

HOME PRICE EXPECTATIONS SURVEY

Top-10 Rankings for 2023

1-Year Horizon (Q4 2023 / Q4 2022)			Benchmark:			4.96%	
				Panelis	t Expectation	s, By Survey E	dition:
ank	Panelist	<u>Title</u>	<u>Affiliation</u>	Q1 2023	Q2 2023	Q3 2023	Q4 2023
1 .	James Smith	Chief Economist	EconForecaster, LLC	4.60%	4.60%	4.60%	5.20%
2	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	4.00%	6.00%	6.00%	6.00%
3	Bennie Waller	Professor of Finance & Real Estate	University of Alabama	3.00%	5.50%	2.90%	5.00%
4	Alexei Tchistyi	Associate Professor of Real Estate	Cornell SC Johnson College of Business	4.00%	4.00%	6.00%	7.00%
5 .	James Gaines	Chief Economist	Texas A&M University Real Estate Center	3.00%	4.00%	4.00%	3.50%
6	Barry Habib	CEO	MBS Highway	3.50%	5.80%	6.80%	6.80%
7 :	Sherwood Clements	Professor of Real Estate	Virginia Tech Pamplin College of Business	3.50%	3.50%	5.50%	7.50%
8	Matthew Fienup / Dan Hamilton	Executive Director / Director of Economics	California Lutheran University Center for Economic Research & Forecasting	3.10%	3.50%	6.70%	6.10%
9 .	Andrea Heuson	Professor of Finance	University of Miami	6.00%	5.50%	8.00%	7.00%
10	Douglas Holtz-Eakin	President	American Action Forum	3.00%	1.50%	6.40%	5.00%
9 .	Andrea Heuson	Professor of Finance	University of Miami	6.00%	5.50%	8.00%	ó

,	Andrea neason	1 Toressor of Finance	Only cisicy of Whatin	0.0070	3.3070	0.0070	7.00
10	Douglas Holtz-Eakin	President	American Action Forum	3.00%	1.50%	6.40%	5.00
		2-Year Horizon (Q4 2023 / Q	4 2021)		Benchmark:		12.94
				Panelis	t Expectation	s, By Survey I	Edition:
Rank	<u>Panelist</u>	<u>Title</u>	<u>Affiliation</u>	Q1 2022	Q2 2022	Q3 2022	Q4 20
1	Christy Fields	Managing Principal	Meketa Investment Group	12.36%	13.96%	12.75%	13.33
2	Rick Sharga	Founder & CEO	CJ Patrick Company	13.37%	13.37%	12.56%	10.93
3	Matthew Fienup / Dan Hamilton	Executive Director / Director of Economics	California Lutheran University Center for Economic Research & Forecasting	15.44%	16.38%	16.37%	13.74
4	David Downs	Real Estate Finance Professor	Virginia Commonwealth University	12.34%	14.43%	13.63%	14.3
5	Issi Romem	Economist & Founder	MetroSight	16.60%	13.88%	13.88%	12.2
6	John Silvia	CEO and Founder	Dynamic Economic Strategy	14.17%	11.93%	13.39%	16.6
7	Eli Beracha	Assistant Professor	Florida International University	13.93%	13.93%	17.00%	13.9
8	Thomas Swift	Senior Economist	Independent Commodity Intelligence Services	10.76%	17.04%	11.82%	12.4
9	Andrea Heuson	Professor of Finance	University of Miami	12.35%	11.30%	18.72%	12.2
10	Anne Thompson	Economist	MIT	10.55%	10.23%	10.64%	10.8
					Benchmark:		12.9
					t Expectation		
Rank	<u>Panelist</u>	<u>Title</u>	<u>Affiliation</u>	Q1 2021	Q2 2021	Q3 2021	Q4 2
1	Brendan Lowney	Principal, Macroeconomics and Housing	Forest Economic Advisors	11.30%	11.51%	12.67%	12.6
2	David Berson	Chief U.S. Economist	Cumberland Advisors	10.67%	11.61%	12.03%	13.9
3	Eric Fox	Vice President of Statistical and Economic Modeling	Veros Real Estate Solutions	11.30%	13.42%	14.49%	15.0
4	Jim Kleckley	Economic & Business Consultant	Independent	12.89%	13.96%	15.03%	15.5
5	Sherwood Clements	Professor of Real Estate	Virginia Tech Pamplin College of Business	11.30%	11.83%	13.41%	15.5
6	Michael Englund	Chief Economist	Action Economics LLC	10.88%	11.19%	13.41%	14.5
7	Donald Haurin	Professor of Economics, Finance, and Public Policy	Ohio State University	8.99%	12.44%	14.14%	13.5
8	Marsha Courchane	VP & Practice Leader	Charles River Associates	11.20%	15.02%	13.63%	10.9
9	Barry Habib	CEO	MBS Highway	10.14%	10.03%	12.44%	13.7
10	Jeffrey Zabel	Professor of Economics	Tufts University	14.48%	10.25%	11.83%	11.30
					Benchmark:		12.94
				Panelis	st Expectation	s, By Survey I	Edition:
Rank	Panelist	<u>Title</u>	<u>Affiliation</u>	Q1 2020	Q2 2020	Q3 2020	Q4 20
1	Mark Zandi / Cristian deRitis	Chief Economist / Deputy Chief Economist	Moody's Analytics	#N/A	#N/A	#N/A	#N/
2	Jim Kleckley	Economic & Business Consultant	Independent	10.46%	9.78%	9.57%	12.3
3	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	9.73%	10.25%	12.36%	7.12
4	Joel Naroff	President	Naroff Economics, LLC	8.16%	10.25%	10.46%	9.53
5	Barry Habib	CEO	MBS Highway	10.25%	11.19%	8.06%	8.68
6	Amy Crews Cutts	President	AC Cutts & Associates	9.67%	9.10%	9.52%	9.72
7	Michael Englund	Chief Economist	Action Economics LLC	9.52%	9.31%	9.31%	9.43
8	John Silvia	CEO and Founder	Dynamic Economic Strategy	11.09%	15.76%	10.67%	5.47
9	James Smith	Chief Economist	EconForecaster, LLC	8.26%	9.41%	9.41%	9.83
	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	8.37%	10.25%	7.64%	10.3
10	Walk Fiching						
10	Walk Fiching				Benchmark:		12.9
10	Work i Chinig			Panelis	Benchmark: at Expectation	s, By Survey I	
10	<u>Panelist</u>	<u>Title</u>	<u>Affiliation</u>	Q1 2019	st Expectation Q2 2019	Q3 2019	Edition: Q4 20
	ŭ	Title CEO	Affiliation Enlightened Economics		st Expectation		Edition:
<u>Rank</u>	<u>Panelist</u>			Q1 2019	st Expectation Q2 2019	Q3 2019	Edition: Q4 20
Rank 1	<u>Panelist</u> Raymond Hodgdon	CEO	Enlightened Economics	Q1 2019 14.38%	Q2 2019 14.70%	Q3 2019 15.13%	Edition: Q4 20 14.3
Rank 1 2	Panelist Raymond Hodgdon Stacy Sirmans	CEO Director	Enlightened Economics FSU Center for Real Estate Education & Research	Q1 2019 14.38% 11.30%	02 2019 14.70% 10.25%	Q3 2019 15.13% 10.25%	Edition: Q4 2 14.3 12.3 13.4
Rank 1 2 3	Panelist Raymond Hodgdon Stacy Sirmans John Silvia	CEO Director CEO and Founder	Enlightened Economics FSU Center for Real Estate Education & Research Dynamic Economic Strategy	Q1 2019 14.38% 11.30% 7.43%	Q2 2019 14.70% 10.25% 10.67%	Q3 2019 15.13% 10.25% 12.89%	Q4 2 14.3 12.3 13.4 10.4
Rank 1 2 3 4	<u>Panelist</u> Raymond Hodgdon Stacy Sirmans John Silvia Jim Kleckley	CEO Director CEO and Founder Economic & Business Consultant	Enlightened Economics FSU Center for Real Estate Education & Research Dynamic Economic Strategy Independent	Q1 2019 14.38% 11.30% 7.43% 10.77%	10.25% 10.77%	Q3 2019 15.13% 10.25% 12.89% 10.51%	Q4 2 14.3 12.3 13.4 10.4
Rank 1 2 3 4 5	Panelist Raymond Hodgdon Stacy Sirmans John Silvia Jim Kleckley Mark Fleming	CEO Director CEO and Founder Economic & Business Consultant Senior Vice President, Chief Economist	Enlightened Economics FSU Center for Real Estate Education & Research Dynamic Economic Strategy Independent First American Financial Corporation	Q1 2019 14.38% 11.30% 7.43% 10.77% 9.20%	10.25% 10.67% 10.77% 9.20%	Q3 2019 15.13% 10.25% 12.89% 10.51% 12.36%	Q4 2 14.3 12.3 13.4 10.4 10.7 11.3
Rank 1 2 3 4 5	Panelist Raymond Hodgdon Stacy Sirmans John Silvia Jim Kleckley Mark Fleming Marsha Courchane	CEO Director CEO and Founder Economic & Business Consultant Senior Vice President, Chief Economist VP & Practice Leader	Enlightened Economics FSU Center for Real Estate Education & Research Dynamic Economic Strategy Independent First American Financial Corporation Charles River Associates	Q1 2019 14.38% 11.30% 7.43% 10.77% 9.20% 10.25%	t Expectation Q2 2019 14.70% 10.25% 10.67% 10.77% 9.20%	Q3 2019 15.13% 10.25% 12.89% 10.51% 12.36% 10.67%	Q4 20 14.3 12.3
Rank 1 2 3 4 5 6 7	Panelist Raymond Hodgdon Stacy Sirmans John Silvia Jim Kleckley Mark Fleming Marsha Courchane Amy Crews Cutts	CEO Director CEO and Founder Economic & Business Consultant Senior Vice President, Chief Economist VP & Practice Leader President	Enlightened Economics FSU Center for Real Estate Education & Research Dynamic Economic Strategy Independent First American Financial Corporation Charles River Associates AC Cutts & Associates	Q1 2019 14.38% 11.30% 7.43% 10.77% 9.20% 10.25% 10.15%	st Expectation Q2 2019 14.70% 10.25% 10.67% 10.77% 9.20% 9.20% 10.15%	Q3 2019 15.13% 10.25% 12.89% 10.51% 12.36% 10.67% 10.25%	Edition: Q4 21 14.3 12.3 13.4 10.4 10.7 11.3 9.10



HOME PRICE EXPECTATIONS SURVEY

Top-10 Rankings for 2023

		3-Year Horizon (Q4 2023 / C	(4 2020)		Benchmark:		30.04%
				Panelist	Expectation	s, By Survey I	Edition:
Rank	<u>Panelist</u>	<u>Title</u>	<u>Affiliation</u>	Q1 2021	Q2 2021	Q3 2021	Q4 202
1	Edward Seiler	Executive Director	Research Institute for Housing America	26.74%	26.74%	26.74%	27.16
2	Douglas Holtz-Eakin	President	American Action Forum	24.23%	30.04%	25.91%	27.019
3 4 5 6	Mark Vitner	Founder	Piedmont Crescent Capital	22.27%	29.57%	27.94%	34.439
	Edward Pinto	Resident Fellow	American Enterprise Institute	22.73%	32.27%	32.97%	37.04
	Jim Kleckley	Economic & Business Consultant	Independent	20.79%	26.60%	30.09%	37.76
	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	25.96%	25.93%	24.19%	36.53
7	Brendan Lowney	Principal, Macroeconomics and Housing	Forest Economic Advisors	19.09%	23.55%	27.65%	30.81
8	Michael Englund	Chief Economist	Action Economics LLC	18.97%	24.53%	29.28%	33.45
9	David Berson	Chief U.S. Economist	Cumberland Advisors	18.64%	25.56%	28.28%	35.44
10	Brian Wesbury / Robert Stein	Chief Economist / Senior Economist	First Trust Advisors	17.38%	25.52%	27.74%	34.23
					Benchmark:		30.04
				Panelist	Expectation	s, By Survey I	Edition:
Rank	<u>Panelist</u>	<u>Title</u>	Affiliation	Q1 2020	Q2 2020	Q3 2020	Q4 20
1 2 3 4	John Silvia	CEO and Founder	Dynamic Economic Strategy	17.53%	23.86%	16.42%	8.43
	Raymond Hodgdon	CEO	Enlightened Economics	28.32%	6.12%	14.66%	16.87
	Jim Kleckley	Economic & Business Consultant	Independent	16.15%	14.99%	14.66%	19.66
	Barry Habib	CEO	MBS Highway	13.78%	17.53%	14.65%	14.66
5	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	15.21%	14.66%	17.98%	11.40
6 7	Amy Crews Cutts	President	AC Cutts & Associates	14.06%	13.46%	14.55%	16.97
	Michael Englund	Chief Economist	Action Economics LLC	14.77%	14.01%	14.12%	15.54
8	Carlos Garriga	Senior Vice President and Director of Research	Federal Reserve Bank of St. Louis	14.66%	5.08%	9.01%	28.31
9	James Smith	Chief Economist	EconForecaster, LLC	11.73%	13.46%	13.46%	18.39
10	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	12.70%	14.66%	12.48%	16.98
					Benchmark:		30.04
				Panelist	Expectation	s, By Survey I	Edition:
Rank	Panelist	Title	Affiliation	Q1 2019	Q2 2019	Q3 2019	Q4 20
1	Raymond Hodgdon	CEO	Enlightened Economics	22.16%	22.62%	23.88%	22.62
2	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	17.42%	15.76%	15.76%	19.10
3	Jim Kleckley	Economic & Business Consultant	Independent	17.40%	17.40%	16.59%	16.15
4	Marsha Courchane	VP & Practice Leader	Charles River Associates	16.64%	14.66%	16.20%	18.53
5	John Silvia	CEO and Founder	Dynamic Economic Strategy	10.44%	15.98%	17.63%	20.57
6	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	14.12%	14.66%	19.38%	15.76
7	Grant Thrall	President	Business Geography Advisors	15.75%	15.75%	22.48%	9.48
8	Amy Crews Cutts	President	AC Cutts & Associates	15.43%	15.43%	14.66%	13.46
9	Don Rissmiller	Chief Economist	Strategas Research Partners LLC	10.33%	12.49%	15.76%	19.10
10	Michael Englund	Chief Economist	Action Economics LLC	13.90%	14.12%	14.12%	14.44
10	which del Eligiuliu	CHIEF ECONOMISE	ACTION ECONOMINES ELC	15.90%	14.1270	14.12%	14.44

		4-Year Horizon (Q4 20)	23 / Q4 2019)		Benchmark:		43.839
				Paneli	st Expectation	s, By Survey E	dition:
Rank	<u>Panelist</u>	<u>Title</u>	<u>Affiliation</u>	Q1 2020	Q2 2020	Q3 2020	Q4 202
1	Raymond Hodgdon	CEO	Enlightened Economics	38.58%	9.30%	21.08%	21.77
2	Jim Kleckley	Economic & Business Consultant	Independent	21.38%	20.05%	19.71%	29.00
3	John Silvia	CEO and Founder	Dynamic Economic Strategy	23.65%	29.43%	21.66%	12.44
4	Amy Crews Cutts	President	AC Cutts & Associates	18.45%	18.23%	19.71%	25.04
5	Michael Englund	Chief Economist	Action Economics LLC	20.51%	18.45%	19.02%	23.40
6	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	22.12%	18.10%	23.88%	16.98
7	James Smith	Chief Economist	EconForecaster, LLC	17.20%	16.64%	16.64%	29.76
8	Barry Habib	CEO	MBS Highway	20.15%	14.95%	21.18%	22.57
9	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	17.10%	16.95%	18.11%	24.34
10	Joel Naroff	President	Naroff Economics, LLC	15.07%	16.73%	19.01%	24.09
				Paneli	Benchmark: st Expectation	s. By Survey F	43.83
Rank	Panelist	<u>Title</u>	Affiliation	Q1 2019	Q2 2019	O3 2019	Q4 20
1	Raymond Hodgdon	CEO	Enlightened Economics	30.71%	31.32%	33.55%	31.69
	, ,		Charles River Associates	23,64%	22.92%	23.18%	27.07
2	Marsha Courchane	VP & Practice Leader					
_	Stacy Sirmans	VP & Practice Leader Director	FSU Center for Real Estate Education & Research	24.47%	22.71%	22.71%	26.25
2					22.71% 24.74%	22.71% 23.29%	
2	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	24.47%			26.25
2 3 4	Stacy Sirmans Jim Kleckley	Director Economic & Business Consultant	FSU Center for Real Estate Education & Research Independent	24.47% 25.04%	24.74%	23.29%	26.25 21.90 12.55
2 3 4 5	Stacy Sirmans Jim Kleckley Grant Thrall	Director Economic & Business Consultant President	FSU Center for Real Estate Education & Research Independent Business Geography Advisors	24.47% 25.04% 23.28%	24.74% 23.28%	23.29% 31.18%	26.25
2 3 4 5 6	Stacy Sirmans Jim Kleckley Grant Thrall Mark Fleming	Director Economic & Business Consultant President Senior Vice President, Chief Economist	FSU Center for Real Estate Education & Research Independent Business Geography Advisors First American Financial Corporation	24.47% 25.04% 23.28% 19.25%	24.74% 23.28% 21.54%	23.29% 31.18% 26.55%	26.25 21.90 12.55 22.13 27.56
2 3 4 5	Stacy Sirmans Jim Kleckley Grant Thrall Mark Fleming John Silvia	Director Economic & Business Consultant President Senior Vice President, Chief Economist CEO and Founder	FSU Center for Real Estate Education & Research Independent Business Geography Advisors First American Financial Corporation Dynamic Economic Strategy	24.47% 25.04% 23.28% 19.25% 17.18%	24.74% 23.28% 21.54% 20.74%	23.29% 31.18% 26.55% 19.51%	26.25 21.90 12.55 22.13



HOME PRICE EXPECTATIONS SURVEY

Top-10 Rankings for 2023

		5-Year Horizon (Q4 20	023/Q4 2018)		Benchmark:		51.26%
				Panelis	t Expectations	s, By Survey E	dition:
Ran	<u>Panelist</u>	<u>Title</u>	<u>Affiliation</u>	Q1 2019	Q2 2019	Q3 2019	Q4 2019
1	Raymond Hodgdon	CEO	Enlightened Economics	40.39%	40.91%	44.23%	41.17%
. 2	Marsha Courchane	VP & Practice Leader	Charles River Associates	31.56%	32.75%	32.29%	36.60%
gions 3	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	32.56%	30.07%	30.07%	35.09%
<u>±</u> 4	Jim Kleckley	Economic & Business Consultant	Independent	33.92%	32.84%	30.69%	27.38%
5	Grant Thrall	President	Business Geography Advisors	33.01%	33.01%	40.62%	15.48%
ed X 6	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	25.21%	27.62%	33.51%	28.23%
<u>6</u> 7	John Silvia	CEO and Founder	Dynamic Economic Strategy	25.61%	27.02%	22.14%	35.47%
8 8	Michael Englund	Chief Economist	Action Economics LLC	25.57%	26.89%	26.89%	27.50%
9	Don Rissmiller	Chief Economist	Strategas Research Partners LLC	20.48%	24.02%	30.07%	30.04%
10	Douglas Holtz-Eakin	President	American Action Forum	35.72%	25.21%	26.41%	16.15%

Ranking Eligibility

Panelists eligible for a 2023 ranking were those who participated in at least one of the four 2023 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 2023 award pertaining to expectations made in 2020, a panelist would have had to submit forecast data for each of the four quarterly surveys that Pulsenomics conducted in 2020).

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) home price percentage changes for the five time horizons that ended in 2023:

Time Horizon	Expectations Vintage(s)
2023 (1 year horizon)	2023
2022-2023 (2 year horizon)	2019, 2020, 2021, 2022
2021-2023 (3 year horizon)	2019, 2020, 2021
2020-2023 (4 year horizon)	2019, 2020
2019-2023 (5 year horizon)	2019

Rankings are based on a comparison of each panelist's expectations for home price changes to the actual change as measured by the applicable benchmark index.*

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 is computed. These sums are then sorted in ascending order to generate rankings (i.e., the lowest sum represents the least average error/highest rank).

*In Q4 2023, the survey benchmark transitioned to the non-seasonally adjusted Fannie Mae Home Price Index (FNM-HPI) from the Zillow U.S. Home Value Index, All Homes, Raw, Mid-Tier (ZHVI). Accordingly, the "blended benchmark" growth rates displayed in the table above were derived from a combination of FNM-HPI growth during Q4 2023 and ZHVI growth for the preceding periods using the historical index data series (as of January 2024) published by each source.