

HOME PRICE EXPECTATIONS SURVEY

Top-10 Rankings for 2020

1-Year Horizon (Dec 2020 / Dec 2019)

Benchmark: US ZHVI **8.39%**

Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:			
				Q1 2020	Q2 2020	Q3 2020	Q4 2020
1	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	4.50%	4.40%	4.40%	7.80%
2	Raymond Hodgdon	CEO	Enlightened Economics	8.00%	3.00%	5.60%	4.20%
3	Maria Fiorini Ramirez	Chief Executive Officer	MFR, Inc.	4.00%	2.50%	8.00%	5.80%
4	Michael Englund	Chief Economist	Action Economics LLC	5.00%	3.90%	4.30%	6.80%
5	TIE James Gaines	Chief Economist	Texas A&M University Real Estate Center	4.50%	2.00%	5.00%	8.00%
	Brian Wesbury / Robert Stein	Chief Economist / Senior Economist	First Trust Advisors	3.00%	4.40%	4.60%	7.50%
6	Amy Crews Cutts	Chief Economist	Equifax	3.85%	4.20%	4.50%	6.90%
7	Michael Carliner	Housing Economist	Independent Consultant	3.60%	4.00%	4.00%	7.50%
8	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	6.00%	3.00%	5.00%	5.00%
9	Larry Roberts	Chief Economist	Market InSite	4.20%	4.00%	3.00%	7.00%
10	Nathaniel Karp	Chief U.S. Economist	BBVA Research	2.90%	3.01%	4.80%	7.30%

2-Year Horizon (Dec 2020 / Dec 2018)

Benchmark: US ZHVI **12.40%**

Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:			
				Q1 2019	Q2 2019	Q3 2019	Q4 2019
1	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	12.89%	12.36%	12.36%	13.42%
2	Edward Pinto	Resident Fellow	American Enterprise Institute	13.74%	13.00%	13.00%	12.47%
3	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	14.07%	13.16%	12.10%	9.67%
4	Michael Englund	Chief Economist	Action Economics LLC	10.25%	11.19%	11.19%	11.41%
5	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	9.73%	11.30%	11.83%	10.78%
6	James Smith	Chief Economist	Parsec Financial Management	10.77%	10.77%	10.77%	10.77%
7	Marsha Courchane	Director, Financial Economics	CRA International	12.78%	15.78%	13.84%	15.24%
8	Nathaniel Karp	Chief U.S. Economist	BBVA Research	12.68%	11.19%	8.21%	9.88%
9	Don Rissmiller	Chief Investment Strategist	Strategas Research Partners LLC	9.20%	10.25%	12.36%	9.18%
10	Sherwood Clements	Professor of Real Estate	Culverhouse College of Commerce	8.68%	11.83%	11.83%	8.16%

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	11.83%	10.78%	11.83%	11.83%
2	Matthew Fienup	Economist, Economic Forecasting and Research Center	California Lutheran Univ. Ctr for Economic Forecasting & Research	10.14%	11.51%	11.94%	11.30%
3	Michael Englund	Chief Economist	Action Economics LLC	10.67%	11.83%	11.83%	9.94%
4	Ralph Defranco	Global Chief Economist	Arch Capital Services Inc.	12.89%	10.25%	12.89%	9.73%
5	Douglas Holtz-Eakin	President	American Action Forum	10.78%	12.89%	16.10%	11.83%
6	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	13.10%	14.99%	13.93%	14.07%
7	James Smith	Chief Economist	Parsec Financial Management	10.77%	10.77%	10.77%	10.67%
8	Edward Pinto	Resident Fellow	American Enterprise Institute	12.89%	16.10%	14.17%	13.74%
9	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	15.03%	10.78%	13.96%	10.78%
10	Donald Haurin	Professor of Economics, Finance, and Public Policy	Ohio State University	10.78%	10.78%	10.67%	9.88%

Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:			
				Q1 2017	Q2 2017	Q3 2017	Q4 2017
1	Raymond Hodgdon	CEO	Enlightened Economics	12.89%	11.09%	11.20%	11.41%
2	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	13.42%	10.51%	11.83%	10.25%
3	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	10.22%	9.87%	11.30%	11.72%
4	James Smith	Chief Economist	Parsec Financial Management	10.77%	10.77%	10.77%	10.77%
5	Matthew Fienup	Economist, Economic Forecasting and Research Center	California Lutheran Univ. Ctr for Economic Forecasting & Research	10.78%	10.78%	11.09%	9.41%
6	Edward Pinto	Resident Fellow	American Enterprise Institute	9.72%	9.72%	10.24%	12.36%
7	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	7.64%	11.83%	11.83%	10.67%
8	Ingo Winzer	President	Local Market Monitor	11.51%	10.15%	8.58%	10.24%
9	Michael Englund	Chief Economist	Action Economics LLC	9.93%	9.93%	10.14%	10.25%
10	Stephen Stanley	Chief Economist	Amherst Pierpont Securities	7.74%	10.67%	9.73%	9.20%

Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:			
				Q1 2016	Q2 2016	Q3 2016	Q4 2016
1	Ingo Winzer	President	Local Market Monitor	12.36%	12.36%	12.36%	12.89%
2	Barry Habib	CEO	MBS Highway	9.93%	8.26%	14.35%	12.25%
3	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	8.16%	10.25%	10.25%	10.19%
4	Paul Carrillo	Professor of Economics	George Washington University	10.25%	9.20%	8.16%	10.25%
5	Rajeev Dhawan	Director, Economic Forecasting Center	Georgia State University	9.73%	9.73%	9.20%	8.89%
6	Michael Englund	Chief Economist	Action Economics LLC	9.52%	9.20%	9.20%	9.20%
7	Alex Villacorta	ResiShares, LLC	Co-Founder & Chief Data Officer	7.64%	7.64%	10.78%	11.04%
8	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	8.16%	8.16%	8.16%	11.83%
9	Kevin Cummins	Senior U.S. Economist	NatWest Markets	10.25%	10.25%	9.20%	6.09%
10	Kenneth Rosen	Chairman	Rosen Consulting Group	7.95%	8.68%	8.68%	8.68%

HOME PRICE EXPECTATIONS SURVEY

Top-10 Rankings for 2020

3-Year Horizon (Dec 2020 / Dec 2017)

2018 Expectations

Rank	Panelist	Title	Affiliation
1	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research
2	Matthew Fienup	Economist, Economic Forecasting and Research Center	California Lutheran Univ. Ctr for Economic Forecasting & Research
3	Michael Englund	Chief Economist	Action Economics LLC
4	James Smith	Chief Economist	Parsec Financial Management
5	James Gaines	Chief Economist	Texas A&M University Real Estate Center
6	Donald Haurin	Professor of Economics, Finance, and Public Policy	Ohio State University
7	Stephen Stanley	Chief Economist	Amherst Pierpont Securities
8	Paul Carrillo	Professor of Economics	George Washington University
9	Ralph DeFranco	Global Chief Economist	Arch Capital Services Inc.
10	Chris Rupkey	Chief Financial Economist	MUFG Union Bank

Benchmark: US ZHVI		18.86%			
Panelist Expectations, By Survey Edition:					
Q1 2018	Q2 2018	Q3 2018	Q4 2018		
18.54%	17.42%	18.54%	18.54%		
16.64%	18.76%	19.66%	18.76%		
17.20%	19.66%	19.10%	17.08%		
17.75%	17.75%	17.75%	16.87%		
17.41%	18.53%	19.09%	15.20%		
17.31%	17.42%	17.86%	16.75%		
15.98%	18.64%	17.41%	16.97%		
15.21%	16.87%	17.98%	19.09%		
20.23%	16.87%	21.92%	16.42%		
15.75%	19.08%	21.90%	15.75%		

2017 Expectations

Rank	Panelist	Title	Affiliation
1	Raymond Hodgdon	CEO	Enlightened Economics
2	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research
3	Edward Pinto	Resident Fellow	American Enterprise Institute
4	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation
5	Jim Kleckley	Director, Bureau of Business Research	East Carolina University
6	James Smith	Chief Economist	Parsec Financial Management
7	Matthew Fienup	Economist, Economic Forecasting and Research Center	California Lutheran Univ. Ctr for Economic Forecasting & Research
8	Michael Englund	Chief Economist	Action Economics LLC
9	Ingo Winzer	President	Local Market Monitor
10	Stephen Stanley	Chief Economist	Amherst Pierpont Securities

Benchmark: US ZHVI		18.86%			
Panelist Expectations, By Survey Edition:					
Q1 2017	Q2 2017	Q3 2017	Q4 2017		
20.79%	17.42%	17.54%	18.09%		
20.23%	16.59%	18.53%	16.87%		
16.30%	16.30%	17.41%	19.66%		
11.95%	19.66%	18.82%	19.30%		
15.70%	15.28%	17.76%	18.53%		
16.76%	16.76%	16.76%	16.76%		
16.87%	16.87%	17.42%	15.65%		
15.98%	15.98%	16.20%	16.42%		
17.31%	15.65%	13.14%	17.41%		
12.59%	17.09%	15.76%	15.21%		

2016 Expectations

Rank	Panelist	Title	Affiliation
1	Ingo Winzer	President	Local Market Monitor
2	Barry Habib	CEO	MBS Highway
3	Jim Kleckley	Director, Bureau of Business Research	East Carolina University
4	Paul Carrillo	Professor of Economics	George Washington University
5	Michael Englund	Chief Economist	Action Economics LLC
6	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation
7	Joel Naroff	President	Naroff Economic Advisors Inc
8	Kevin Cummins	Senior U.S. Economist	NatWest Markets
9	Alex Villacorta	ResiShares, LLC	Co-Founder & Chief Data Officer
10	Rajeev Dhawan	Director, Economic Forecasting Center	Georgia State University

Benchmark: US ZHVI		18.86%			
Panelist Expectations, By Survey Edition:					
Q1 2016	Q2 2016	Q3 2016	Q4 2016		
18.88%	19.33%	19.21%	19.32%		
12.79%	12.59%	18.81%	16.74%		
12.49%	15.76%	15.76%	15.66%		
15.76%	14.12%	13.03%	15.76%		
14.77%	14.01%	14.23%	14.23%		
13.57%	12.49%	12.92%	18.09%		
18.65%	17.86%	13.12%	6.94%		
15.76%	15.76%	14.12%	9.27%		
11.19%	11.19%	16.09%	16.37%		
11.92%	15.76%	13.57%	10.52%		

4-Year Horizon (Dec 2020 / Dec 2016)

2017 Expectations

Rank	Panelist	Title	Affiliation
1	Raymond Hodgdon	CEO	Enlightened Economics
2	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research
3	Edward Pinto	Resident Fellow	American Enterprise Institute
4	Matthew Fienup	Economist, Economic Forecasting and Research Center	California Lutheran Univ. Ctr for Economic Forecasting & Research
5	Jim Kleckley	Director, Bureau of Business Research	East Carolina University
6	James Smith	Chief Economist	Parsec Financial Management
7	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation
8	Michael Englund	Chief Economist	Action Economics LLC
9	Ingo Winzer	President	Local Market Monitor
10	Stephen Stanley	Chief Economist	Amherst Pierpont Securities

Benchmark: US ZHVI		26.65%			
Panelist Expectations, By Survey Edition:					
Q1 2017	Q2 2017	Q3 2017	Q4 2017		
28.64%	24.70%	24.82%	25.77%		
26.84%	23.29%	25.05%	24.46%		
23.28%	23.28%	25.39%	27.80%		
23.53%	23.53%	25.06%	23.74%		
22.62%	21.40%	25.29%	26.02%		
23.41%	23.41%	23.41%	23.41%		
16.98%	26.84%	26.54%	30.04%		
22.94%	22.94%	23.17%	23.64%		
23.18%	21.55%	19.36%	25.62%		
18.79%	24.47%	23.28%	22.70%		

2016 Expectations

Rank	Panelist	Title	Affiliation
1	Ingo Winzer	President	Local Market Monitor
2	Joel Naroff	President	Naroff Economic Advisors Inc
3	Barry Habib	CEO	MBS Highway
4	Jim Kleckley	Director, Bureau of Business Research	East Carolina University
5	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation
6	Paul Carrillo	Professor of Economics	George Washington University
7	Michael Englund	Chief Economist	Action Economics LLC
8	Kevin Cummins	Senior U.S. Economist	NatWest Markets
9	Alex Villacorta	ResiShares, LLC	Co-Founder & Chief Data Officer
10	Andrea Heuson	Professor of Finance	University of Miami

Benchmark: US ZHVI		26.65%			
Panelist Expectations, By Survey Edition:					
Q1 2016	Q2 2016	Q3 2016	Q4 2016		
24.58%	25.65%	25.65%	25.65%		
26.00%	25.40%	19.57%	13.79%		
17.08%	18.33%	25.58%	21.52%		
16.99%	21.55%	21.55%	21.41%		
19.25%	17.55%	18.34%	24.59%		
20.97%	19.25%	18.11%	20.97%		
20.17%	18.91%	19.59%	19.59%		
21.55%	21.55%	19.25%	13.64%		
14.53%	14.53%	21.32%	21.02%		
20.39%	16.98%	15.86%	18.11%		

HOME PRICE EXPECTATIONS SURVEY

Top-10 Rankings for 2020

5-Year Horizon (Dec 2020 / Dec 2015)

Benchmark: US ZHVI **34.15%**

2016 Expectations

Rank	Panelist	Title	Affiliation	Panelist Expectations, By Survey Edition:			
				Q1 2016	Q2 2016	Q3 2016	Q4 2016
1	Ingo Winzer	President	Local Market Monitor	30.06%	31.81%	32.19%	32.56%
2	Joel Naroff	President	Naroff Economic Advisors Inc	32.68%	32.30%	27.11%	20.61%
3	Barry Habib	CEO	MBS Highway	23.17%	26.14%	33.50%	28.57%
4	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	21.67%	27.43%	27.43%	28.11%
5	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	24.61%	23.43%	24.26%	31.32%
6	Paul Carrillo	Professor of Economics	George Washington University	25.93%	25.21%	24.49%	26.42%
7	Michael Englund	Chief Economist	Action Economics LLC	25.57%	24.14%	25.57%	25.57%
8	Kevin Cummins	Senior U.S. Economist	NatWest Markets	27.63%	27.63%	24.62%	18.76%
9	Andrea Heuson	Professor of Finance	University of Miami	25.21%	22.82%	21.65%	24.02%
10	Donald Haurin	Professor of Economics, Finance, and Public Policy	Ohio State University	21.89%	21.78%	24.01%	25.09%

Ranking Eligibility

Panelists eligible for a 2020 ranking were those who participated in at least one of the four 2020 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 2020 award pertaining to expectations made in 2017, a panelist would have had to submit forecast data for each of the four quarterly surveys that Pulseonomics conducted in 2017).

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 2020:

Time Horizon	Expectations Vintage(s)
2020 (1 year horizon)	2020
2019-2020 (2 year horizon)	2016, 2017, 2018, 2019
2018-2020 (3 year horizon)	2016, 2017, 2018
2017-2020 (4 year horizon)	2016, 2017
2016-2020 (5 year horizon)	2016

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).

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).