

HOME PRICE EXPECTATIONS SURVEY

Top-10 Rankings for 2019

1-Year Horizon (Dec 2019 / Dec 2018)				Benchmark: US ZHVI 3.79%			
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:			
				Q1 2019	Q2 2019	Q3 2019	Q4 2019
1	Daniel Bachman	Senior Manager, U.S. Economics	Deloitte Services, LP	3.90%	3.60%	3.80%	3.70%
2	Brad Hunter	Chief Economist	RLO	4.10%	4.20%	3.80%	3.60%
3	Brian Wesbury / Robert Stein	Chief Economist / Senior Economist	First Trust Advisors	3.50%	3.80%	2.90%	3.80%
4	Susan Sterne	Chief Economist	Economic Analysis Associates, Inc.	3.40%	4.20%	3.80%	3.20%
5	Mike Cosgrove	Principal	The Econoclast	4.30%	3.90%	4.30%	3.20%
6	Scott Anderson	Chief Economist	Bank Of The West	3.90%	3.90%	3.00%	3.00%
7	Thomas Swift	Chief Economist	American Chemistry Council	4.30%	4.30%	4.30%	3.50%
8	Vijay Bhasin	Chief Risk Officer	Essent U.S. Holdings	4.00%	3.00%	4.50%	4.00%
9	TIE Craig Evers	Economist	Brevan Howard	4.00%	4.00%	2.50%	3.50%
	Alexei Tchisty	Director of Office of Real Estate Research	University of Illinois at Urbana-Champaign	4.00%	4.00%	3.00%	3.00%
10	Wilson Magee	Director of Real Estate and Infrastructure Securities	Franklin Templeton	3.00%	4.00%	3.50%	3.00%

2-Year Horizon (Dec 2019 / Dec 2017)				Benchmark: US ZHVI 12.40%			
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:			
				Q1 2018	Q2 2018	Q3 2018	Q4 2018
1	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	12.36%	11.83%	12.36%	12.36%
2	James Smith	Chief Economist	Parsec Financial Management	12.25%	12.25%	12.25%	11.41%
3	Donald Haurin	Professor of Economics, Finance, and Public Policy	Ohio State University	11.72%	11.83%	12.25%	11.72%
4	Matthew Fienup	Economist, Economic Forecasting and Research Center	California Lutheran Univ. Ctr for Economic Forecasting & Research	11.51%	12.78%	13.21%	12.68%
5	Stephen Stanley	Chief Economist	Amherst Pierpont Securities	10.99%	13.21%	12.36%	12.14%
6	Timothy Hopper	Managing Director	Macro Fund Advisors	12.89%	13.42%	11.30%	12.35%
7	Michael Englund	Chief Economist	Action Economics LLC	11.62%	13.42%	12.89%	11.83%
8	Peter Linneman	Founder and CEO	American Land Fund	10.78%	11.30%	12.36%	11.72%
9	James Gaines	Chief Economist	Texas A&M University Real Estate Center	12.89%	12.89%	13.42%	10.77%
10	Paul Carrillo	Professor of Economics	George Washington University	10.78%	11.30%	12.36%	13.42%

2-Year Horizon (Dec 2019 / Dec 2017)				Benchmark: US ZHVI 12.40%			
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:			
				Q1 2017	Q2 2017	Q3 2017	Q4 2017
1	Edward Pinto	Resident Fellow	American Enterprise Institute	11.83%	11.83%	12.89%	12.89%
2	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	12.89%	11.04%	12.89%	11.30%
3	Raymond Hodgdon	CEO	Enlightened Economics	13.96%	11.41%	11.41%	12.04%
4	James Smith	Chief Economist	Parsec Financial Management	11.30%	11.30%	11.30%	11.30%
5	Matthew Fienup	Economist, Economic Forecasting and Research Center	California Lutheran Univ. Ctr for Economic Forecasting & Research	11.09%	11.09%	11.51%	10.99%
6	Gregory Daco / Kathy Bostjancic	Chief U.S. Economist / Head of U.S. Macro Investors Service	Oxford Economics	10.46%	11.61%	11.30%	10.98%
7	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	10.20%	9.99%	11.72%	12.18%
8	Michael Englund	Chief Economist	Action Economics LLC	10.78%	10.78%	10.88%	11.09%
9	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	7.90%	13.42%	12.63%	14.05%
10	Joel Naroff	President	Naroff Economic Advisors Inc	9.93%	8.68%	12.67%	11.08%

2-Year Horizon (Dec 2019 / Dec 2017)				Benchmark: US ZHVI 12.40%			
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:			
				Q1 2016	Q2 2016	Q3 2016	Q4 2016
1	Ingo Winzer	President	Local Market Monitor	12.15%	12.57%	12.47%	12.57%
2	Joel Naroff	President	Naroff Economic Advisors Inc	12.78%	12.57%	9.83%	8.57%
3	Barry Habib	CEO	MBS Highway	7.42%	8.99%	12.94%	10.97%
4	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	8.16%	10.25%	10.25%	10.19%
5	Paul Carrillo	Professor of Economics	George Washington University	10.25%	9.20%	8.68%	10.25%
6	Edward Pinto	Resident Fellow	American Enterprise Institute	8.16%	9.20%	10.25%	10.25%
7	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	9.20%	8.16%	8.58%	11.62%
8	Michael Englund	Chief Economist	Action Economics LLC	9.73%	9.10%	9.31%	9.31%
9	Kevin Cummins	Senior U.S. Economist	NatWest Markets	10.25%	10.25%	9.20%	6.09%
10	Sibel Korkmaz	Economist	ALG Global Economics	8.68%	8.68%	8.26%	9.56%

2-Year Horizon (Dec 2019 / Dec 2017)				Benchmark: US ZHVI 12.40%			
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:			
				Q1 2015	Q2 2015	Q3 2015	Q4 2015
1	Ingo Winzer	President	Local Market Monitor	11.94%	13.00%	12.36%	12.04%
2	Rajeev Dhawan	Director, Economic Forecasting Center	Georgia State University	11.26%	11.26%	12.12%	10.66%
3	Barry Habib	CEO	MBS Highway	9.18%	11.30%	11.28%	13.42%
4	Paul Carrillo	Professor of Economics	George Washington University	10.25%	9.20%	10.25%	9.20%
5	Michael Englund	Chief Economist	Action Economics LLC	10.25%	9.31%	9.31%	9.83%
6	Joel Naroff	President	Naroff Economic Advisors Inc	10.25%	11.09%	8.58%	8.26%
7	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	8.16%	10.25%	11.30%	7.12%
8	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	11.11%	9.21%	7.79%	8.08%
9	Nathaniel Karp	Chief U.S. Economist	BBVA Research	9.51%	8.40%	8.61%	8.79%
10	Amy Crews Cutts	President	AC Cutts & Associates	8.16%	9.73%	8.16%	8.16%

HOME PRICE EXPECTATIONS SURVEY

Top-10 Rankings for 2019

3-Year Horizon (Dec 2019 / Dec 2016)				Benchmark: US ZHVI 20.54%				
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:				
				Q1 2017	Q2 2017	Q3 2017	Q4 2017	
2017 Expectations	1	Edward Pinto	Resident Fellow	American Enterprise Institute	18.54%	18.54%	20.57%	20.57%
	2	Raymond Hodgdon	CEO	Enlightened Economics	21.36%	18.32%	18.32%	19.32%
	3	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	19.10%	17.42%	19.10%	18.53%
	4	Joel Naroff	President	Naroff Economic Advisors Inc	17.30%	15.96%	20.90%	19.19%
	5	Matthew Fienup	Economist, Economic Forecasting and Research Center	California Lutheran Univ. Ctr for Economic Forecasting & Research	17.42%	17.42%	18.76%	18.75%
	6	Gregory Daco / Kathy Bostjancic	Chief U.S. Economist / Head of U.S. Macro Investors Service	Oxford Economics	17.08%	18.98%	18.31%	17.86%
	7	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	16.79%	15.83%	18.88%	19.27%
	8	James Smith	Chief Economist	Parsec Financial Management	17.65%	17.65%	17.65%	17.65%
	9	Michael Englund	Chief Economist	Action Economics LLC	17.42%	17.42%	17.53%	17.98%
	10	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	12.76%	20.23%	19.95%	24.32%

3-Year Horizon (Dec 2019 / Dec 2015)				Benchmark: US ZHVI 20.54%				
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:				
				Q1 2016	Q2 2016	Q3 2016	Q4 2016	
2016 Expectations	1	Ingo Winzer	President	Local Market Monitor	17.53%	18.54%	18.54%	18.54%
	2	Joel Naroff	President	Naroff Economic Advisors Inc	19.78%	19.78%	16.09%	15.52%
	3	Barry Habib	CEO	MBS Highway	11.50%	14.55%	19.38%	15.52%
	4	Edward Pinto	Resident Fellow	American Enterprise Institute	13.03%	14.55%	16.42%	16.64%
	5	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	12.49%	15.76%	15.76%	15.66%
	6	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	14.66%	13.03%	13.79%	17.76%
	7	Paul Carrillo	Professor of Economics	George Washington University	15.21%	14.12%	13.57%	15.21%
	8	Michael Englund	Chief Economist	Action Economics LLC	14.88%	13.79%	14.44%	14.44%
	9	Kevin Cummins	Senior U.S. Economist	NatWest Markets	15.76%	15.76%	14.12%	10.33%
	10	Andrea Heuson	Professor of Finance	University of Miami	15.76%	13.57%	12.49%	13.57%

3-Year Horizon (Dec 2019 / Dec 2014)				Benchmark: US ZHVI 20.54%				
Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:				
				Q1 2015	Q2 2015	Q3 2015	Q4 2015	
2015 Expectations	1	Ingo Winzer	President	Local Market Monitor	18.43%	19.21%	19.21%	17.20%
	2	Rajeev Dhawan	Director, Economic Forecasting Center	Georgia State University	16.27%	16.27%	17.17%	18.63%
	3	Joel Naroff	President	Naroff Economic Advisors Inc	17.64%	19.20%	14.76%	13.68%
	4	Barry Habib	CEO	MBS Highway	12.46%	15.64%	16.29%	17.96%
	5	Paul Carrillo	Professor of Economics	George Washington University	15.76%	14.12%	15.76%	14.66%
	6	Michael Englund	Chief Economist	Action Economics LLC	15.76%	14.55%	14.55%	14.99%
	7	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	12.49%	15.76%	17.42%	10.33%
	8	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	17.12%	14.26%	12.02%	12.28%
	9	Nathaniel Karp	Chief U.S. Economist	BBVA Research	15.69%	11.91%	13.01%	13.20%
	10	Amy Crews Cutts	President	AC Cutts & Associates	13.03%	14.66%	13.35%	12.49%

4-Year Horizon (Dec 2019 / Dec 2015)				Benchmark: US ZHVI 29.08%				
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	26.12%	26.36%	23.40%	22.45%
	2	Ingo Winzer	President	Local Market Monitor	22.70%	24.35%	24.70%	25.06%
	3	Barry Habib	CEO	MBS Highway	17.30%	22.11%	26.90%	22.22%
	4	Edward Pinto	Resident Fellow	American Enterprise Institute	18.68%	21.20%	22.71%	23.18%
	5	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	19.82%	18.68%	19.48%	24.12%
	6	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	16.99%	21.37%	21.37%	22.05%
	7	Paul Carrillo	Professor of Economics	George Washington University	19.93%	19.82%	19.70%	20.40%
	8	Michael Englund	Chief Economist	Action Economics LLC	20.05%	18.80%	20.17%	20.17%
	9	Kevin Cummins	Senior U.S. Economist	NatWest Markets	21.55%	21.55%	19.25%	15.30%
	10	Andrea Heuson	Professor of Finance	University of Miami	20.39%	19.25%	18.11%	19.25%

4-Year Horizon (Dec 2019 / Dec 2014)				Benchmark: US ZHVI 29.08%				
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	26.73%	26.73%	26.78%	28.36%
	2	Ingo Winzer	President	Local Market Monitor	24.71%	25.89%	25.17%	22.00%
	3	Joel Naroff	President	Naroff Economic Advisors Inc	24.81%	27.31%	23.49%	21.29%
	4	Paul Carrillo	Professor of Economics	George Washington University	21.55%	20.96%	21.55%	20.40%
	5	Barry Habib	CEO	MBS Highway	15.83%	21.89%	22.80%	22.91%
	6	Michael Englund	Chief Economist	Action Economics LLC	21.55%	20.05%	20.17%	20.17%
	7	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	23.46%	19.62%	16.51%	16.60%
	8	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	16.99%	21.55%	23.30%	13.64%
	9	Amy Crews Cutts	President	AC Cutts & Associates	18.68%	19.25%	19.59%	17.32%
	10	Nathaniel Karp	Chief U.S. Economist	BBVA Research	22.77%	15.28%	17.35%	17.99%

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Top-10 Rankings for 2019

5-Year Horizon (Dec 2019 / Dec 2014)				Benchmark: US ZHVI 36.01%				
2015 Expectations	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	33.70%	33.70%	32.86%	33.75%
	2	Joel Naroff	President	Naroff Economic Advisors Inc	31.43%	34.82%	31.02%	29.06%
	3	Ingo Winzer	President	Local Market Monitor	32.56%	32.81%	30.93%	28.35%
	4	Barry Habib	CEO	MBS Highway	20.46%	30.54%	30.29%	30.29%
	5	Paul Carrillo	Professor of Economics	George Washington University	28.24%	27.62%	28.24%	25.81%
	6	Michael Englund	Chief Economist	Action Economics LLC	27.75%	27.02%	26.18%	25.21%
	7	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	30.65%	24.84%	20.94%	21.24%
	8	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	22.84%	27.02%	28.84%	17.62%
9	Amy Crews Cutts	President	AC Cutts & Associates	25.21%	24.32%	23.65%	21.78%	
10	Peter Linneman	Founder and CEO	American Land Fund	24.02%	23.42%	25.81%	21.65%	

Ranking Eligibility

Panelists eligible for a 2019 ranking were those who participated in at least one of the four 2019 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 2019 award pertaining to expectations made in 2016, a panelist would have had to submit forecast data for each of the four quarterly surveys that Pulsenomics conducted in 2016).

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 2019:

Time Horizon	Expectations Vintage(s)
2019 (1 year horizon)	2019
2018-2019 (2 year horizon)	2015, 2016, 2017, 2018
2017-2019 (3 year horizon)	2015, 2016, 2017
2016-2019 (4 year horizon)	2015, 2016
2015-2019 (5 year horizon)	2015

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 ("ZHVI", the survey benchmark). Note: Zillow implemented a new methodology to calculate ZHVI effective November 2019. Thus, the accuracy benchmarks used to gauge the panelists' performance for all expectations vintages (2015 through 2019) were derived from (i) "legacy" ZHVI data through October 2019 and (ii) "new" ZHVI data for the months of November 2019 and December 2019 as of the January 2020 index publication date.

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).