%	24.32%	21.77%	21.76%
8	Peter Linneman	Founder and CEO	American Land Fund	19.25%	19.25%	20.97%	18.11%
9	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	23.94%	19.50%	16.54%	16.60%
10	Amy Crews Cutts	Economist	Independent	20.39%	18.40%	18.90%	17.10%

2015 Expectations

4-Year Horizon (Dec 2018 / Dec 2014)				Benchmark: US ZHVI 30.48%			
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:			
				Q1 2014	Q2 2014	Q3 2014	Q4 2014
1	Ingo Winzer	President	Local Market Monitor	31.81%	31.81%	28.15%	26.24%
2	Rajeev Dhawan	Director, Economic Forecasting Center	Georgia State University	37.53%	37.53%	29.57%	26.75%
3	Grant Thrall	President	American Real Estate Society	27.41%	27.41%	27.41%	16.67%
4	Michael Englund	Chief Economist	Action Economics LLC	26.00%	26.00%	24.12%	21.67%
5	Joel Naroff	President	Naroff Economic Advisors Inc	21.77%	21.77%	25.41%	26.08%
6	Don Rissmiller	Chief Investment Strategist	Strategas Research Partners LLC	21.55%	21.55%	21.55%	21.55%
7	Robert Dye	Chief Economist	Comerica Bank	21.54%	21.54%	23.88%	18.11%
8	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	21.53%	21.53%	19.25%	20.73%
9	Peter Linneman	Founder and CEO	American Land Fund	19.25%	19.25%	22.10%	21.54%
10	Andrea Heuson	Professor of Finance	University of Miami	18.11%	18.11%	21.54%	22.71%

2014 Expectations

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Top-10 Rankings for 2018

5-Year Horizon (Dec 2018 / Dec 2013)				Benchmark: US ZHVI 36.86%				
2014 Expectations	Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:			
					Q1 2014	Q2 2014	Q3 2014	Q4 2014
	1	Rajeev Dhawan	Director, Economic Forecasting Center	Georgia State University	40.97%	40.97%	35.40%	31.82%
	2	Michael Englund	Chief Economist	Action Economics LLC	36.08%	36.08%	32.43%	27.38%
	3	Ingo Winzer	President	Local Market Monitor	42.49%	42.49%	35.83%	33.56%
	4	Grant Thrall	President	American Real Estate Society	35.95%	35.95%	35.95%	22.62%
	5	Joel Naroff	President	Naroff Economic Advisors Inc	28.22%	28.22%	32.18%	32.14%
	6	Robert Dye	Chief Economist	Comerica Bank	30.05%	30.05%	30.57%	21.54%
	7	Don Rissmiller	Chief Investment Strategist	Strategas Research Partners LLC	28.84%	28.84%	26.41%	27.02%
	8	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	28.26%	28.26%	25.34%	28.13%
	9	Peter Linneman	Founder and CEO	American Land Fund	25.21%	25.21%	30.65%	28.35%
	10	Andrea Heuson	Professor of Finance	University of Miami	24.02%	24.02%	28.83%	30.07%

Ranking Eligibility

Panelists eligible for a 2018 ranking were those who participated in at least one of the four 2018 quarterly surveys AND in all four of the quarterly surveys that comprise a given year's set of expectations data (e.g., to be eligible for a 2018 award pertaining expectations made in 2015, a panelist would have had to submit forecast data for each of the four quarterly surveys that Pulsenomics conducted in 2015).

Ranking Methodology

The expectations data submitted by eligible panelists for each of the four survey editions in each calendar year were compared to the actual (Q4/Q4, or Dec/Dec) home price percentage changes for the five time horizons that ended in 2018:

Time Horizon	Expectations Vintage(s)
2018 (1 year horizon)	2018
2017-2018 (2 year horizon)	2014, 2015, 2016, 2017
2016-2018 (3 year horizon)	2014, 2015, 2016
2015-2018 (4 year horizon)	2014, 2015
2014-2018 (5 year horizon)	2014

Rankings are based on a comparison of each panelist's expectations for home price changes to the actual change as measured by the Zillow U.S. Home Value Index (the survey benchmark) using the index values published on January 24, 2019.

For each time horizon and expectations vintage, the sum of the absolute differences between (a) each of the four sets of quarterly expectations data submitted by eligible panelists in a calendar year and (b) the actual (Dec/Dec) percentage change in the applicable benchmark data was computed. These sums were then sorted in ascending order to generate rankings (i.e., the lowest sum represents the least average error/highest rank).