

HOME PRICE EXPECTATIONS SURVEY

Top-10 Rankings for 2023

		1-Year Horizon (Q4 2023 / Q4 2022)			Benchmark:			4.96%	
_					Panelis	st Expectation	s, By Survey E	Edition:	
	Rank	<u>Panelist</u>	<u>Title</u>	Affiliation	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%	
2023 Expectations	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%	

Parel Pare		10	Douglas Holtz-Eakin	President	American Action Forum	3.00%	1.50%	6.40%	5.00%
Part Common Part Commo									
Part				2-Year Horizon (Q4 2023 / Q	4 2021)		Benchmark:		12.94%
Contay Smitz Manager President Machan Investment Group 12,80% 13,90% 12,70% 13,27% 13,				•	•	Paneli	st Expectation	s, By Survey I	Edition:
Part		Rank	<u>Panelist</u>	<u>Title</u>	<u>Affiliation</u>	Q1 2022	Q2 2022	Q3 2022	Q4 2022
Matthew Firmup Due Namithalian Executive Director (Drector of Economic California Luthream University Center of Economic Executive Director Variant Common Va	suc	1	Christy Fields	Managing Principal	Meketa Investment Group	12.36%	13.96%	12.75%	13.33%
Bernards		2	Rick Sharga	Founder & CEO	CJ Patrick Company	13.37%	13.37%	12.56%	10.93%
Bernards		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%
Bernards	tati	4	David Downs	Real Estate Finance Professor	Virginia Commonwealth University	12.34%	14.43%	13.63%	14.30%
Bernards	96	5	Issi Romem	Economist & Founder	MetroSight		13.88%	13.88%	12.20%
Bernards	ă	6	John Silvia	CEO and Founder	Dynamic Economic Strategy	14.17%	11.93%	13.39%	16.64%
9 Andrea Neuson Professor of France University of Mismi 12.35% 11.05% 18.72% 12.27% 10.55% 12.38% 10.25% 10	22	7	Eli Beracha	Assistant Professor	Florida International University	13.93%	13.93%	17.00%	13.91%
Name	203	8	Thomas Swift						
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Familiar Pameliar Expectations, My Survey Editions 0.02221 0.22012		10	Anne Thompson	Economist	MIT	10.55%	10.23%	10.64%	10.84%
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Panelix						2			
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David Bernon Chief U.S. Economits Cumberland Advisors 10.07% 11.01% 21.03% 13.91% 13.9									
Section Vice President of Statistical and Economic Modeling Veron Real Estate Solutions 11.30% 33.42% 14.49% 15.02%									
Professor of Economics, Finance, and Public Policy Charles New Associates 11.20% 15.65% 14.44% 13.54% 13.54% 10.25% 13.20% 13.2	ns								
Professor of Economics, Finance, and Public Policy Charles New Associates 11.20% 15.65% 14.44% 13.54% 13.54% 10.25% 13.20% 13.2	ig.	_		· · · · · · · · · · · · · · · · · · ·					
Professor of Economics, Finance, and Public Policy Charles New Associates 11.20% 15.65% 14.44% 13.54% 13.54% 10.25% 13.20% 13.2	Scts		·						
Professor of Economics, Finance, and Public Policy Charles New Associates 11.20% 15.65% 14.44% 13.54% 13.54% 10.25% 13.20% 13.2	ğ.	-							
Name									
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10 Jeffrey Zabel	C/I								
Panelist Panelist		10		Professor of Economics		14.48%	10.25%	11.83%	11.30%
Panelist Panelist		•							
Panelist Title							Benchmark:		12.94%
Mark Zandi / Cristian deRitis Chief Economist / Deputy Chief Economist Moody's Analytics 7.42% 12.63% 12.62% 10.97%						Paneli	ist Expectation	s, By Survey I	Edition:
10,46% 9.78% 9.57% 12.36% 3 3 3 3 3 3 3 3 3					<u>Affiliation</u>				
Stacy Simans		1	•	Chief Economist / Deputy Chief Economist	Moody's Analytics				
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9 James Smith Chief Economist EconForecaster, LLC 8.26% 9.41% 9.41% 9.83% 10 Mark Fleming Senior Vice President, Chief Economist First American Financial Corporation	ŭ								
9 James Smith Chief Economist EconForecaster, LLC 8.26% 9.41% 9.41% 9.83% 10 Mark Fleming Senior Vice President, Chief Economist First American Financial Corporation)20		•						
Nark Fleming Senior Vice President, Chief Economist First American Financial Corporation Senior Vice President, Chief Economist Senior Vice President Senior	5								
Rank Panelist Title Affiliation CEO Enlightened Economics 14.38% 14.70% 15.13% 14.38% 14.70% 14.									
Panelist Title Affiliation Q1 2019 Q2 2019 Q3 2019 Q4 2019 1 Raymond Hodgdon CEO Enlightened Economics 14.38% 14.70% 15.13% 14.38% 2 Stacy Sirmans Director FSU Center for Real Estate Education & Research 11.30% 10.25% 10.25% 12.36% 3 John Silvia CEO and Founder Dynamic Economic Strategy 7.43% 10.67% 12.89% 13.42% 4 Jim Kleckley Economic & Business Consultant Independent 10.77% 10.77% 10.51% 10.46% 5 Mark Fleming Senior Vice President, Chief Economist First American Financial Corporation 9.20% 9.20% 12.36% 10.78% 6 Marsha Courchane VP & Practice Leader Charles River Associates 10.25% 9.20% 10.67% 11.30% 7 Amy Crews Cutts President AC Cutts & Associates 10.15% 10.15% 10.25% 9.10% 8 Rajeev Dhawan Director, Economic Forecasting Center Georgia State University 10.24% 9.10% 8.88% 8.88% 9 Don Rissmiller Chief Economist Strategas Research Partners LLC 6.09% 8.16% 10.25% 12.36%		10	Walk Helling	Sellor Vice President, Chief Economist	Tilst American mancial corporation	8.3776	10.23/6	7.0470	10.33/6
Rank Panelist Title Affiliation Q1 2019 Q2 2019 Q3 2019 Q4 2							Benchmark:		12.94%
Rank Panelist Title Affiliation Q1 2019 Q2 2019 Q3 2019 Q4 2						Paneli	ist Expectation	s, By Survey I	Edition:
1 Raymond Hodgdon CEO		Rank	<u>Panelist</u>	<u>Title</u>	<u>Affiliation</u>				
3		1	Raymond Hodgdon		Enlightened Economics	14.38%	14.70%	15.13%	14.38%
7 Amy Crews Cutts President AC Cutts & Associates 10.15% 10.25% 9.10% 8 Rajeev Dhawan Director, Economic Forecasting Center Georgia State University 10.24% 9.10% 8.88% 8.88% 9 Don Rissmiller Chief Economist Strategas Research Partners LLC 6.09% 8.16% 10.25% 12.36%		2	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	11.30%	10.25%	10.25%	12.36%
7 Amy Crews Cutts President AC Cutts & Associates 10.15% 10.25% 9.10% 8 Rajeev Dhawan Director, Economic Forecasting Center Georgia State University 10.24% 9.10% 8.88% 8.88% 9 Don Rissmiller Chief Economist Strategas Research Partners LLC 6.09% 8.16% 10.25% 12.36%	ons	3	John Silvia	CEO and Founder		7.43%	10.67%	12.89%	
7 Amy Crews Cutts President AC Cutts & Associates 10.15% 10.25% 9.10% 8 Rajeev Dhawan Director, Economic Forecasting Center Georgia State University 10.24% 9.10% 8.88% 8.88% 9 Don Rissmiller Chief Economist Strategas Research Partners LLC 6.09% 8.16% 10.25% 12.36%	tati	4	Jim Kleckley	Economic & Business Consultant	Independent	10.77%	10.77%	10.51%	10.46%
7 Amy Crews Cutts President AC Cutts & Associates 10.15% 10.25% 9.10% 8 Rajeev Dhawan Director, Economic Forecasting Center Georgia State University 10.24% 9.10% 8.88% 8.88% 9 Don Rissmiller Chief Economist Strategas Research Partners LLC 6.09% 8.16% 10.25% 12.36%)ec	5	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	9.20%	9.20%	12.36%	10.78%
7 Amy Crews Cutts President AC Cutts & Associates 10.15% 10.25% 9.10% 8 Rajeev Dhawan Director, Economic Forecasting Center Georgia State University 10.24% 9.10% 8.88% 8.88% 9 Don Rissmiller Chief Economist Strategas Research Partners LLC 6.09% 8.16% 10.25% 12.36%	X	6	Marsha Courchane	VP & Practice Leader	Charles River Associates	10.25%	9.20%	10.67%	11.30%
9 Don Rissmiller Chief Economist Strategas Research Partners LLC 6.09% 8.16% 10.25% 12.36%	191	7	Amy Crews Cutts	President	AC Cutts & Associates		10.15%	10.25%	9.10%
9 Don Rissmiller Chief Economist Strategas Research Partners LLC 6.09% 8.16% 10.25% 12.36%	201		Rajeev Dhawan						
10Douglas Holtz-EakinPresidentAmerican Action Forum12.89%8.16%9.20%6.40%					Strategas Research Partners LLC				
		10	Douglas Holtz-Eakin	President	American Action Forum	12.89%	8.16%	9.20%	6.40%



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	Mark Vitner	Founder	Piedmont Crescent Capital	22.27%	29.57%	27.94%	34.439
4	Edward Pinto	Resident Fellow	American Enterprise Institute	22.73%	32.27%	32.97%	37.04
5	Jim Kleckley	Economic & Business Consultant	Independent	20.79%	26.60%	30.09%	37.76
6	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	John Silvia	CEO and Founder	Dynamic Economic Strategy	17.53%	23.86%	16.42%	8.43
2	Raymond Hodgdon	CEO	Enlightened Economics	28.32%	6.12%	14.66%	16.87
3	Jim Kleckley	Economic & Business Consultant	Independent	16.15%	14.99%	14.66%	19.66
4	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	Amy Crews Cutts	President	AC Cutts & Associates	14.06%	13.46%	14.55%	16.97
7	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					
_	Marsha Courchane 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	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.