



# HOME PRICE EXPECTATIONS SURVEY

## **Top-10 Rankings for 2020**

		1-Year Horizon (Dec 2020 / Dec 2019)			Bei	nchmark: US ZF	IVI	8.39%
					Panelis	dition:		
	Rank	Panelist	<u>Title</u>	Affiliation	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%
SL	3	Maria Fiorini Ramirez	Chief Executive Officer	MFR, Inc.	4.00%	2.50%	8.00%	5.80%
ctations	4	Michael Englund	Chief Economist	Action Economics LLC	5.00%	3.90%	4.30%	6.80%
cta	5 TIE	James Gaines	Chief Economist	Texas A&M University Real Estate Center	4.50%	2.00%	5.00%	8.00%
Expe	J 111	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%
2020	7	Michael Carliner	Housing Economist	Independent Consultant	3.60%	4.00%	4.00%	7.50%
2(	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%

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 20	018)	Be	enchmark: US ZI	HVI	12.40%
			• • •		st Expectation		
Rank	Panelist	<u>Title</u>	Affiliation	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%
					enchmark: US Z		12.40%
Rank	<u>Panelist</u>	<u>Title</u>	<u>Affiliation</u>	Paneli Q1 2018	st Expectation Q2 2018	is, By Survey I Q3 2018	Edition: 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%
	Michael Englund	Chief Economist	Action Economics LLC	10.14%	11.83%	11.83%	9.94%
3 4 5 6	Ralph Defranco	Global Chief Economist	Arch Capital Services Inc.	12.89%	10.25%	12.89%	9.73%
5	Douglas Holtz-Eakin	President	Arcti Capital Services Inc.  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%
1 -0	Donald Hadrin	Trotessor of Economics, Finance, and Fability	Onio state oniversity	10.7070	10.7070	10.0770	3.0070
					enchmark: US ZI		12.40%
Rank	Panelist	Tide	Affiliation	Paneli Q1 2017	st Expectation Q2 2017	is, By Survey I Q3 2017	Edition: Q4 2017
1	Raymond Hodgdon	<u>Title</u>	Affiliation		QZ 2017	Q3 2017	
2			Enlightened Economics		11 00%	11 200/	
		CEO	Enlightened Economics	12.89%	11.09%	11.20%	11.41%
2	Stacy Sirmans	CEO Director	FSU Center for Real Estate Education & Research	12.89% 13.42%	10.51%	11.83%	10.25%
3	Stacy Sirmans Jim Kleckley	CEO Director Director, Bureau of Business Research	FSU Center for Real Estate Education & Research East Carolina University	12.89% 13.42% 10.22%	10.51% 9.87%	11.83% 11.30%	10.25% 11.72%
4	Stacy Sirmans Jim Kleckley James Smith	CEO Director Director, Bureau of Business Research Chief Economist	FSU Center for Real Estate Education & Research East Carolina University Parsec Financial Management	12.89% 13.42% 10.22% 10.77%	10.51% 9.87% 10.77%	11.83% 11.30% 10.77%	10.25% 11.72% 10.77%
4 5	Stacy Sirmans Jim Kleckley James Smith Matthew Fienup	CEO Director Director, Bureau of Business Research Chief Economist Economist, Economic Forecasting and Research Center	FSU Center for Real Estate Education & Research East Carolina University Parsec Financial Management California Lutheran Univ. Ctr for Economic Forecasting & Research	12.89% 13.42% 10.22% 10.77% 10.78%	10.51% 9.87% 10.77% 10.78%	11.83% 11.30% 10.77% 11.09%	10.25% 11.72% 10.77% 9.41%
4 5 6	Stacy Sirmans Jim Kleckley James Smith Matthew Fienup Edward Pinto	CEO Director Director Director, Bureau of Business Research Chief Economist Economist, Economic Forecasting and Research Center Resident Fellow	FSU Center for Real Estate Education & Research East Carolina University Parsec Financial Management California Lutheran Univ. Ctr for Economic Forecasting & Research American Enterprise Institute	12.89% 13.42% 10.22% 10.77% 10.78% 9.72%	10.51% 9.87% 10.77% 10.78% 9.72%	11.83% 11.30% 10.77% 11.09% 10.24%	10.25% 11.72% 10.77% 9.41% 12.36%
4 5 6 7	Stacy Sirmans Jim Kleckley James Smith Matthew Fienup Edward Pinto Mark Fleming	CEO Director Director Director, Bureau of Business Research Chief Economist Economist, Economic Forecasting and Research Center Resident Fellow Senior Vice President, Chief Economist	FSU Center for Real Estate Education & Research East Carolina University Parsec Financial Management California Lutheran Univ. Ctr for Economic Forecasting & Research American Enterprise Institute First American Financial Corporation	12.89% 13.42% 10.22% 10.77% 10.78% 9.72% 7.64%	10.51% 9.87% 10.77% 10.78% 9.72% 11.83%	11.83% 11.30% 10.77% 11.09% 10.24% 11.83%	10.25% 11.72% 10.77% 9.41% 12.36% 10.67%
4 5 6 7 8	Stacy Sirmans Jim Kleckley James Smith Matthew Fienup Edward Pinto Mark Fleming Ingo Winzer	CEO Director Director, Bureau of Business Research Chief Economist Economist, Economic Forecasting and Research Center Resident Fellow Senior Vice President, Chief Economist President	FSU Center for Real Estate Education & Research East Carolina University Parsec Financial Management California Lutheran Univ. Ctr for Economic Forecasting & Research American Enterprise Institute First American Financial Corporation Local Market Monitor	12.89% 13.42% 10.22% 10.77% 10.78% 9.72% 7.64% 11.51%	10.51% 9.87% 10.77% 10.78% 9.72% 11.83% 10.15%	11.83% 11.30% 10.77% 11.09% 10.24% 11.83% 8.58%	10.25% 11.72% 10.77% 9.41% 12.36% 10.67% 10.24%
4 5 6 7 8 9	Stacy Sirmans Jim Kleckley James Smith Matthew Fienup Edward Pinto Mark Fleming Ingo Winzer Michael Englund	CEO Director Director, Bureau of Business Research Chief Economist Economist, Economic Forecasting and Research Center Resident Fellow Senior Vice President, Chief Economist President Chief Economist	FSU Center for Real Estate Education & Research East Carolina University Parsec Financial Management California Lutheran Univ. Ctr for Economic Forecasting & Research American Enterprise Institute First American Financial Corporation Local Market Monitor Action Economics LLC	12.89% 13.42% 10.22% 10.77% 10.78% 9.72% 7.64% 11.51% 9.93%	10.51% 9.87% 10.77% 10.78% 9.72% 11.83% 10.15% 9.93%	11.83% 11.30% 10.77% 11.09% 10.24% 11.83% 8.58% 10.14%	10.25% 11.72% 10.77% 9.41% 12.36% 10.67% 10.24% 10.25%
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4 5 6 7 8 9	Stacy Sirmans Jim Kleckley James Smith Matthew Fienup Edward Pinto Mark Fleming Ingo Winzer Michael Englund Stephen Stanley	CEO Director Director Director, Bureau of Business Research Chief Economist Economist, Economic Forecasting and Research Center Resident Fellow Senior Vice President, Chief Economist President Chief Economist Chief Economist	FSU Center for Real Estate Education & Research East Carolina University Parsec Financial Management California Lutheran Univ. Ctr for Economic Forecasting & Research American Enterprise Institute First American Financial Corporation Local Market Monitor Action Economics LLC Amherst Pierpont Securities	12.89% 13.42% 10.22% 10.77% 10.78% 9.72% 7.64% 11.51% 9.93% 7.74%	10.51% 9.87% 10.77% 10.78% 9.72% 11.83% 10.15% 9.93% 10.67% enchmark: US ZI st Expectation	11.83% 11.30% 10.77% 11.09% 10.24% 11.83% 8.58% 10.14% 9.73%	10.25% 11.72% 10.77% 9.41% 12.36% 10.67% 10.24% 10.25% 9.20% 12.40%
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4 5 6 7 8 9 10	Stacy Sirmans Jim Kleckley James Smith Matthew Fienup Edward Pinto Mark Fleming Ingo Winzer Michael Englund Stephen Stanley	CEO Director Director Director, Bureau of Business Research Chief Economist Economist, Economic Forecasting and Research Center Resident Fellow Senior Vice President, Chief Economist President Chief Economist Chief Economist Title President	FSU Center for Real Estate Education & Research East Carolina University Parsec Financial Management California Lutheran Univ. Ctr for Economic Forecasting & Research American Enterprise Institute First American Financial Corporation Local Market Monitor Action Economics LLC Amherst Pierpont Securities  Affiliation Local Market Monitor	12.89% 13.42% 10.22% 10.77% 10.78% 9.72% 7.64% 11.51% 9.93% 7.74%  Bee Panell Q1.2016 12.36%	10.51% 9.87% 10.77% 10.78% 10.78% 9.72% 11.83% 10.15% 9.93% 10.67% enchmark: US ZI st Expectation Q2 2016 12.36%	11.83% 11.30% 10.77% 11.09% 10.24% 10.24% 11.83% 8.58% 10.14% 9.73% HVI IS, By Survey 8 Q3 2016 12.36%	10.25% 11.72% 10.77% 9.41% 12.36% 10.67% 10.24% 10.25% 9.20% 12.40% edition: Q4.2016 12.89%
4 5 6 7 8 9 10	Stacy Sirmans Jim Kleckley James Smith Matthew Fienup Edward Pinto Mark Fleming Ingo Winzer Michael Englund Stephen Stanley  Panelist Ingo Winzer Barry Habib	CEO Director Director Director Chief Economist Economist, Economic Forecasting and Research Center Resident Fellow Senior Vice President, Chief Economist President Chief Economist Chief Economist Title President CEO	FSU Center for Real Estate Education & Research East Carolina University Parsec Financial Management California Lutheran Univ. Ctr for Economic Forecasting & Research American Enterprise Institute First American Financial Corporation Local Market Monitor Action Economics LLC Amherst Pierpont Securities  Affiliation Local Market Monitor Local Market Monitor MBS Highway	12.89% 13.42% 10.22% 10.77% 10.78% 9.72% 7.64% 11.51% 9.93% 7.74%  Be Panell Q1.2016 12.36% 9.93%	10.51% 9.87% 10.77% 10.778% 9.72% 11.83% 10.15% 9.93% 10.67% enchark: US ZI SE Expectation Q2 2016 12.36% 8.26%	11.83% 11.30% 10.77% 11.09% 10.24% 8.58% 10.14% 9.73% HVI IS, By Survey I Q3.2016 12.36% 14.35%	10.25% 11.72% 10.77% 9.41% 12.36% 10.67% 10.24% 10.25% 9.20% 12.40% Edition: Q4.2016 12.89% 12.25%
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8 9 10 Rank 1 2 3 4	Stacy Sirmans Jim Kleckley James Smith Matthew Fienup Edward Pinto Mark Fleming Ingo Winzer Michael Englund Stephen Stanley  Panelist Ingo Winzer Barry Habib Jim Kleckley Paul Carrillo	CEO Director Director, Bureau of Business Research Chief Economist Economist, Economic Forecasting and Research Center Resident Fellow Senior Vice President, Chief Economist President Chief Economist Chief Economist  Title President CEO Director, Bureau of Business Research Professor of Economics	FSU Center for Real Estate Education & Research East Carolina University Parsec Financial Management California Lutheran Univ. Ctr for Economic Forecasting & Research American Enterprise Institute First American Financial Corporation Local Market Monitor Action Economics LLC Amherst Pierpont Securities  Affiliation Local Market Monitor MBS Highway East Carolina University George Washington University	12.89% 13.42% 10.22% 10.77% 10.78% 9.72% 7.64% 11.51% 9.93% 7.74%  Bee Panell Q1.2016 12.36% 9.93% 10.25%	10.51% 9.87% 10.778% 10.778% 9.72% 11.83% 10.15% 9.933% 10.67% enchmark: US 21 st Expectation Q2 2016 12.36% 8.26% 10.25% 9.20%	11.83% 11.30% 10.77% 11.09% 10.24% 11.83% 8.58% 10.14% 9.73% HVI us, By Survey 1 Q3 2016 12.36% 10.25% 8.16%	10.25% 11.72% 10.77% 9.41% 12.36% 10.62% 9.20% 12.440% 2dition: Q4.2016 12.89% 12.25% 10.19%
8 9 10 Rank 1 2 3 4 5	Stacy Sirmans Jim Kleckley James Smith Matthew Fienup Edward Pinto Mark Fleming Ingo Winzer Michael Englund Stephen Stanley  Panelist Ingo Winzer Barry Habib Jim Kleckley Paul Carrillo Rajeev Dhawan	CEO Director Director Director, Bureau of Business Research Chief Economist Economist, Economic Forecasting and Research Center Resident Fellow Senior Vice President, Chief Economist President Chief Economist Chief Economist  Title President CEO Director, Bureau of Business Research Professor of Economics Director, Economics Director, Economic Forecasting Center	FSU Center for Real Estate Education & Research East Carolina University Parsec Financial Management California Lutheran Univ. Ctr for Economic Forecasting & Research American Enterprise Institute First American Financial Corporation Local Market Monitor Action Economics LLC Amherst Pierpont Securities  Affiliation Local Market Monitor MBS Highway East Carolina University George Washington University Georgia State University	12.89% 13.42% 10.22% 10.77% 10.78% 9.72% 7.64% 11.51% 7.74%  Be Panelli Q1.2016 12.36% 9.93% 8.16% 10.25% 9.73%	10.51% 9.87% 10.77% 10.78% 9.72% 11.83% 10.15% 9.93% 10.67% enchmark: US Z st Expectation Q2 2016 12.36% 8.26% 10.25% 9.73%	11.83% 11.30% 10.77% 11.09% 10.24% 11.83% 8.58% 10.14% 9.73% HVI 03.2016 12.36% 14.35% 10.25% 8.16% 9.20%	10.25% 11.72% 10.77% 9.41% 12.36% 10.67% 10.24% 10.25% 9.20% 12.40% 6dition: Q4.2016 12.89% 12.25% 10.19% 10.125% 8.89%
8 9 10 Rank 1 2 3 4 5 6	Stacy Sirmans Jim Kleckley James Smith Matthew Fienup Edward Pinto Mark Fleming Ingo Winzer Michael Englund Stephen Stanley  Panelist Ingo Winzer Barry Habib Jim Kleckley Paul Carrillo Rajeev Dhawan Michael Englund	CEO Director Director Director, Bureau of Business Research Chief Economist Economist, Economic Forecasting and Research Center Resident Fellow Senior Vice President, Chief Economist President Chief Economist Chief Economist  Title President CEO Director, Bureau of Business Research Professor of Economics Director, Economic Forecasting Center Chief Economist	FSU Center for Real Estate Education & Research East Carolina University Parsec Financial Management California Lutheran Univ. Ctr for Economic Forecasting & Research American Enterprise Institute First American Financial Corporation Local Market Monitor Action Economics LLC Amherst Pierpont Securities  Affiliation Local Market Monitor MBS Highway East Carolina University George Washington University Georgia State University Action Economics LLC	12.89% 13.42% 10.22% 10.77% 10.78% 9.72% 7.64% 11.51% 9.93% 7.74%  Be Panell 01.2016 12.36% 9.93% 8.16% 10.25% 9.73%	10.51% 9.87% 10.77% 10.78% 9.22% 11.83% 10.15% 9.93% 10.65% 10.25% 8.26% 10.25% 9.20%	11.83% 11.30% 10.77% 11.09% 10.24% 11.83% 8.58% 10.14% 9.73% HVI S, By Survey Q3 2016 12.36% 14.35% 10.25% 8.16% 9.20%	10.25% 11.72% 10.77% 9.41% 12.36% 10.67% 10.24% 10.25% 9.20% 12.40% 6dition: Q4.2016 12.89% 12.25% 10.19% 10.25% 8.89% 9.20%
Rank 1 2 3 4 5 6 7	Stacy Sirmans Jim Kleckley James Smith Matthew Fienup Edward Pinto Mark Fleming Ingo Winzer Michael Englund Stephen Stanley  Panelist Ingo Winzer Barry Habib Jim Kleckley Paul Carrillo Rajeev Dhawan Michael Englund Alex Villacorta	CEO Director Director Director, Bureau of Business Research Chief Economist Economist, Economic Forecasting and Research Center Resident Fellow Senior Vice President, Chief Economist President Chief Economist Chief Economist  Title President CEO Director, Bureau of Business Research Professor of Economics Director, Economic Forecasting Center Chief Economist ResiShares, LLC	FSU Center for Real Estate Education & Research East Carolina University Parsec Financial Management California Lutheran Univ. Ctr for Economic Forecasting & Research American Enterprise Institute First American Financial Corporation Local Market Monitor Action Economics LLC Amherst Pierpont Securities  Affiliation Local Market Monitor MBS Highway East Carolina University George Washington University Georgia State University Action Economics LLC Co-Founder & Chief Data Officer	12.89% 13.42% 10.22% 10.77% 10.78% 9.72% 7.64% 11.51% 9.93% 7.74%  Be Panell Q1.2016 12.36% 9.93% 8.16% 10.25% 9.73% 9.52% 7.64%	10.51% 9.87% 10.77% 10.778% 9.72% 11.83% 10.15% 9.93% 10.667% sechmark: USZ st Expectation Q2 2016 12.36% 8.26% 10.25% 9.20% 9.20% 9.20% 7.64%	11.83% 11.30% 10.77% 11.09% 10.24% 11.83% 8.58% 10.14% 9.73% HVI s, by Survey Q3 2016 12.36% 10.25% 8.16% 9.20% 9.20% 10.78%	10.25% 11.72% 10.77% 9.41% 12.36% 10.67% 10.24% 10.25% 9.20% 12.40% 6dition: Q4.2016 12.89% 10.25% 10.19% 10.25% 9.20%
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# HOME PRICE EXPECTATIONS SURVEY

# Top-10 Rankings for 2020

		3-Year Horizon (Dec 2020 / Dec 2	017)	Be	enchmark: US Z	HVI	18.86%
				Paneli	st Expectatior	s, By Survey	Edition:
Rank	<u>Panelist</u>	<u>Title</u>	Affiliation	Q1 2018	Q2 2018	Q3 2018	Q4 2018
1	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	18.54%	17.42%	18.54%	18.54%
2	Matthew Fienup	Economist, Economic Forecasting and Research Center	California Lutheran Univ. Ctr for Economic Forecasting & Research	16.64%	18.76%	19.66%	18.76%
3	Michael Englund	Chief Economist	Action Economics LLC	17.20%	19.66%	19.10%	17.08%
3 4 5 6	James Smith	Chief Economist	Parsec Financial Management	17.75%	17.75%	17.75%	16.87%
5	James Gaines	Chief Economist	Texas A&M University Real Estate Center	17.41%	18.53%	19.09%	15.20%
6	Donald Haurin	Professor of Economics, Finance, and Public Policy	Ohio State University	17.31%	17.42%	17.86%	16.75%
7	Stephen Stanley	Chief Economist	Amherst Pierpont Securities	15.98%	18.64%	17.41%	16.97%
8	Paul Carrillo	Professor of Economics	George Washington University	15.21%	16.87%	17.98%	19.09%
9	Ralph Defranco	Global Chief Economist	Arch Capital Services Inc.	20.23%	16.87%	21.92%	16.42%
10	Chris Rupkey	Chief Financial Economist	MUFG Union Bank	15.75%	19.08%	21.90%	15.75%
					enchmark: US Z		18.86%
					st Expectatior		
Rank	<u>Panelist</u>	<u>Title</u>	Affiliation	Q1 2017	Q2 2017	Q3 2017	Q4 2017
1	Raymond Hodgdon	CEO	Enlightened Economics	20.79%	17.42%	17.54%	18.09%
2	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	20.23%	16.59%	18.53%	16.87%
3	Edward Pinto	Resident Fellow	American Enterprise Institute	16.30%	16.30%	17.41%	19.66%
4	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	11.95%	19.66%	18.82%	19.30%
5	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	15.70%	15.28%	17.76%	18.53%
6	James Smith	Chief Economist	Parsec Financial Management	16.76%	16.76%	16.76%	16.76%
7	Matthew Fienup	Economist, Economic Forecasting and Research Center	California Lutheran Univ. Ctr for Economic Forecasting & Research	16.87%	16.87%	17.42%	15.65%
8	Michael Englund	Chief Economist	Action Economics LLC	15.98%	15.98%	16.20%	16.42%
9	Ingo Winzer	President	Local Market Monitor	17.31%	15.65%	13.14%	17.41%
10	Stephen Stanley	Chief Economist	Amherst Pierpont Securities	12.59%	17.09%	15.76%	15.21%
				Do	enchmark: US Z	LIV/I	18.86%
					st Expectation		
Rank	Panelist	<u>Title</u>	Affiliation	Q1 2016	Q2 2016	Q3 2016	Q4 201
1	Ingo Winzer	President	Local Market Monitor	18.88%	19.33%	19.21%	19.32%
2	Barry Habib	CEO	MBS Highway	12.79%	12.59%	18.81%	16.74%
3	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	12.49%	15.76%	15.76%	15.66%
4	Paul Carrillo	Professor of Economics	George Washington University	15.76%	14.12%	13.03%	15.76%
5	Michael Englund	Chief Economist	Action Economics LLC	14.77%	14.01%	14.23%	14.23%
6	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	13.57%	12.49%	12.92%	18.09%
7	Joel Naroff	President	Naroff Economic Advisors Inc	18.65%	17.86%	13.12%	6.94%
8	Kevin Cummins	Senior U.S. Economist	NatWest Markets	15.76%	15.76%	14.12%	9.27%
9	Alex Villacorta	ResiShares, LLC	Co-Founder & Chief Data Officer	11.19%	11.19%	16.09%	16.37%
		•					
10	Rajeev Dhawan	Director, Economic Forecasting Center	Georgia State University	11.92%	15.76%	13.57%	10.52%

		4-Year Horizon (Dec 2020 / Dec 2	016)	Be	enchmark: US Z	HVI	26.65%
				Paneli	ist Expectation	is, By Survey I	Edition:
Rank	Panelist	<u>Title</u>	Affiliation	Q1 2017	Q2 2017	Q3 2017	Q4 201
1	Raymond Hodgdon	CEO	Enlightened Economics	28.64%	24.70%	24.82%	25.77
2	Stacy Sirmans	Director	FSU Center for Real Estate Education & Research	26.84%	23.29%	25.05%	24.46
3	Edward Pinto	Resident Fellow	American Enterprise Institute	23.28%	23.28%	25.39%	27.80
4	Matthew Fienup	Economist, Economic Forecasting and Research Center	California Lutheran Univ. Ctr for Economic Forecasting & Research	23.53%	23.53%	25.06%	23.74
5	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	22.62%	21.40%	25.29%	26.02
6	James Smith	Chief Economist	Parsec Financial Management	23.41%	23.41%	23.41%	23.41
7	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	16.98%	26.84%	26.54%	30.04
8	Michael Englund	Chief Economist	Action Economics LLC	22.94%	22.94%	23.17%	23.64
9	Ingo Winzer	President	Local Market Monitor	23.18%	21.55%	19.36%	25.62
		eli ce	A L LONG TO THE CONTRACT OF TH	40 700/	24.47%	23,28%	22.70
10	Stephen Stanley	Chief Economist	Amherst Pierpont Securities	18.79%	24.47%	23.2070	22.70
10	Stephen Stanley	Chief Economist	Amnerst Pierpont Securities				
10	Stephen Stanley	Chief Economist	Amnerst Pierpont Securities	Be	enchmark: US Z	HVI	26.65
10	Stephen Stanley	Chief Economist	Amnerst Pierpont Securities	Be		HVI	26.65
10 Rank	Stephen Stanley  Panelist	Chief Economist <u>Title</u>	Amherst Pierpont Securities  Affiliation	Be	enchmark: US Z	HVI	26.65 Edition:
	,			Be Paneli	enchmark: US Z	HVI Is, By Survey I	26.65 Edition: Q4 20
	<u>Panelist</u>	<u>Title</u>	<u>Affiliation</u>	Paneli Q1 2016	enchmark: US Z ist Expectation Q2 2016	HVI Is, By Survey I Q3 2016	26.65 Edition: Q4 20 25.65
	<u>Panelist</u> Ingo Winzer	<u>Title</u> President	<u>Affiliation</u> Local Market Monitor	Paneli Q1 2016 24.58%	enchmark: US Z ist Expectation Q2 2016 25.65%	HVI is, By Survey I Q3 2016 25.65%	26.65 Edition: Q4 20 25.65 13.79
Rank 1 2	<u>Panelist</u> Ingo Winzer Joel Naroff	<u>Title</u> President President	Affiliation Local Market Monitor Naroff Economic Advisors Inc	Paneli Q1 2016 24.58% 26.00%	enchmark: US Z ist Expectation Q2 2016 25.65% 25.40%	HVI ps, By Survey I Q3 2016 25.65% 19.57%	26.65 Edition: Q4 20 25.65 13.79 21.52
Rank 1 2	<u>Panelist</u> Ingo Winzer Joel Naroff Barry Habib	<u>Title</u> President President CEO	Affiliation Local Market Monitor Naroff Economic Advisors Inc MBS Highway	Paneli Q1 2016 24.58% 26.00% 17.08%	enchmark: US Z ist Expectation Q2 2016 25.65% 25.40% 18.33%	HVI ss, By Survey I Q3 2016 25.65% 19.57% 25.58%	26.65 Edition: Q4 20 25.65 13.79 21.52 21.41
Rank 1 2 3 4	<u>Panelist</u> Ingo Winzer Joel Naroff Barry Habib Jim Kleckley	<u>Title</u> President President CEO Director, Bureau of Business Research	Affiliation  Local Market Monitor  Naroff Economic Advisors Inc  MBS Highway  East Carolina University	Paneli Q1 2016 24.58% 26.00% 17.08% 16.99%	enchmark: US Z ist Expectation Q2 2016 25.65% 25.40% 18.33% 21.55%	Q3 2016 25.65% 19.57% 25.58% 21.55%	26.65 Edition: Q4 20 25.65 13.79 21.52 21.41 24.59
Rank 1 2 3 4	Panelist Ingo Winzer Joel Naroff Barry Habib Jim Kleckley Mark Fleming	<u>Title</u> President  President  CEO  Director, Bureau of Business Research  Senior Vice President, Chief Economist	Affiliation  Local Market Monitor  Naroff Economic Advisors Inc  MBS Highway  East Carolina University  First American Financial Corporation	Paneli Q1 2016 24.58% 26.00% 17.08% 16.99% 19.25%	enchmark: US Z ist Expectation Q2 2016 25.65% 25.40% 18.33% 21.55% 17.55%	HVI Q3 2016 25.65% 19.57% 25.58% 21.55% 18.34%	26.65 Edition: Q4 20 25.65 13.79 21.52 21.41 24.59 20.97
Rank 1 2 3 4 5	Panelist Ingo Winzer Joel Naroff Barry Habib Jim Kleckley Mark Fleming Paul Carrillo	Title President President CEO Director, Bureau of Business Research Senior Vice President, Chief Economist Professor of Economics	Affiliation Local Market Monitor Naroff Economic Advisors Inc MBS Highway East Carolina University First American Financial Corporation George Washington University	Paneli Q12016 24.58% 26.00% 17.08% 16.99% 19.25% 20.97%	enchmark: US Z St Expectation Q2 2016 25.65% 25.40% 18.33% 21.55% 17.55% 19.25%	18.5 My Survey B Q3 2016 25.65% 19.57% 25.58% 21.55% 18.34% 18.11%	26.65 Edition: Q4 20 25.65 13.79 21.52 21.41 24.59 20.97
Rank  1  2  3  4  5  6	Panelist Ingo Winzer Joel Naroff Barry Habib Jim Kleckley Mark Fleming Paul Carrillo Michael Englund	Title President President CEO Director, Bureau of Business Research Senior Vice President, Chief Economist Professor of Economics Chief Economist	Affiliation Local Market Monitor Naroff Economic Advisors Inc MBS Highway East Carolina University First American Financial Corporation George Washington University Action Economics LLC	Paneli Q1 2016 24.58% 26.00% 17.08% 16.99% 19.25% 20.97% 20.17%	enchmark: US Z St Expectation Q2 2016 25.65% 25.40% 18.33% 21.55% 17.55% 19.25% 18.91%	18.5% 18.34% 19.59%	26.65





## HOME PRICE EXPECTATIONS SURVEY

#### Top-10 Rankings for 2020

		5-Year Horizon (Dec 2020 / Dec 2015)			Benchmark: US ZHVI			34.15%
_					Panelis	dition:		
	Rank	<u>Panelist</u>	<u>Title</u>	Affiliation	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%
ous	3	Barry Habib	CEO	MBS Highway	23.17%	26.14%	33.50%	28.57%
Expectations	4	Jim Kleckley	Director, Bureau of Business Research	East Carolina University	21.67%	27.43%	27.43%	28.11%
)ec	5	Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	24.61%	23.43%	24.26%	31.32%
Ä	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%
2016	8	Kevin Cummins	Senior U.S. Economist	NatWest Markets	27.63%	27.63%	24.62%	18.76%
Ė	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 Pulsenomics 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).