



### HOME PRICE EXPECTATIONS SURVEY RESULTS: Fourth Quarter 2016

Panelist	Title	Affiliation	Response Date	Estimated Home Price Performance (Dec/Dec)						Cumulative					
				2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021
Scott Anderson	Chief Economist	Bank Of The West	11/1/2016	4.70%	3.70%	3.20%	2.90%	2.90%	2.80%	4.70%	8.57%	12.05%	15.30%	18.64%	21.96%
Daniel Bachman	Senior Manager, U.S. Economics	Deloitte Services, LP	11/9/2016	5.40%	5.10%	3.80%	2.20%	1.10%	0.10%	5.40%	10.78%	14.98%	17.51%	18.81%	18.93%
Bob Baur	Chief Global Economist	Principal Global Investors	10/28/2016	5.50%	4.50%	3.00%	1.00%	-1.00%	-3.00%	5.50%	10.25%	13.55%	14.69%	13.54%	10.14%
Nariman Behravesh	Chief Economist	IHS Global Insight	11/8/2016	4.60%	4.30%	2.80%	2.50%	2.80%	2.80%	4.60%	9.10%	12.15%	14.96%	18.18%	21.48%
Eli Beracha	Assistant Professor	Florida International University	10/30/2016	3.00%	3.00%	2.50%	2.00%	2.00%	2.00%	3.00%	6.09%	8.74%	10.92%	13.14%	15.40%
David Berson	Chief Economist	Natwide Insurance	11/1/2016	5.60%	5.00%	4.30%	3.90%	3.40%	3.00%	5.60%	10.88%	15.65%	20.16%	24.24%	27.97%
Vijay Bhasin	Chief Risk Officer	Essent U.S. Holdings	10/28/2016	4.00%	4.00%	3.50%	3.50%	3.00%	3.00%	4.00%	8.16%	11.95%	15.86%	19.34%	22.92%
Daren Blomquist	Senior Vice President	ATTOM Data Solutions	11/9/2016	4.50%	3.00%	1.00%	-1.00%	-3.00%	-4.00%	4.50%	7.63%	8.71%	7.62%	4.40%	-3.00%
Kathy Bostjanic / Gregory Daco	Head of U.S. Macro Investors Service / Head of U.S. Macroeconomics	Oxford Economics	11/6/2016	4.80%	4.50%	3.90%	3.20%	3.10%	3.10%	4.80%	9.52%	13.79%	17.43%	21.07%	24.82%
Mark Boud	Chief Economist	Metrolady	10/28/2016	4.90%	4.20%	2.60%	1.20%	0.60%	0.10%	4.90%	9.31%	12.15%	13.49%	14.17%	14.29%
Beth Ann Bovino	Chief U.S. Economist	Standard & Poor's	11/14/2016												
Beata Caranci	Chief Economist	TD Bank Group	11/3/2016	5.20%	4.10%	3.70%	3.30%	3.10%	3.00%	5.20%	9.51%	13.57%	17.31%	20.95%	24.58%
Michael Carliner	Housing Economist	Independence Consultant	11/9/2016	5.20%	3.10%	2.75%	2.70%	2.70%	2.70%	5.20%	8.46%	11.44%	14.45%	17.54%	20.72%
Paul Carriso	Professor of Economics	George Washington University	11/9/2016	4.50%	4.50%	5.00%	5.00%	5.00%	5.00%	4.50%	9.20%	14.66%	20.40%	26.42%	32.74%
Joseph Carson	Chief Economist	Alliance Bernstein	11/7/2016	5.00%	4.00%	4.00%	1.00%	-5.00%	5.00%	5.00%	9.20%	13.57%	14.70%	8.97%	14.70%
Sam Chandan	President	Chandler Economics	11/15/2016	4.40%	3.50%	2.40%	2.60%	3.00%	3.10%	4.40%	8.05%	10.65%	13.52%	16.93%	20.55%
Sherwood Clements	Instructor of Real Estate	Curveshouse College of Commerce	11/2/2016	4.00%	3.00%	2.50%	2.50%	4.00%	4.50%	4.00%	7.12%	9.80%	12.54%	17.04%	22.31%
Mike Cosgrove	Principal	The Economist	10/31/2016	4.50%	3.00%	2.80%	1.80%	1.50%	0.50%	4.50%	7.63%	10.65%	12.64%	14.33%	14.90%
Kevin Cummins	U.S. Economist	RBS	11/15/2016	4.50%	4.00%	3.00%	3.00%	3.00%	3.00%	4.50%	8.68%	11.94%	15.30%	18.76%	22.32%
Amy Crews Cutts	Chief Economist	Equifax	11/9/2016												
Rajesh DeFranco	Global Chief Economist	Arch Capital Services Inc.	11/8/2016	5.50%	5.30%	5.00%	4.00%	4.00%	4.00%	5.50%	11.09%	16.65%	21.31%	26.10%	31.21%
Rajesh Dhaswan	Director, Economic Forecasting Center	Georgia State University	11/1/2016	5.50%	5.00%	4.50%	5.00%	3.70%	2.20%	5.50%	10.35%	14.94%	20.25%	24.62%	28.98%
John Dolan	President	Second Order Strategies, Inc.	11/7/2016	3.35%	4.00%	2.00%	2.00%	2.00%	2.00%	3.35%	7.48%	9.63%	11.83%	14.06%	16.34%
David Downs	Real Estate Finance Professor	Virginia Commonwealth University	11/8/2016	4.35%	3.55%	3.25%	3.20%	3.00%	3.00%	4.35%	8.05%	11.57%	15.14%	18.59%	22.15%
Doug Duncan	Chief Economist	Fannie Mae	11/7/2016												
Neil Dutta	Head of U.S. Economics	Renaissance Macro Research	11/15/2016	4.00%	4.00%	3.50%	3.50%	3.00%	3.00%	4.00%	8.16%	11.95%	15.86%	19.34%	22.92%
James Egan	Vice President, US Housing and Residential Credit Strategy	Morgan Stanley	11/15/2016												
Michael Englund	Chief Economist	Action Economics LLC	11/7/2016	5.00%	4.70%	4.60%	4.50%	4.50%	4.50%	5.00%	9.93%	14.99%	20.17%	25.75%	31.22%
Craig Evers	Economist	Brean Howard	11/1/2016												
Matthew Fienup	Economist, Economic Forecasting and Research Center	California Lutheran Univ. Ctr for Economic Forecasting & Research	11/9/2016	5.10%	4.70%	4.40%	4.10%	3.90%	3.80%	5.10%	10.04%	14.88%	19.59%	24.26%	28.98%
Christy Fields	Director, Real Estate Consulting	Pension Consulting Alliance, Inc.	11/8/2016	4.00%	3.50%	3.00%	3.00%	2.50%	2.50%	4.00%	7.64%	10.87%	14.20%	17.05%	19.98%
Mark Fleming	Senior Vice President, Chief Economist	First American Financial Corporation	10/28/2016												
James Gaines	Chief Economist	Texas A&M University Real Estate Center	11/1/2016	5.00%	4.50%	3.00%	4.00%	4.00%	4.50%	5.00%	9.73%	13.02%	17.54%	22.24%	27.74%
Carlos Garriga	Senior Economist	Federal Reserve Bank of St. Louis	11/9/2016	4.20%	3.50%	3.00%	2.50%	2.00%	2.00%	4.20%	7.85%	11.08%	13.86%	16.14%	18.46%
Timothy Ghriskey	Chief Investment Officer	Solaris Asset Management LLC	11/14/2016	5.00%	3.50%	3.00%	3.00%	3.00%	3.00%	5.00%	9.19%	12.47%	15.84%	19.32%	22.90%
Richard Green	Director and Chair	USC Lusk Center for Real Estate	11/14/2016	5.00%	4.00%	3.00%	3.00%	3.00%	3.00%	5.00%	8.50%	11.99%	14.74%	17.48%	18.18%
Barbara Harbo	CEO	MBS Highway	10/28/2016	4.80%	4.10%	4.00%	4.00%	4.00%	4.00%	4.80%	10.14%	14.24%	18.57%	23.10%	28.57%
Maric Hall	Managing Director, Portfolio Manager	Prudential Real Estate Investors	10/31/2016	4.90%	4.00%	2.50%	2.50%	3.00%	3.00%	4.90%	9.10%	11.82%	14.62%	18.06%	21.60%
Bill Hampel	Chief Economist	Credit Union National Association	11/14/2016	6.00%	5.00%	4.00%	3.00%	3.00%	3.00%	6.00%	11.30%	15.75%	19.22%	22.80%	26.49%
Mark Hanson	Founder	Hanson Advisors	11/8/2016	2.90%	-7.50%	-9.30%	-7.10%	-6.20%	0.00%	2.90%	-4.82%	-13.67%	-19.80%	-24.77%	-24.77%
Jan Hatzius	Chief US Economist	Goldman Sachs	11/2/2016	2.60%	3.00%	2.70%	2.30%	1.80%	1.80%	2.60%	5.68%	8.53%	11.03%	13.03%	15.00%
Donald Hairin	Professor of Economics, Finance, and Public Policy	Ohio State University	10/31/2016	5.20%	5.10%	4.50%	4.10%	4.00%	4.00%	5.20%	10.57%	15.54%	20.28%	25.09%	30.09%
Selma Hepp	Chief Economist	Pacific Union	11/15/2016	4.00%	3.00%	3.00%	2.00%	2.00%	2.00%	4.00%	7.12%	10.33%	12.54%	14.79%	17.09%
Rajesh Hevan	Professor of Finance	University of Miami	10/28/2016	5.00%	5.00%	4.90%	4.00%	4.00%	4.00%	5.00%	10.35%	14.94%	20.25%	24.62%	28.98%
Raymond Hodgdon	CEO	Enlightened Economics	10/30/2016	3.00%	2.80%	2.60%	2.40%	2.20%	2.00%	3.00%	5.88%	8.64%	11.24%	13.69%	15.97%
Stuart Hoffman	Chief Economist	The PNC Financial Services Group	11/1/2016	4.33%	4.21%	3.50%	3.45%	3.37%	3.30%	4.33%	8.72%	12.53%	16.41%	20.33%	24.30%
Douglas Holtz-Eakin	President	American Action Forum	10/28/2016	5.00%	4.50%	3.50%	3.00%	3.00%	3.00%	5.00%	9.73%	13.57%	16.97%	20.48%	24.10%
Stan Humphries / Svenja Gudel	Chief Analytics Officer / Chief Economist	Zillow	11/15/2016	5.50%	3.80%	3.40%	2.80%	2.80%	2.80%	5.50%	9.51%	13.23%	16.40%	19.66%	23.01%
Brad Hunter	Chief Economist	HomeAdvisor	11/3/2016	4.30%	3.50%	2.40%	2.60%	3.10%	3.00%	4.30%	7.95%	10.54%	13.42%	16.93%	20.79%
Deniz Igan	Senior Economist	International Monetary Fund	11/8/2016												
Parul Jain	Chief Investment Strategist	MacroInt Analytics LLC	11/15/2016	3.50%	3.00%	3.00%	2.80%	2.50%	2.50%	3.50%	6.60%	9.80%	12.88%	15.70%	18.59%
Ken Johnson	Professor and Associate Dean	Florida Atlantic University College of Business	11/2/2016												
Thomas Julien	U.S. Economist	Natixis	10/28/2016	5.40%	4.90%	4.20%	3.70%	3.40%	3.20%	5.40%	10.56%	15.21%	19.47%	23.53%	27.49%
Nathaniel Karp	Chief U.S. Economist	BBVA Research	11/7/2016	5.30%	4.90%	4.10%	4.30%	3.00%	3.00%	5.30%	10.46%	14.99%	19.93%	23.53%	27.24%
Jim Kleckley	Director, Bureau of Business Research	East Carolina University	10/28/2016	5.52%	4.97%	4.97%	4.97%	4.97%	4.97%	5.52%	10.76%	16.27%	22.05%	28.11%	34.48%
Jack Kleinhenz	Chief Economist	Kleinhenz & Associates, Inc.	11/8/2016	4.20%	3.50%	3.30%	3.20%	3.20%	3.00%	4.20%	7.85%	11.41%	14.97%	18.65%	22.21%
Sibel Korkmaz	Economist	AIG Global Economics	11/9/2016	5.24%	4.99%	4.88%	4.46%	3.82%	3.65%	5.24%	10.49%	15.88%	21.05%	25.68%	30.26%
Adolfo Laurenti	Global Economist	Bank J. Safra Sarasin Ltd	10/28/2016	5.30%	4.40%	3.20%	2.50%	2.90%	3.20%	5.30%	9.93%	13.45%	16.29%	19.66%	23.49%
Rafael Linsman	Founder and CEO	Bank of America Fund	10/28/2016	5.00%	4.40%	4.00%	3.00%	4.00%	3.00%	5.00%	9.12%	12.45%	15.25%	18.26%	21.37%
Brendan Lowmyer	Principal, Macroeconomics and Housing	Forest Economic Advisors	11/7/2016	4.30%	2.60%	3.10%	3.20%	4.10%	4.10%	4.30%	7.01%	10.33%	13.86%	18.53%	23.39%
Stephan Malpezzi	Professor, James A. Graaskamp Center for Real Estate	University of Wisconsin School of Business	11/15/2016	5.00%	2.00%	0.00%	-2.00%	-2.00%	2.00%	5.00%	7.10%	7.10%	4.96%	2.86%	4.92%
Bruce McCain	Chief Investment Strategist	KeyBank	11/9/2016	4.25%	3.50%	3.00%	3.00%	3.00%	3.00%	4.25%	7.90%	11.14%	14.47%	17.90%	21.44%
James Meil	Principal, Industry Analysis	ACT Research	11/2/2016	4.50%	3.60%	3.20%	3.20%	3.00%	2.70%	4.50%	8.26%	11.73%	15.30%	18.76%	21.97%
Lynn Michaels	President	Strategic Economic Analysis	11/8/2016	4.50%	4.00%	3.50%	3.50%	3.00%	3.00%	4.50%	8.68%	12.48%	16.42%	19.91%	23.51%
George Mokranz	Director of Economics	Huntington National Bank	11/15/2016												
Michael Moran	Real Estate Investment Strategist	Dawra Capital Markets	11/3/2016	5.40%	3.50%	2.50%	2.00%	2.00%	2.00%	5.40%	9.09%	11.82%	14.05%	16.33%	18.60%
Glenn Mueller	Chief Economist	Divident Capital	11/10/2016	6.00%	6.00%	5.00%	4.00%	4.00%	4.00%	6.00%	9.20%	12.48%	14.73%	17.02%	19.36%
Joel Naroff	President	Naroff Economic Advisors Inc	11/10/2016	6.00%	4.00%	4.90%	3.50%	-1.50%	2.60%	6.00%	12.78%	18.31%	22.45%	26.13%	29.70%
Jim O'Sullivan	Chief U.S. Economist	High Frequency Economics	11/15/2016	5.40%	4.00%	4.00%	3.00%	2.00%	2.00%	5.40%	9.62%	14.00%	17.42%	19.77%	22.16%
Gary Painter	Director of Research, Lusk Center for Real Estate	University of Southern California	10/28/2016	4.30%	3.40%	3.20%	5.00%	7.00%	7.00%	4.30%	7.85%	11.30%	16.86%	25.04%	33.80%
Liang Peng	Associate Professor of Real Estate, Leeds School of Business	University of Colorado (Boulder)	10/31/2016	4.50%	4.00%	3.50%	3.00%	3.00%	3.00%	4.50%	8.68%	12.48%	15.86%	19.33%	22.91%
Michael Pentto	President	Pento Portfolio Strategies LLC	10/28/2016	4.30%	-1.30%	0.30%	1.10%	1.50%	1.50%	4.30%	2.94%	3.25%	4.93%	5.95%	7.54%
Lindsay Piegza	Chief Economist														