

US Equity Strategy

100 Ideas Levered to the Housing Recovery

Housing market fundamentals remain constructive with a pick-up in demand, tightening supply, high affordability, low household leverage, and easing credit standards. Taken together, we believe these are likely to be drivers of an outperformance of equities levered to the housing recovery. In this report, we identify 100 such companies with direct or indirect exposure to housing from a diverse list of industries — the mix ranges from the obvious Homebuilders and Building Products to derivative plays in Durables, Retail, and Financials, see Figure 3. **After more than six years into this recovery, we believe there are few opportunities in US equities that offer stronger growth and cheaper valuation than housing.**

Key variables for housing recovery — the job market continues to strengthen, consumer confidence remains elevated, level of interest rates remains relatively low and risk to housing from rising rates should remain contained over the coming quarters. We recognize housing is interest-sensitive and the Fed is about to embark on a tightening campaign. However, long rates which matter more for housing are already pricing in Fed rate hikes. Even if the Fed surprises by tightening faster than what the market anticipates, J.P. Morgan expects to see a curve flattening and conventional mortgage rates should not move nearly as much as the funds rate.

Historically, bear flatteners are not associated with negative performance for housing stocks. As shown in Figure 34, homebuilders have outperformed the market during bear flatteners. On the contrary, bear and bull steepeners carry worse implications for performance, underlining the importance of long rates for the housing market.

J.P. Morgan Economists expect residential investment growth of 8% this year and 7% in 2016. Despite the 63% increase in residential investment from \$366b at the bottom (3Q10) to \$595b, current activity remains depressed at 3% of GDP (vs. 4.7% avg since 1949). Outside of key macro level data suggesting significant residential investment growth, commodities linked to housing are rising and the recent search trends point to an improvement in homebuyer interest (see Figure 22). The following drivers bode well for a continued recovery and growth in residential investment:

- **Demand:** should firm on strong labor market trends (declining unemployment rate + expected rise in wages), high consumer confidence, stronger household formation, and low vacancy rates. Since the start of the recovery, the economy has created more than 11 million net jobs with the unemployment rate approaching 5%. This combined with near-peak consumer sentiment is encouraging household formation. Due to the severity of the last recession, we believe there is pent-up demand for housing, with household formation at a deficit of around 5 million, see Figure 20. Also, buying vs. renting is becoming increasingly more attractive with the median home price to rent ratio at the lowest level in 15 years, see Figure 32.
- **Supply:** tighter with new and existing home inventory sharply lower. The existing home supply declined from ~4 million units at peak to 2.3m recently, which is similar to levels seen prior to the housing boom. As for new home inventory, the supply is even tighter at 215k units compared to 570k at last peak and 300k prior to the last housing boom, see Figure 23. If adjusted for population growth, the current supply picture looks even more constructive.

See page 28 for analyst certification and important disclosures.

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- **Credit: household balance sheets at best level in more than a decade as lenders easing standards.** During this recovery, households have significantly delevered, with current household debt at the lowest level in more than 10 years and mortgage service ratio at an all-time low, see Figure 36. Also, a higher percentage of homebuyers are likely to qualify for a mortgage loan with more lenders easing rather than tightening credit standards. And for some, credit scores should be improving as foreclosure related hits on credit reports cycle through after 7 years on record.
- **Value: compared to most asset classes, relative valuation more attractive for housing.** Residential homes sell at a discount to equities, gold, and oil (i.e., it takes 137 units of S&P 500 index to purchase a median priced home in the US, which is a 48% discount to its long-term median of 260 units, see Figure 39). Even after the recent decline in commodities, Homes are a cheaper hard-asset alternative to Gold, see Figure 40.
- **Risk: rising home prices to household income ratio and higher rates a concern.** While the job market outlook has improved homebuyer sentiment, the tepid rise in household income (+5% since 2010) compared to a more significant rebound in home prices (up 34% from the low) is a risk to a more robust housing recovery, in our view. Consequentially, the new single-family home price to household income ratio has risen to near record (5.4 years vs. 4.0 median since 1966), see Figure 42.

Also, as the Fed begins to raise rates, this could be a further negative for affordability given that every 50bp increase in mortgage rates is equivalent to roughly 5% increase in home prices. However, we feel that the most likely scenario is a bear flattener under which the mid-to-long portion of the curve (which is more important for mortgage rates) is less affected.

Housing stocks enjoy stronger fundamentals with domestic exposure at a cheaper multiple than the market: growth at a reasonable price. After more than six years into this recovery, we believe there are few opportunities that offer stronger growth and cheaper valuation than housing. In fact, if housing stocks were a unique GICS sector, it would offer the strongest earnings growth and second cheapest valuation. Based on consensus estimates, housing stocks are expected to grow earnings by roughly 50% vs. 30% for S&P 1500 companies during 2015 through 2016. As for valuation, we believe the domestic linked housing sector does not deserve multiples inline with the cheapest Materials sector, which has meaningful exposure to China.

- **Improving sentiment implies that investors no longer view housing as toxic and there could be additional accumulation by institutional investors.** Whether you gauge the sentiment by the Street's analyst ratings or short interest, housing stocks have seen market participants slowly turn more constructive. Housing stocks have an elevated short interest as % of float (4.6% current vs. 17% at peak) compared to rest of the market at 3.6%, see Figure 10. The Street's sentiment has also been improving with the average stock rating now similar to the rest of the market, see Figure 11.
- **Higher revenue growth and margin expansion is expected to drive double-digit earnings growth.** Housing stocks on average offer stronger revenue growth between 5-6% in the coming quarter compared to low single-digit growth for S&P 500 (ex-energy). This combined with margin expansion is expected to drive double-digit earnings growth in the upcoming quarters.
- **Significant margin expansion:** the Street is expecting significant expansion for housing with net margins expected to increase from 6.4% (last four quarters) to 7.1% over the next four quarters (3Q15-2Q16), see Figure 50. Based on estimates, margin expansion is expected to be driven by declining commodity prices while SG&A expenses are expected to rise.
- **Shareholder yield now near 5%, higher than S&P 500.** Perhaps due to the uneven growth and highly cyclical nature of most companies levered to housing, the shareholder yield has been volatile. In the last twelve months, the total shareholder yield increased to 4.7%, which is higher than the S&P 500 at 4.1%, which is attractive for yield-seeking investors in a scarce yield environment.

J.P. Morgan US Housing Basket (JPAMHOUS <Index>): a preferred way to play the recovery in housing. The J.P. Morgan US Housing Basket is composed of a diversified portfolio of companies that have direct or indirect exposure to the US housing market and should benefit from the continued pick-up in residential investment. Basket constituents are screened for liquidity (trade at least \$10M ADV), and include direct beneficiaries of housing (e.g., Homebuilders, Building Products) as well as derivative industry plays (e.g., Durables, Retail, Financials). The basket contains 65 names, and the weights are optimized to replicate as closely as possible to an equal-weighted basket, subject to a maximum of 10% of ADV traded in any single name within a \$100M basket. The basket can be accessed on Bloomberg via ticker JPAMHOUS <Index>.

- **Basket Performance:** An examination of hypothetical performance shows the basket – JPAMHOUS <Index> – would have returned +17.7% on an annualized basis over the last three years, narrowly outperforming the S&P Homebuilders Select Industry Index (SPSIHOTR Index), which returned +17.3% over the same period. The correlation of the basket to the SPSIHOTR Index is 93%, and the recent 6M realized volatility of the basket is 11.9% (the realized volatility of the SPSIHOTR Index over the same time frame is more than 2 vol points higher at 14.1%).

Equities Levered to a Recovery in Residential Investment

Housing market fundamentals remain constructive with a pick-up in demand, tightening supply, high affordability, low household leverage, and easing credit standards. Taken together, we believe these are likely to be drivers of an outperformance of equities levered to the housing recovery. In this report, we identify 100 such companies with direct or indirect exposure to housing from a diverse list of industries — the mix ranges from the obvious Homebuilders and Building Products to derivative plays in Durables, Retail, and Financials, see Figure 3. **We recommend investors gain exposure to housing stocks for their growth at a cheaper valuation.**

Figure 1: Residential Construction as % of GDP



Source: J.P. Morgan and Bloomberg

Figure 2: Residential Construction



Source: J.P. Morgan and Bloomberg

Figure 3: Industries Tied to Housing

See Figure 12 through Figure 14 for a full list of 100 ideas tied to the housing recovery

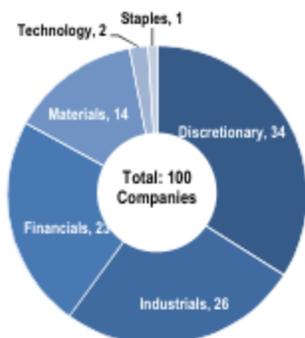


Source: J.P. Morgan

A diverse list of industries tied to a recovery in housing. In this report, we identify approximately 100 companies that have direct or indirect exposure to US housing and should benefit from the continued pick-up in residential investment (see Figure 12 - Figure 14 for a full list). As shown below, the housing plays range from direct beneficiaries of housing (such as Homebuilders, Building Products, and Land Plays) to derivative industry plays (e.g., Durables, Retail, Financials, etc).

The housing plays that we identified have a combined market cap of \$592b and represent 3% of total market. As shown in Figure 5, these companies offer significant sector and industry exposure.

Figure 4: Sector Breakdown: Housing Composite
 100 companies, equal-weighted



Source: J.P. Morgan

Figure 5: Industry Breakdown: Housing Composite
 Median

Industry	# Companies	Mkt Cap USD m	P/E			10yr	Performance		
			'16E	LTM	Median		YTD	1Yr	3Yr
Household Durables	25	1,638	11.1x	17.2x	13.7x	+1%	+15%	+53%	
Building Products	17	1,993	18.7x	26.0x	24.0x	+13%	+31%	+128%	
Chemicals	8	5,022	14.7x	18.8x	16.0x	-8%	-8%	+61%	
Real Estate Investment Trusts	8	1,199	30.2x	27.0x	22.3x	-5%	-5%	+8%	
Specialty Retail	7	7,828	17.4x	24.5x	19.4x	+2%	+22%	+105%	
Machinery	5	4,138	16.3x	18.5x	18.4x	-10%	-8%	+43%	
Insurance	5	2,599	12.7x	15.3x	11.9x	+8%	+26%	+102%	
Real Estate Management & Devel	5	508	23.5x	31.3x	93.5x	-4%	-13%	-5%	
Trusts & Mortgage Finance	4	2,189	10.3x	10.5x	6.9x	+21%	+35%	+284%	
Construction Materials	3	4,136	17.3x	47.3x	30.8x	+40%	+37%	+118%	
Paper & Forest Products	3	1,236	23.3x	43.7x	14.2x	-6%	+11%	+21%	
Trading Companies & Distribute	2	3,146	21.7x	29.7x	21.4x	+24%	+32%	+59%	
Banks	1	8,767	16.9x	25.0x	13.2x	+19%	+35%	+92%	
Aerospace & Defense	1	561	-	18.0x	13.5x	+46%	+30%	+54%	
Electrical Equipment	1	780	11.8x	9.4x	18.2x	+7%	-25%	-43%	
Distributors	1	3,058	21.8x	28.2x	21.3x	+10%	+26%	+91%	
Internet & Catalog Retail	1	3,314	15.8x	18.5x	17.7x	-5%	+22%	+43%	
Household Products	1	557	13.9x	18.7x	14.3x	+19%	+25%	+8%	
Internet Software & Services	1	4,320	80.7x	-	315.4x	-31%	-45%	+89%	
Software	1	2,782	18.0x	32.1x	17.7x	+24%	+61%	+102%	

Source: J.P. Morgan, Bloomberg

A lost decade for housing equities. Over the last ten years, housing stocks have sharply underperformed the market due to poor demand (low household formation) and excess supply (foreclosure homes). As shown in Figure 6 below, the peak to trough decline for housing stocks was -89% (similar to Nasdaq composite decline).

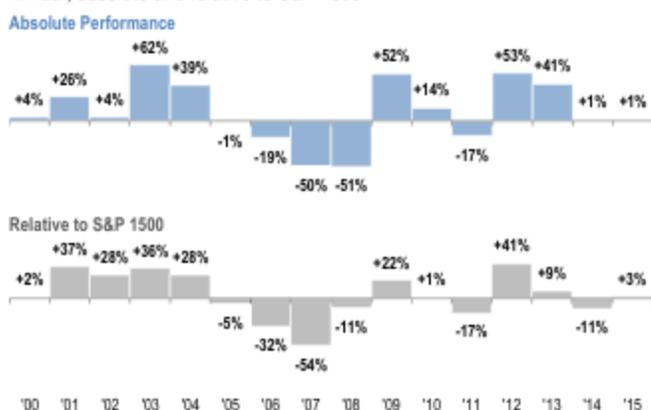
In absolute terms the recovery in housing stocks has been strong (+374% from the bottom vs. +218% for S&P 1500), but it is still 47% below its all-time high in 2005. *We believe housing stocks are likely to outperform the market over the next several quarters due to stronger relative growth and cheaper valuation,* as discussed in the next section.

Figure 6: Performance: Housing Composite vs. S&P 1500
 Indexed to 100 on 1/1/2000, equal-weighted



Source: J.P. Morgan, Bloomberg

Figure 7: Performance: Annual Performance
 Annual, absolute and relative to S&P 1500



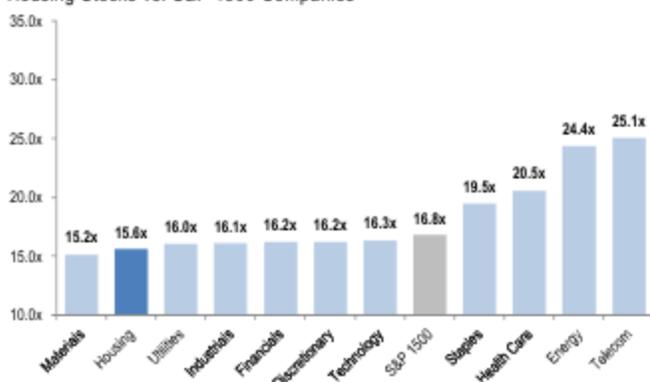
Source: J.P. Morgan, Bloomberg

Growth at a Reasonable Price? After more than six years into this recovery, we believe there are few opportunities that offer stronger growth and cheaper valuation than housing. After multiple years of underperformance, housing stocks trade at a significant discount to the market even with stronger expected growth than rest of the market.

- **If housing were a unique GICS sector, it would offer the strongest earnings growth and second cheapest valuation.** Based on consensus estimates, Housing stocks are expected to grow earnings by roughly 50% over a two-year period — this is stronger than the organic growth sectors (Healthcare and Technology) and the lower oil price beneficiary (Discretionary). As for valuation, the multiples are as depressed as Materials, which is tied to the slowdown in China while housing is largely a domestic play.

Figure 8: Valuation: P/E (2016)

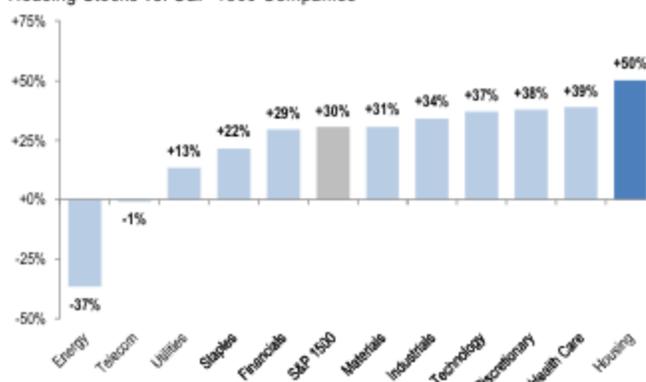
Housing Stocks vs. S&P 1500 Companies



Source: J.P. Morgan, Bloomberg

Figure 9: Expected Earnings Growth: 2014-2016

Housing Stocks vs. S&P 1500 Companies



Source: J.P. Morgan, Bloomberg

Improving sentiment implies the sector is no longer toxic. Whether you gauge the sentiment by the Street's analyst ratings or short interest, Housing stocks have seen improvement in sentiment by market participants. Housing stocks have higher short interest as % of float (4.6% current vs. 10-Yr median of 5.0%) compared to rest of the market (3.6% vs. median of 3.4%), see Figure 10. The Street's sentiment has also been improving with average stock rating now similar to rest of the market (Bloomberg Mean Rating: 1= Strong Buy; 4= Sell). **This implies that the sector is slowly normalizing and less likely to be viewed as toxic by investors and could see continued accumulation.**

Figure 10: Investor Sentiment: Short Interest as % of Float

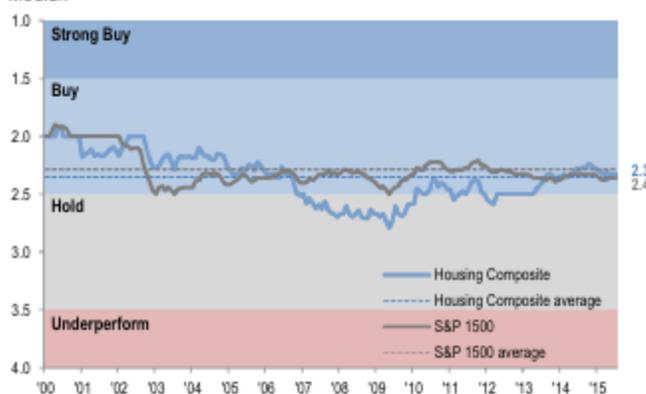
Median



Source: J.P. Morgan, Bloomberg

Figure 11: Street's Sentiment: Average Stock Rating

Median



Source: J.P. Morgan, Bloomberg

Equity Plays Levered to Housing Theme: in the tables below, we identified housing-related stocks levered to a pick-up in residential investment.

Figure 12: 100 Ideas Levered to Housing Recovery (continues to next page)

Price as of as of 8/12/2015

GICS Sector/Industry	Company	JPM Housing Classification	Ticker	Company Stats				Price Perf (%)		JPM Coverage		Technicals				IBES Estimates		Valuation				
				Current Price	52-Wk High/Low	Market Cap	Avg Vol (mm)	12-mos Change	YTD	Rating	Analyst	Target Price	Upside	Short as % of Out	RSI 30day	1 = Sell 5 = Buy	Avg Rating	Repurchase % Mkt Cap	Sales Growth NTM	EPS Growth NTM	EV/ EBITDA LTM	P/E NTM
Sector: Materials	Sector: Materials			—	—	\$3,178	\$30.0	9%	0%	—	—	10%	3%	49	3.8	1.4%	5%	11%	12.3x	17.2x	2.4x	5%
Chemicals	Industry: Chemicals			—	—	\$3,117	\$19.3	-3%	-7%	—	—	10%	2%	44	3.9	1.6%	4%	15%	12.6x	15.4x	3.3x	4%
1	Sherwin-Williams Company	Building Materials	SHW	\$273.17	294/202	\$25,262	\$176.9	31%	3%	N	Jeffrey J. Zekauskas	-1%	2%	46	3.9	5.9%	7%	25%	17.3x	22.3x	33.4x	4%
2	Westlake Chemical Corporation	Building Materials	WLK	\$62.90	98/53	\$8,168	\$51.9	-29%	1%	OW	Jeffrey J. Zekauskas	26%	1%	43	3.8	1.4%	0%	-10%	6.6x	12.4x	2.6x	4%
3	Valpar Corporation	Building Materials	VAL	\$80.36	91/72	\$6,482	\$40.5	7%	-7%	N	Jeffrey J. Zekauskas	10%	5%	45	3.6	5.4%	6%	13%	11.3x	15.6x	7.5x	6%
4	RPM International Inc.	Building Materials	RPM	\$46.03	52/40	\$6,196	\$35.3	5%	-8%	N	Jeffrey J. Zekauskas	-4%	3%	44	4.1	0.6%	9%	10%	13.2x	17.1x	4.8x	6%
5	Scotts Miracle-Gro Company Class	Building Materials	SMG	\$64.84	69/53	\$4,009	\$18.4	23%	5%	OW	Jeffrey J. Zekauskas	8%	2%	61	3.8	—	4%	12%	11.5x	16.9x	5.8x	—
6	PolyOne Corporation	Building Materials	POL	\$33.54	41/32	\$2,989	\$22.3	-11%	-11%	—	—	—	5%	39	4.4	5.2%	1%	18%	14.2x	15.1x	3.7x	3%
7	Axiall Corporation	Building Materials	AXLL	\$28.03	51/28	\$2,007	\$25.7	-34%	-33%	N	Jeffrey J. Zekauskas	0%	3%	35	3.8	—	—	—	10.4x	14.8x	0.8x	5%
8	Kronos Worldwide, Inc.	Building Materials	KRO	\$7.95	16/8	\$907	\$1.9	-47%	-40%	—	—	—	3%	26	3.0	—	3%	72%	10.2x	8.7x	1.3x	—
Construction Materials	Industry: Construction Materials			—	—	\$7,606	\$63.0	45%	43%	—	—	—	2%	60	4.2	0.4%	18%	139%	15.4x	23.3x	3.5x	2%
9	Martin Marietta Materials, Inc.	Building Materials	MLM	\$172.61	173/103	\$11,457	\$143.2	38%	56%	—	—	—	8%	66	3.9	0.9%	19%	81%	16.6x	25.3x	2.7x	3%
10	Eagle Materials Inc.	Building Materials	EXP	\$83.83	109/69	\$4,154	\$65.9	-9%	8%	—	—	—	2%	55	4.1	—	18%	33%	14.3x	18.1x	4.0x	—
11	Headwaters Incorporated	Building Materials	HW	\$21.19	22/11	\$1,548	\$12.0	96%	40%	—	—	—	2%	61	4.4	—	11%	242%	12.3x	21.4x	14.1x	—
Paper & Forest Products	Industry: Paper & Forest Products			—	—	\$1,110	\$8.4	0%	-14%	—	—	—	2%	44	3.6	0.4%	1%	16%	9.2x	12.9x	2.4x	7%
12	Louisiana-Pacific Corporation	Building Materials	LPX	\$16.39	19/12	\$2,317	\$41.7	20%	-2%	—	—	—	16%	50	2.7	0.0%	14%	- b +	NA	63.6x	2.2x	-4%
13	Boise Cascade Co.	Building Materials	BCC	\$31.35	44/28	\$1,260	\$13.0	13%	-14%	—	—	—	3%	41	4.7	0.5%	8%	7%	8.2x	15.3x	2.4x	1%
14	Deltic Timber Corporation	Timber	DEL	\$64.33	70/60	\$617	\$2.3	6%	-5%	—	—	—	3%	46	—	—	—	—	24.9x	NA	3.0x	—
Sector: Industrials	Sector: Industrials			—	—	\$2,749	\$22.6	5%	-4%	—	—	8%	3%	48	3.8	2.3%	4%	11%	11.1x	16.4x	2.7x	6%
Aerospace & Defense	Industry: Aerospace & Defense			—	—	\$4,162	\$35.8	14%	-3%	—	—	13%	3%	48	4.0	3.8%	3%	6%	10.8x	16.1x	2.6x	7%
15	National Prestb Industries, Inc.	Household Durables	NPK	\$80.08	82/54	\$557	\$1.8	25%	39%	—	—	—	8%	61	—	—	—	—	5.5x	NA	1.8x	—
Building Products	Industry: Building Products			—	—	\$1,411	\$7.7	42%	20%	—	—	5%	3%	57	4.0	2.0%	12%	31%	13.3x	20.2x	4.0x	4%
16	Masco Corporation	Building Products	MAS	\$27.09	27/17	\$9,321	\$106.8	48%	22%	OW	Michael Rehaut, CFA	14%	3%	65	3.9	3.5%	-9%	19%	11.2x	20.2x	NA	6%
17	Fortune Brands Home & Security	Building Products	FBHS	\$49.86	50/37	\$7,947	\$64.2	31%	10%	N	Michael Rehaut, CFA	4%	4%	61	3.9	2.3%	17%	27%	16.6x	21.2x	3.4x	3%
18	Allegron PLC	Building Electrical & Mechanical	ALLE	\$63.07	66/44	\$6,051	\$40.9	23%	14%	—	—	—	1%	56	4.2	0.8%	4%	20%	17.8x	19.7x	127.9x	4%
19	Lennox International Inc.	Building Electrical & Mechanical	LII	\$122.46	121/73	\$5,468	\$54.6	42%	28%	OW	C. Stephen Tusa, Jr CFA	-17%	4%	67	4.0	9.8%	6%	31%	14.6x	20.0x	98.1x	4%
20	A. O. Smith Corporation	Building Electrical & Mechanical	AOS	\$68.89	77/45	\$5,301	\$36.5	50%	24%	—	—	—	2%	50	4.0	1.7%	12%	26%	15.7x	20.4x	4.3x	4%
21	Owens Corning	Building Products	OC	\$45.42	47/28	\$5,294	\$71.4	32%	26%	N	Michael Rehaut, CFA	6%	3%	58	3.7	0.9%	6%	28%	9.6x	17.0x	1.4x	3%
22	USG Corporation	Building Products	USG	\$31.70	32/25	\$4,633	\$51.3	20%	14%	N	Michael Rehaut, CFA	3%	8%	66	3.4	0.2%	8%	29%	18.0x	16.3x	9.7x	5%
23	Armstrong World Industries, Inc.	Building Products	AIW	\$57.54	60/44	\$3,179	\$39.0	18%	12%	N	Michael Rehaut, CFA	8%	8%	56	3.8	0.0%	2%	8%	11.5x	22.2x	4.3x	1%
24	Masonite International Corp.	Building Products	DOOR	\$65.38	73/52	\$2,025	\$15.0	36%	9%	—	—	—	6%	46	4.3	—	—	—	19.3x	31.1x	3.0x	—
25	CaesarStone SdclYamLtd.	Building Products	CSTE	\$52.46	72/45	\$1,893	\$11.7	24%	-10%	OW	Michael Rehaut, CFA	30%	3%	38	4.3	0.0%	18%	15%	18.4x	18.5x	5.2x	0%
26	Simpson Manufacturing Co., Inc.	Building Products	SSD	\$35.85	38/29	\$1,774	\$6.9	19%	4%	—	—	—	3%	57	3.3	—	7%	18%	11.2x	24.1x	2.0x	—
27	Builders FirstSource, Inc.	Building Products	BLDR	\$14.18	15/5	\$1,572	\$8.2	144%	111%	—	—	—	5%	59	4.0	0.1%	12%	139%	29.3x	29.6x	29.6x	0%
28	Trex Company, Inc.	Building Products	TREX	\$41.32	58/31	\$1,336	\$12.8	48%	-2%	—	—	—	9%	41	3.4	0.2%	12%	21%	16.9x	21.5x	6.8x	4%
29	Universal Forest Products, Inc.	Building Products	UFPI	\$62.64	64/41	\$1,267	\$5.7	44%	18%	—	—	—	3%	63	4.3	0.4%	10%	22%	8.1x	16.0x	1.8x	5%
30	American Woodmark Corporation	Building Products	AMWD	\$64.17	68/30	\$1,039	\$8.7	117%	58%	—	—	—	3%	64	4.2	0.5%	15%	32%	9.4x	23.0x	4.5x	3%
31	Ply Gem Holdings, Inc.	Building Products	PGEM	\$14.00	15/9	\$957	\$2.8	69%	1%	N	Michael Rehaut, CFA	7%	3%	58	4.3	0.0%	16%	915%	13.3x	15.3x	NA	4%
32	Griffon Corporation	Building Products	GFF	\$17.22	18/11	\$864	\$2.9	61%	30%	—	—	—	7%	58	3.5	8.7%	2%	48%	9.7x	18.5x	1.9x	4%
Electrical Equipment	Industry: Electrical Equipment			—	—	\$2,878	\$19.3	-11%	-8%	—	—	3%	3%	42	3.8	2.2%	0%	11%	13.9x	15.7x	2.8x	7%
33	General Cable Corporation	Building Electrical & Mechanical	GCC	\$16.18	22/11	\$789	\$13.0	-27%	8%	—	—	—	8%	42	3.8	—	—	—	25.2x	12.9x	2.3x	—

Source: J.P. Morgan, Bloomberg

Figure 13: 100 Ideas Levered to Housing Recovery (continues to next page)

Price as of as of 8/12/2015

GICS Sector/Industry	Company	JPM Housing Classification	Ticker	Company Stats				Price Perf (%)		JPM Coverage	Technicals				IBES Estimates		Valuation							
				Current Price	52-Wk High/Low	Market Cap	Avg Vol (mm)	12-mos Change	YTD		Rating	Analyst	Target Price	Upside	Short as % of Out	Avg Rating	RSI 30Day	1 = Sell	5 = Buy	Stk LTM	Repurchase % Mkt Cap	Sales Growth	EPS Growth	EBITDA LTM
Sector: Materials	Sector: Materials			—	—	\$3,178	\$30.0	9%	0%	—	—	—	—	10%	3%	49	3.8	1.4%	5%	11%	12.3x	17.2x	2.4x	5%
Machinery	Industry: Machinery			—	—	\$3,008	\$22.6	-4%	-10%	—	—	—	—	0%	4%	45	3.7	3.7%	1%	7%	11.4x	16.1x	2.7x	6%
34	Stanley Black & Decker, Inc.	Building Electrical & Mechanical	SWK	\$104.69	111/79	\$16,144	\$119.6	20%	9%	N	Michael Rehaut, CFA	10%	3%	50	3.6	2.8%	2%	10%	11.3x	16.6x	2.8x	7%		
35	Nordson Corporation	Building Electrical & Mechanical	NDSN	\$74.36	84/67	\$4,520	\$17.1	-1%	-5%				3%	42	3.5	5.5%	7%	15%	13.5x	16.8x	5.5x	6%		
36	Graco Inc.	Building Electrical & Mechanical	GGG	\$72.27	82/66	\$4,139	\$18.9	-3%	-11%				4%	52	3.4	5.6%	7%	2%	13.2x	20.3x	5.8x	9%		
37	Wats Water Technologies, Inc. Clk	Building Electrical & Mechanical	WTS	\$57.11	66/48	\$1,586	\$11.7	-4%	-11%				6%	58	3.6	2.5%	-4%	8%	14.3x	21.7x	2.2x	5%		
38	Briggs & Stratton Corporation	Building Electrical & Mechanical	BGG	\$18.55	21/17	\$818	\$7.4	0%	-10%				19%	44	3.5	6.4%	5%	16%	11.9x	13.1x	1.3x	3%		
	Trading Companies & Distributors	Industry: Trading Companies & Distributors		—	—	\$2,147	\$25.6	-18%	-16%	—	—	—	—	-9%	11%	43	3.5	2.6%	3%	7%	10.4x	14.8x	2.1x	6%
39	Watco, Inc.	Building Electrical & Mechanical	WSO	\$129.50	131/84	\$3,884	\$28.2	43%	20%	N	C. Stephen Tusa, Jr CFA	-16%	2%	57	3.5	—	7%	17%	14.5x	23.2x	4.9x	—		
40	Beacon Roofing Supply, Inc.	Building Products	BECN	\$35.77	36/23	\$1,772	\$17.8	29%	28%	N	Michael Rehaut, CFA	2%	5%	64	3.7	0.0%	8%	51%	14.3x	21.5x	2.1x	4%		
	Sector: Consumer Discretionary	Sector: Consumer Discretionary		—	—	\$2,952	\$39.7	13%	1%	—	—	—	—	13%	5%	46	3.8	1.9%	7%	17%	11.2x	16.6x	3.0x	5%
	Household Durables	Industry: Household Durables		—	—	\$3,738	\$45.4	20%	12%	—	—	—	—	3%	5%	52	3.7	1.1%	12%	23%	13.3x	14.9x	2.4x	6%
41	Mohawk Industries, Inc.	Building Products	MHK	\$205.30	208/120	\$15,146	\$138.5	64%	32%	OW	Michael Rehaut, CFA	17%	2%	60	4.2	0.0%	12%	24%	16.4x	18.2x	3.3x	2%		
42	Whirlpool Corporation	Household Durables	WHR	\$172.79	217/140	\$13,446	\$163.7	20%	-11%	N	Michael Rehaut, CFA	10%	2%	45	4.0	0.6%	6%	26%	10.1x	12.0x	2.7x	4%		
43	D.R. Horton, Inc.	Homebuilder	DHI	\$29.96	30/19	\$10,776	\$160.8	42%	16%	N	Michael Rehaut, CFA	-7%	4%	59	3.8	0.0%	19%	25%	11.9x	13.0x	1.9x	7%		
44	Lennar Corporation Class A	Homebuilder	LEN	\$51.73	54/36	\$8,949	\$168.0	42%	15%	OW	Michael Rehaut, CFA	4%	13%	53	3.7	0.2%	23%	17%	13.5x	14.1x	2.1x	7%		
45	PulteGroup, Inc.	Homebuilder	PHM	\$20.86	23/17	\$7,250	\$117.3	16%	-4%	UW	Michael Rehaut, CFA	-9%	4%	53	3.3	6.5%	11%	7%	10.3x	14.1x	1.6x	11%		
46	Toll Brothers, Inc.	Homebuilder	TOL	\$39.22	40/29	\$6,835	\$95.3	19%	13%	UW	Michael Rehaut, CFA	-11%	3%	54	3.4	1.4%	20%	19%	18.8x	15.1x	1.7x	6%		
47	Leggett & Platt, Incorporated	Building Products	LEG	\$47.73	51/33	\$6,525	\$48.8	45%	12%				5%	47	3.0	2.3%	6%	16%	15.1x	21.1x	5.9x	4%		
48	NVR, Inc.	Homebuilder	NVR	\$1,511.92	1523/1051	\$6,143	\$42.5	34%	19%	N	Michael Rehaut, CFA	-11%	6%	67	3.0	3.6%	20%	35%	10.1x	15.0x	4.8x	5%		
49	Standard Pacific Corp.	Homebuilder	SPF	\$8.80	9/7	\$2,426	\$28.1	16%	20%	NR	Michael Rehaut, CFA		7%	51	3.2	2.4%	28%	35%	13.1x	12.3x	1.4x	13%		
50	TRI Pointe Group Inc	Homebuilder	TPH	\$14.49	17/13	\$2,397	\$25.0	10%	-3%				8%	49	4.5	—	38%	78%	24.1x	10.7x	1.6x	—		
51	Ryland Group, Inc.	Homebuilder	RYL	\$44.60	50/30	\$2,084	\$40.2	39%	15%	NR	Michael Rehaut, CFA		13%	49	3.7	1.4%	17%	18%	10.2x	11.4x	1.8x	14%		
52	Meritage Homes Corporation	Homebuilder	MTH	\$42.38	50/32	\$1,717	\$23.0	13%	20%	UW	Michael Rehaut, CFA	1%	12%	44	3.0	0.0%	24%	32%	14.0x	10.4x	1.5x	9%		
53	M.D.C. Holdings, Inc.	Homebuilder	MDC	\$29.52	31/24	\$1,441	\$23.3	9%	11%	UW	Michael Rehaut, CFA	-24%	13%	52	3.5	0.0%	28%	72%	20.7x	14.3x	1.2x	8%		
54	KB Home	Homebuilder	KBH	\$15.26	18/12	\$1,413	\$60.4	-6%	-7%	N	Michael Rehaut, CFA	-2%	15%	48	3.0	0.1%	34%	71%	35.2x	12.1x	0.8x	10%		
55	LaZBoy Incorporated	Retail	LZB	\$25.09	28/19	\$1,275	\$8.1	19%	-7%				3%	44	4.8	4.1%	9%	23%	10.4x	16.0x	2.4x	2%		
56	Ethan Allen Interiors Inc.	Retail	ETH	\$30.45	33/23	\$890	\$6.6	34%	-1%				17%	61	3.4	1.9%	6%	25%	8.8x	17.1x	2.4x	—		
57	William Lyon Homes Class A	Homebuilder	WLH	\$24.94	27/17	\$693	\$7.7	2%	24%	OW	Michael Rehaut, CFA	0%	20%	55	4.0	—	80%	121%	24.5x	9.5x	1.3x	—		
58	Taylor Morrison Home Corp. Clas	Homebuilder	TMHC	\$20.01	21/15	\$660	\$7.5	12%	6%	OW	Michael Rehaut, CFA	10%	5%	51	4.0	—	17%	-6%	16.4x	10.4x	0.4x	—		
59	WCI Communities, Inc.	Homebuilder	WCIC	\$24.21	26/17	\$637	\$3.1	42%	25%	N	Michael Rehaut, CFA	-3%	2%	54	3.9	0.0%	36%	30%	14.6x	15.4x	1.4x	9%		
60	Mil Homes, Inc.	Homebuilder	MHO	\$24.84	26/19	\$609	\$5.0	21%	8%	N	Michael Rehaut, CFA	-1%	8%	53	3.4	0.0%	23%	47%	11.5x	11.0x	1.2x	12%		
61	Beazer Homes USA, Inc.	Homebuilder	BZH	\$16.79	21/14	\$557	\$9.8	11%	-12%	N	Michael Rehaut, CFA	-5%	9%	41	3.8	—	27%	136%	38.8x	9.9x	1.7x	—		
62	LGI Homes, Inc.	Homebuilder	LGIH	\$24.87	25/12	\$486	\$4.1	34%	64%	OW	Michael Rehaut, CFA	5%	12%	70	4.8	—	43%	61%	10.9x	9.3x	2.4x	—		
63	Century Communities, Inc.	Homebuilder	CCS	\$20.99	22/14	\$449	\$2.5	10%	22%	N	Michael Rehaut, CFA	-5%	3%	56	3.8	—	90%	94%	NA	8.4x	1.2x	—		
64	New Home Co., Inc.	Homebuilder	NVHM	\$13.96	18/13	\$230	\$0.6	7%	-4%	N	Michael Rehaut, CFA	0%	1%	37	3.2	0.0%	104%	229%	99.3x	7.4x	1.5x	1%		
65	Hovnanian Enterprises, Inc. Class	Homebuilder	HOV	\$1.54	4/1	\$217	\$3.7	-59%	-60%	N	Michael Rehaut, CFA		15%	31	2.7	0.0%	19%	81%	28.3x	7.8x	NA	17%		
	Distributors	Industry: Distributors		—	—	\$6,312	\$34.0	13%	1%	—	—	—	—	14%	3%	49	3.8	1.5%	6%	16%	12.2x	18.9x	3.7x	5%
66	Pool Corporation	Retail	POOL	\$70.45	73/52	\$3,035	\$14.7	29%	11%				3%	53	3.8	3.6%	8%	15%	15.9x	22.9x	11.8x	4%		
	Internet & Catalog Retail	Industry: Internet & Catalog Retail		—	—	\$6,581	\$65.7	27%	17%	—	—	—	—	10%	9%	60	4.2	0.3%	17%	19%	15.7x	26.4x	11.0x	4%
67	HSN, Inc.	Retail	HSNI	\$62.98	80/58	\$3,358	\$18.6	14%	-16%				4%	38	4.5	0.7%	6%	12%	12.4x	16.5x	29.3x	6%		

Source: J.P. Morgan, Bloomberg

Figure 14: 100 Ideas Levered to Housing Recovery

Price as of as of 8/12/2015

GICS Sector/Industry	Company	JPM Housing Classification	Ticker	Company Stats			Price Perf (%)		JPM Coverage		Technicals				IBES Estimates		Valuation					
				Current Price	52-Wk High/Low	Avg Market Cap	12-mos Change	YTD	Rating	Analyst	Target Price	Short as % of Out	RSI 30Day	Avg Rating 1 = Sell 5 = Buy	Repurchase % Mkt Cap	Sales Growth	EPS Growth	EV/EBITDA LTM	P/E NTM	P/B P/B	FCF Yield	
Specialty Retail	Industry: Specialty Retail			—	—	\$2,231	\$32.1	13%	-5%	—	—	12%	7%	45	3.9	2.2%	6%	15%	9.6x	15.8x	3.0x	5%
68	Home Depot, Inc.	Retail	HD	\$117.69	119/83	\$152,876	\$642.5	46%	12%	OW	Christopher Horvers, CFA	7%	1%	53	4.2	4.5%	6%	19%	12.4x	20.6x	9.6x	5%
69	Lowe's Companies, Inc.	Retail	LOW	\$66.97	78/49	\$64,747	\$357.5	45%	1%	OW	Christopher Horvers, CFA	22%	1%	51	4.4	6.3%	6%	31%	11.7x	18.8x	6.9x	5%
70	Bed Bath & Beyond Inc.	Retail	BBBY	\$63.91	80/61	\$10,827	\$145.9	1%	-16%	N	Christopher Horvers, CFA	20%	9%	37	3.2	21.8%	4%	6%	7.3x	11.9x	4.2x	8%
71	Williams-Sonoma, Inc.	Retail	WSM	\$86.53	87/62	\$7,880	\$81.0	28%	14%	OW	Christopher Horvers, CFA	19%	5%	60	4.0	2.8%	10%	16%	10.3x	22.9x	6.6x	4%
72	Restoration Hardware Holdings, I	Retail	RH	\$99.40	106/70	\$3,984	\$85.2	22%	4%				23%	53	4.3	0.0%	25%	48%	17.6x	27.8x	5.5x	1%
73	Aaron's, Inc.	Retail	AAN	\$37.15	39/23	\$2,704	\$23.6	41%	22%				5%	56	4.3	—	12%	19%	10.0x	14.7x	2.1x	—
74	Haverly Furniture Companies, Inc	Retail	HVT	\$22.45	26/20	\$459	\$2.0	0%	1%				2%	50	5.0	0.6%	7%	15%	8.3x	15.3x	1.7x	6%
Sector: Consumer Staples	Sector: Consumer Staples			—	—	\$11,692	\$68.6	17%	9%	—	—	7%	3%	54	3.6	1.2%	3%	9%	13.7x	19.7x	3.9x	4%
Household Products	Industry: Household Products			—	—	\$13,566	\$81.8	21%	5%	—	—	11%	3%	59	3.5	2.7%	1%	6%	15.5x	22.5x	7.1x	4%
75	Central Garden & Pet Company C	Retail	CENTA	\$11.39	12/7	\$411	\$1.8	21%	19%				3%	57	3.7	—	—	—	7.0x	NA	1.1x	—
Sector: Financials	Sector: Financials			—	—	\$3,484	\$23.4	11%	2%	—	—	9%	3%	51	3.6	0.5%	7%	9%	17.2x	16.3x	1.6x	8%
Banks	Industry: Banks			—	—	\$2,554	\$13.2	15%	6%	—	—	15%	3%	51	3.5	0.2%	8%	12%	19.3x	14.8x	1.5x	8%
76	First Republic Bank	Regional Banks	FRC	\$62.90	65/45	\$8,817	\$90.1	37%	23%	OW	Steven Alexopoulos, CFA	19%	2%	54	3.7	0.0%	17%	14%	NA	17.5x	2.1x	6%
Thrifts & Mortgage Finance	Industry: Thrifts & Mortgage Finance			—	—	\$1,260	\$6.0	18%	6%	—	—	-9%	5%	52	3.4	0.2%	6%	3%	24.5x	17.6x	1.3x	7%
77	Radian Group Inc.	Insurance	RDN	\$18.34	19/13	\$3,825	\$46.4	45%	10%				11%	51	4.4	5.3%	-3%	-49%	NA	11.3x	1.6x	15%
78	MGIC Investment Corporation	Insurance	MTG	\$10.82	12/7	\$3,705	\$52.6	48%	17%				14%	49	3.9	0.0%	6%	6%	NA	11.2x	3.0x	14%
79	Walker & Dunlop, Inc.	Financial Services	WD	\$24.02	28/13	\$743	\$5.9	78%	39%				2%	49	3.4	6.7%	7%	3%	9.2x	10.1x	1.6x	9%
80	Homestreet, Inc.	Insurance	HMST	\$22.05	24/16	\$494	\$2.5	28%	29%				5%	49	4.7	—	25%	41%	NA	8.4x	1.1x	—
Insurance	Industry: Insurance			—	—	\$4,867	\$28.9	26%	8%	—	—	4%	2%	56	3.7	4.2%	4%	4%	13.1x	13.1x	1.3x	12%
81	First American Financial Corporal	Insurance	FAF	\$40.36	42/26	\$4,416	\$30.2	50%	20%				6%	61	3.5	0.0%	5%	11%	NA	14.4x	1.7x	18%
82	Old Republic International Corporal	Insurance	ORI	\$16.60	17/13	\$4,346	\$21.0	16%	14%				1%	60	4.3	—	1%	3%	NA	14.6x	1.1x	—
83	Genworth Financial, Inc. Class A	Insurance	GNW	\$5.27	14/5	\$2,606	\$41.0	-60%	-38%	N	Jimmy S. Bhullar, CFA	71%	3%	32	3.7	0.0%	-1%	-b +	NA	4.9x	0.2x	-54%
84	Stewart Information Services Corp	Insurance	STC	\$40.62	42/27	\$902	\$4.4	38%	10%				2%	55	3.8	—	-4%	54%	NA	14.4x	1.4x	—
85	Heritage Insurance Holdings, Inc.	Insurance	HRTG	\$19.48	27/14	\$601	\$3.8	42%	3%				3%	40	4.6	—	—	—	NA	6.3x	1.9x	—
Real Estate Investment Trusts	Industry: Real Estate Investment Trusts (REITs)			—	—	\$3,899	\$25.6	5%	-4%	—	—	9%	2%	59	3.6	0.0%	7%	7%	19.5x	37.3x	2.1x	6%
86	Weyerhaeuser Company	Timber	WY	\$30.95	37/30	\$15,842	\$103.5	-2%	-14%	N	Tyler J. Langton	13%	2%	46	3.8	3.9%	5%	32%	13.7x	22.3x	3.2x	4%
87	Plum Creek Timber Company, Inc	Timber	PCL	\$40.96	45/39	\$7,234	\$41.6	0%	-3%	OW	Tyler J. Langton	15%	6%	51	3.5	1.4%	-1%	18%	24.2x	32.1x	4.7x	6%
88	American Homes 4 Rent Class A	Single-Family REIT	AMH	\$15.66	18/16	\$3,312	\$20.0	-14%	-6%	OW	Anthony Paolone, CFA	21%	2%	41	4.6	—	29%	Neg	29.2x	Neg	1.0x	—
89	Potlatch Corporation	Timber	PCH	\$35.25	44/33	\$1,429	\$7.3	-15%	-16%				2%	46	3.4	0.0%	9%	-2%	16.7x	24.7x	7.0x	-23%
90	Starwood Waypoint Residential Tr	Single-Family REIT	SWAY	\$25.65	28/23	\$976	\$9.6	-2%	-2%				5%	56	4.5	—	50%	-b +	93.2x	38.6x	0.9x	—
91	Silver Bay Realty Trust Corp.	Single-Family REIT	SBY	\$16.32	17/15	\$588	\$4.9	1%	-2%	OW	Anthony Paolone, CFA	23%	3%	54	3.8	7.0%	—	—	NA	225.6x	1.1x	3%
92	American Residential Properties, I	Single-Family REIT	ARPI	\$17.50	20/17	\$560	\$4.5	-4%	-1%				7%	35	3.9	—	—	—	35.1x	Neg	1.0x	—
93	United Development Funding IV	Single-Family REIT	UDF	\$17.74	20/16	\$550	\$2.4	-4%	-2%				11%	52	—	6.4%	—	—	10.3x	NA	1.1x	11%
Real Estate Management & De	Industry: Real Estate Management & Development			—	—	\$4,932	\$29.5	11%	3%	—	—	18%	2%	51	4.2	0.2%	11%	20%	12.6x	23.3x	2.4x	6%
94	Realty Holdings Corp.	Real Estate Brokerage	RLGY	\$43.38	50/33	\$6,328	\$69.9	17%	-3%	OW	Anthony Paolone, CFA	15%	3%	38	3.8	0.0%	9%	45%	14.6x	23.8x	2.8x	7%
95	St Joe Company	Land Play	JOE	\$17.56	23/15	\$1,599	\$9.1	-24%	-6%				6%	60	3.0	0.0%	—	-b +	231.4x	1053.6x	1.7x	0%
96	Tejon Ranch Co.	Land Play	TRC	\$24.71	31/24	\$511	\$1.0	-13%	-16%				2%	46	—	—	—	—	106.7x	NA	1.8x	—
97	REMAX Holdings, Inc.	Real Estate Brokerage	RMAX	\$38.67	41/29	\$481	\$2.9	33%	14%	N	Anthony Paolone, CFA	-5%	4%	60	4.1	0.0%	3%	5%	4.7x	23.4x	2.0x	13%
98	Forestar Group Inc.	Timber/Land Play	FOR	\$13.50	20/12	\$445	\$3.5	-29%	-14%				16%	49	4.2	—	11%	46%	NA	35.5x	0.8x	—
Sector: Information Technol	Sector: Information Technology			—	—	\$2,761	\$22.3	4%	-3%	—	—	10%	3%	47	4.0	2.6%	7%	12%	13.2x	17.1x	2.8x	6%
Internet Software & Services	Industry: Internet Software & Services			—	—	\$2,067	\$17.7	19%	18%	—	—	17%	3%	57	4.1	1.6%	14%	18%	15.0x	22.2x	3.2x	3%
99	Zillow Group Inc. Class A	Internet Services	Z	\$74.49	149/69	\$3,843	\$123.4	-6%	-31%				36%	39	3.5	0.0%	63%	36%	NA	131.6x	1.6x	—
Software	Industry: Software			—	—	\$4,454	\$39.7	23%	12%	—	—	8%	3%	50	4.1	2.4%	9%	10%	18.7x	26.9x	4.7x	4%
100	Fair Isaac Corporation	Business Service	FICO	\$89.62	98/53	\$2,829	\$18.2	59%	26%				4%	50	4.6	6.9%	7%	37%	18.5x	24.5x	7.1x	5%

Source: J.P. Morgan, Bloomberg

Macro Drivers: Demand, Supply, Affordability, Credit

Housing Demand: firming on strong labor market (declining unemployment rate + rising wages), high consumer confidence, improving demographic trends (household formation), and low vacancy rates

- **The US economy has now entered its 37th month of >100k job creation.** Since the start of the recovery (3Q09), the economy has created more than 11 million net jobs with the unemployment rate approaching 5%.
- **Wage inflation has a positive spill-over effect** on consumer outlook and housing demand. The decline in the unemployment rate is likely to push real wage growth and forward expectations higher (Figure 16).

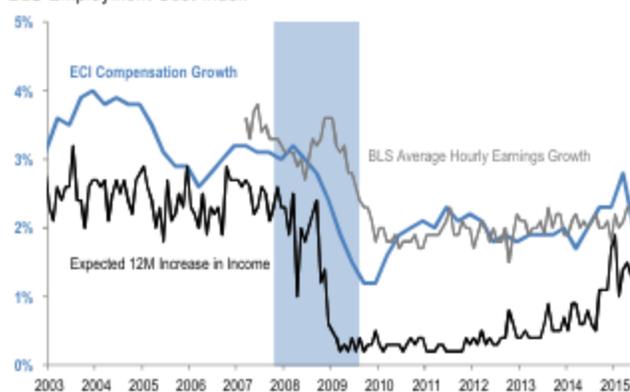
Figure 15: 58 Straight Months of Job Creation

Since January 2008



Source: J.P. Morgan and BLS

Figure 16: Wage Inflation Now Beginning to Respond to Lower UE
 BLS Employment Cost Index



Source: J.P. Morgan, University of Michigan, BLS, and Bloomberg

- Both **University of Michigan Consumer Sentiment** and **Conference Board Consumer Confidence** are confirming **robust consumer sentiment**—holding near best levels seen during this expansion.
- **Homeowner and rental vacancies are sharply lower.** Due to the severity of the last recession and tighter credit compared to prior recoveries, rental vacancies rates have declined to the lowest levels since the mid-1980s. The homeowner vacancy rate declined to 1.8% from a peak of 2.9% as the excess foreclosure supply was initially absorbed by all-cash investors and more recently by first-time homebuyers.

Figure 17: Consumer Sentiment and Confidence Strong

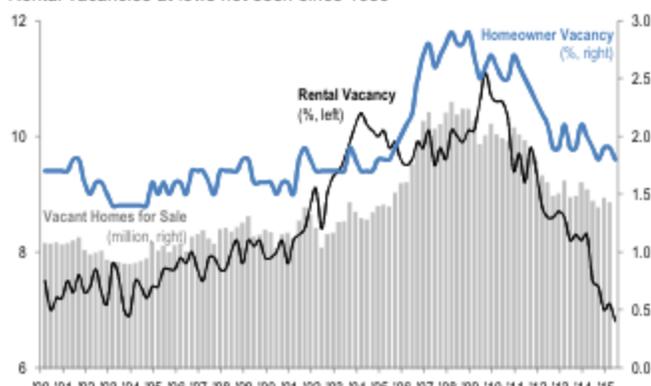
Sentiment indicators encouraging



Source: J.P. Morgan, University of Michigan, Conference Board, and Bloomberg

Figure 18: Homeowner and Rental Vacancies Low

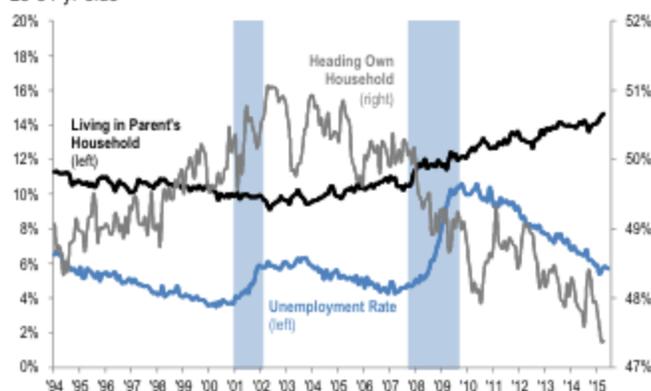
Rental vacancies at lows not seen since 1985



Source: J.P. Morgan and Census Bureau

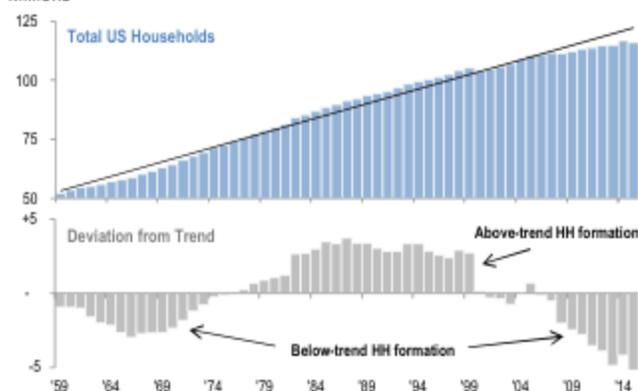
- **Even prior to the Great Recession, the household formation trend was under pressure** due to declining affordability. And after the start of the recession, this trend accelerated as the unemployment rate for 25-34 year olds surged to over 10%, Figure 20.
- **This resulted in a decline in headship rate with a rising percentage of 25-34 yr olds living at home with parents.** As the memories of the last recession fade and the availability of jobs and rising wages improves overall confidence, this population group could be a significant driver of household formation.
- Household formation remains significantly below the long-term trend with a current “deficit” of 5.2 million households. As noted by JPMorgan Economists ([Rental demand continues to soar](#)), **the recent household formation trend has been more encouraging:** “Household formation had been unusually weak through the first several years of the expansion, growing at only about 0.6% per year or half its pre-recession trend. But the number of households, measured as the number of occupied housing units, surged in 4Q14 and has held a stronger trend through the latest reading. The number of households in 2Q14 was up 1.1% ar and 1.4%oya.”

Figure 19: Headship Rate Down as Young Adults Live at Home 25-34 yr olds



Source: J.P. Morgan and BLS

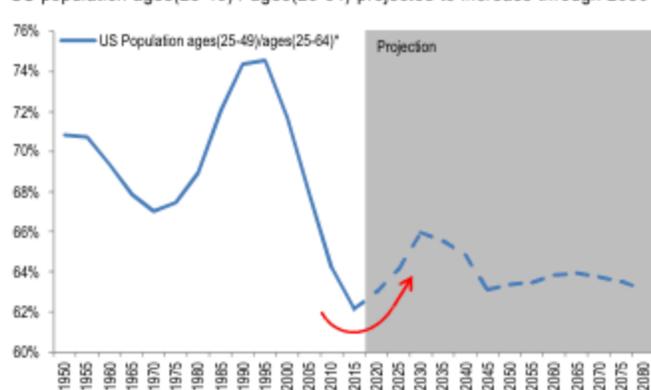
Figure 20: Household Formation Below Trend Since 2005



Source: J.P. Morgan and Census Bureau

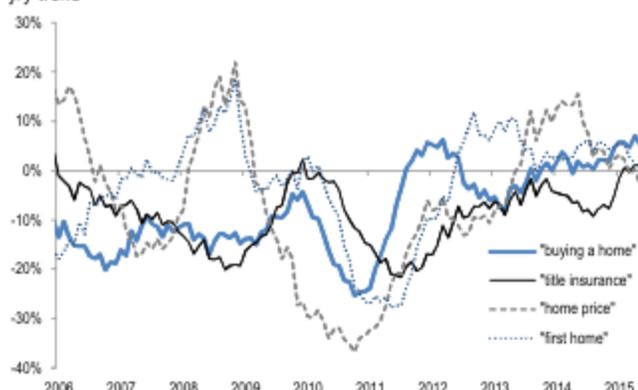
- **Demographics support an increase in housing demand over the next 15 years (2015-2030).** A pick-up in younger cohort of the working age population (ages 25-49) as a percentage of total working population (ages 25-64) is projected by the UN, see Figure 21. We seem to be at an inflection point in housing demand since the younger cohort is more likely to drive housing formation.
- **Google Searches confirm similar improvement in housing trends.** Based on keyword searches such as “Buying a Home”, “Title Insurance”, “Home Price” and “First Home”, there has been a pick-up in interest for all things housing.

Figure 21: Demographics Support Increased Housing Demand US population ages(25-49) / ages(25-64) projected to increase through 2030



Source: J.P. Morgan and United Nations Department of Economic and Social Affairs

Figure 22: Google Searches Confirms Similar Trends in Housing y/y trend



Source: J.P. Morgan and Google Trends

Housing Supply: supportive with months of supply and starts/permit activity well below historical trend

- Existing and New Homes for Sale and Months Supply rose for several years before peaking at 570k ('06) and 12.2 months ('09), respectively. **Since the peak, however, the months supply has decreased sharply to levels seen prior to the housing boom.**
- New home sales lag existing home sales.** Prior to 2006, new home and existing home sales grew in lockstep. However, during this recovery, homebuilders have continued to favor construction of larger homes over the \$150-200k entry-level due to lower profitability of this segment. So far, this first-time buyer demand is being fulfilled by existing homes rather than new homes. Some homebuilders have responded to this demand, but due to costs (in particular land) the new home supply for entry-level housing is usually in the outskirts.

Figure 23: Supply Has Tightened to Pre-Boom Levels



Source: J.P. Morgan, National Association of Realtors and Census Bureau

Figure 24: Sales Recovering but New Home Sales Lagging Existing



Source: J.P. Morgan, National Association of Realtors and Census Bureau

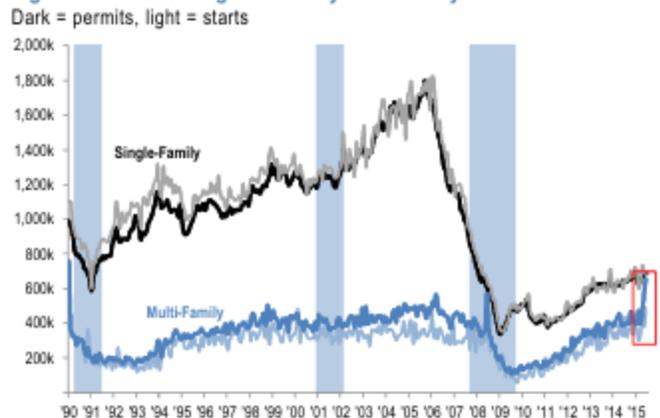
- Housing Starts and Permits have risen steadily during this recovery but the activity remains well off peak levels. However, the current housing starts remain well below long-term historical trends, especially if adjusted for growth in population or households.
- During this recovery, multi-family starts have been more robust than single-family with the decline of home ownership rate. In fact, last month's strength was driven almost entirely by the multi-family segment which is currently expanding at the fastest rate at any time since 1990 while single-family starts/permits are well below historical levels.

Figure 25: June Housing Starts Above Consensus...



Source: J.P. Morgan and Census Bureau

Figure 26: ...But Strength Driven by Multi-Family



Source: J.P. Morgan and Census Bureau

Housing Affordability: homes still affordable compared to long-term but rising home prices and higher interest rates over last two years is pushing affordability down. Strong job market and rising wages should continue to be a support.

- The Homebuyer Affordability Index has declined for all and first-time buyers over the last two years due to rising home prices and higher mortgage rates, see Figure 27. It is worth noting, however, homes remain affordable when compared to long-term historical trend.
- We believe a continued improvement in job outlook and a meaningful pick-up in wage inflation could help stabilize and potentially reverse the recent home ownership trend, Figure 28.
- As shown in Figure 28, the homeownership rate has declined from recent peak of 69.2% in 2004 to the lowest level since 1967 to only 63.4% in 2Q15 as households favor renting over owning. This decline has more than unwound the increases during last decade's housing boom and brought the homeownership rate to its lowest level since 1967.

Figure 27: Homebuyer Affordability Index

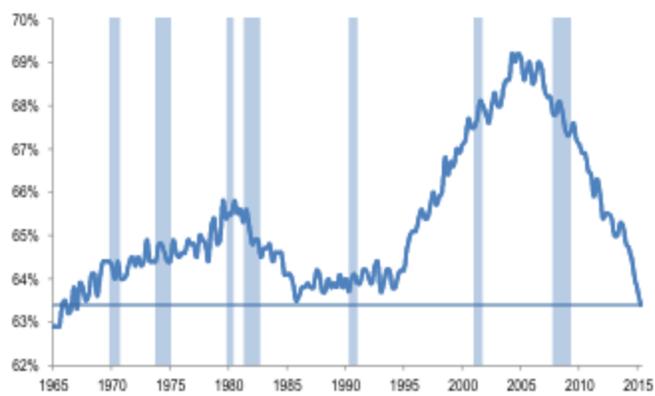
Light = monthly, dark = 1yr avg



Source: J.P. Morgan and National Association of Realtors

Figure 28: Home Ownership Rate

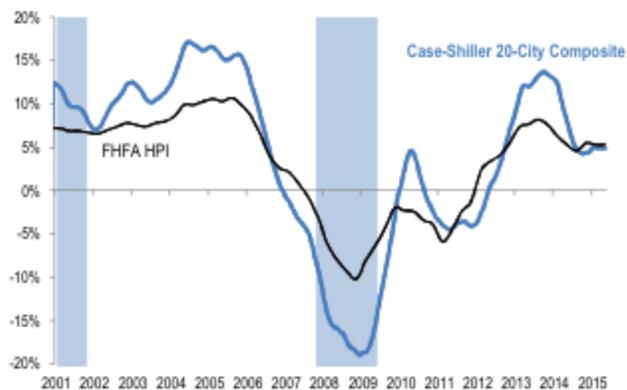
Since 1965



Source: J.P. Morgan and Census Bureau

- Home price appreciation has leveled off since rising double-digit in 2013, but the recent ~5% y/y increases in both Case-Shiller and FHFA indices remains significantly above wage growth, see Figure 29.
- The increase in the ratio of median existing home price to median household income since 2012 reflects the fact that home prices are rising faster than wages — a trend that is likely not sustainable over longer time period. This metric looks worse for new single-family home prices to household income, which is near an all-time high, see Figure 42.

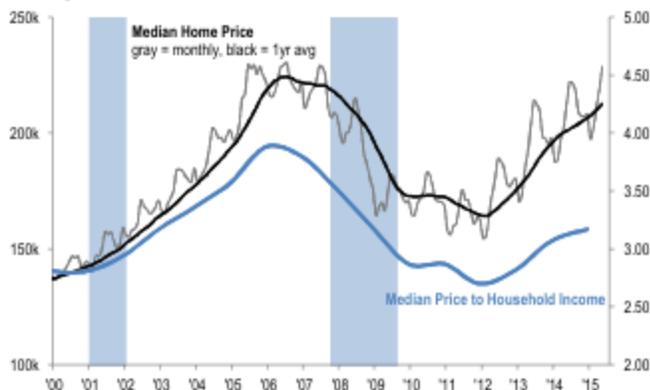
Figure 29: Housing Prices Showing an Upward, Albeit Slower Trend Since 2001



Source: J.P. Morgan, S&P/Case-Shiller and FHFA

Figure 30: Declining Affordability

Existing home sales

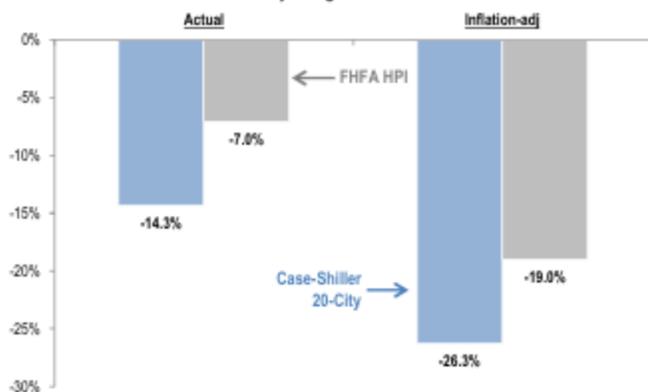


Source: J.P. Morgan, Census Bureau and Bloomberg

- **When adjusted for inflation, home prices remain 20-25% below previous peak levels.** The Case-Shiller 20-city is 26% below and FHFA HPI is 19% below last cycle peak in home prices.
- **Buying vs. Renting most attractive in last 15 years.** The median price to median rent ratio has declined to an all-time low of 263, compared to peak multiple of 390 and average multiple of 329.

Figure 31: Home Prices Remain Far Below Peak Levels

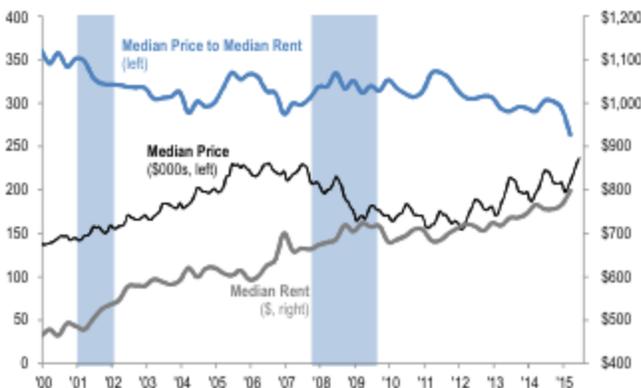
Price decline even lower after adjusting for inflation



Source: J.P. Morgan, S&P/Case-Shiller and FHFA

Figure 32: Home Price-to-Rent Ratio Reflects Rental Bubble

Median

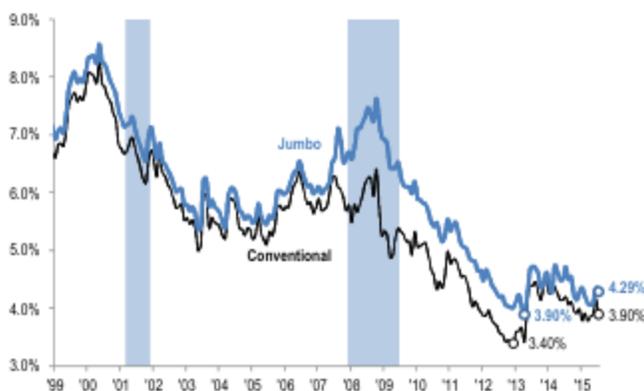


Source: J.P. Morgan, National Association of Realtors and Census Bureau

- **Affordability impacted by incremental rising mortgage rates.** As shown in Figure 33, 30yr fixed home mortgage rates for conventional loans have risen roughly +50bps since 2012 to 3.90% while Jumbo rates have risen by roughly +39bp to 4.29%. Every 50bp increase in mortgage rates is equivalent to a 6% increase in home prices.
- Despite the pick-up in mortgage rates over the last two years, the absolute levels remain low compared to long-term average and even compared to post-recession levels.
- Historically, bear flatteners are not associated with negative performance for housing stocks. As shown in Figure 35, homebuilders have outperformed the market during bear flatteners. On the contrary, bear and bull steepeners carry worse implications for homebuilder performance, underlining the importance of long rates for the housing market.

Figure 33: Fixed 30Yr Home Mortgage National Average

Since 1999



Source: J.P. Morgan and Bankrate

Figure 34: Rising Rates Not Necessarily a Negative for Housing

Homebuilder performance during rate cycles since 1991

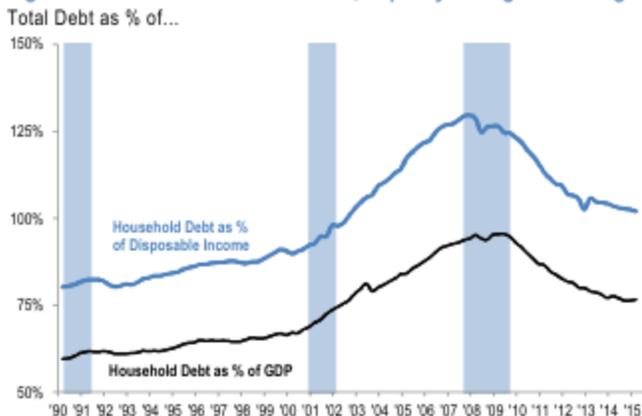
	% Months	Avg. Ann. Ret.	Ann. Stdev	IR
Bear Flattener	31%	4%	23%	0.17
Bear Steepener	18%	-12%	21%	-0.56
Bull Flattener	22%	28%	23%	1.21
Bull Steepener	28%	-6%	29%	-0.21
<hr/>				
Rising 10-Year	51%	-13%	25%	-0.53
Falling 10-Year	49%	19%	24%	0.78
<hr/>				
Rising Short Rates	49%	-2%	22%	-0.09
Falling Short Rates	51%	9%	27%	0.33

Source: J.P. Morgan and Bloomberg

Household Leverage and Credit Standards: households delevered balance sheets; banks easing credit standards

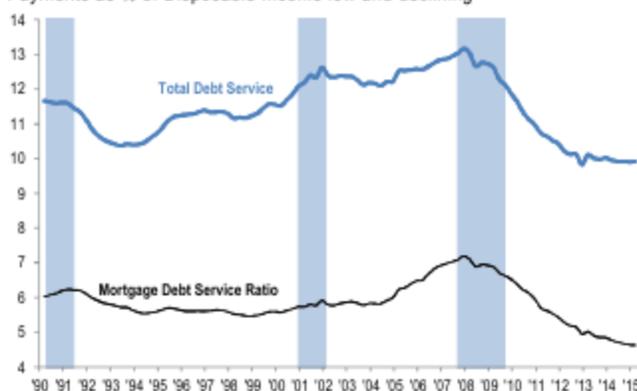
- **Household balance sheets at best levels in more than a decade.** During this recovery, households leverage has continued to decline as % of disposable income and % of GDP, see Figure 35. Also, the debt service ratio (payments as % of disposable income) is at the lowest level and still declining, see Figure 36.
- The **sharp decline in household debt metric is likely due to** declining homeownership rate, write-down of bad mortgages, and rising disposable income.

Figure 35: Total Household Debt Low, Capacity for Higher Leverage



Source: J.P. Morgan and Bloomberg

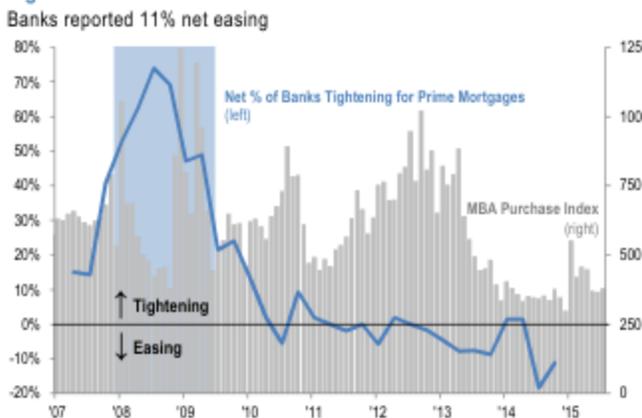
Figure 36: Household Incomes Can Support Higher Debt Payments



Source: J.P. Morgan and Federal Reserve

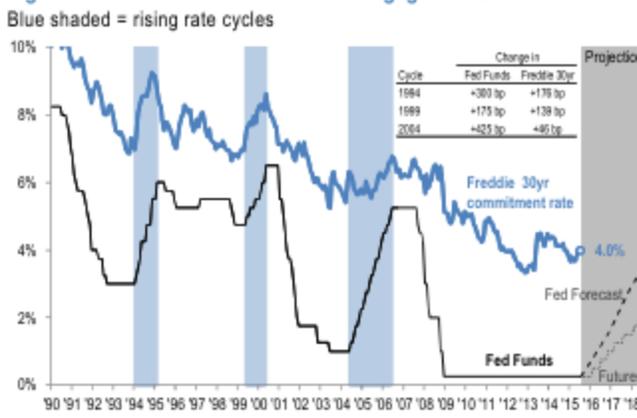
- **Banks are easing credit with the senior loan officer survey indicating favorable trend in credit.** As highlighted by J.P. Morgan Economics, the latest report showed that a larger share of firms eased lending standards over the past three months and firms reported stronger demand.
- **Lending standards should continue to improve** with further decline in unemployment rate, higher wages, and low household leverage. Also worth noting, the mortgage refinancing cycle (4Q08-2Q13) is likely behind us with the Fed expected to begin raising rates sometime this year, see Figure 38. In this environment, banks are likely to increase focus on new mortgage originations, which should support the housing recovery.

Figure 37: Easier Credit a Positive



Source: J.P. Morgan, MBA and Federal Reserve

Figure 38: Fed Liftoff a Concern for Mortgage Rates



Source: J.P. Morgan, Federal Reserve and Freddie Mac

Relative Valuation: as mentioned earlier, residential housing is one of the few investments remaining, which trades at an attractive valuation in our view. It trades at a discount to equities and Gold. However, a tepid rise in household incomes would likely keep new home prices from rising too sharply.

- **Relative to Equities, Homes more attractive.** Currently, it takes 137 units of S&P 500 index to purchase a median priced home in the US, see Figure 39. This represents a 48% discount to its long-term median of 260.
- **Even after the recent decline in Gold, Homes are a cheaper hard-asset alternative.** Even with the recent decline in Gold, homes remain a more attractive hard-asset than gold. It currently takes 240oz of gold to buy a median home compared to long-term median at 332oz.

Figure 39: 137 Units of S&P 500 to Purchase a Single-family Home
 Long-term median: 260 units of S&P 500



Source: J.P. Morgan, Census Bureau and Bloomberg

Figure 40: 240 Ounces of Gold to Purchase a Single-family Home
 Long-term median: 332 oz. gold



Source: J.P. Morgan, Census Bureau and Bloomberg

- **Oil inching towards parity with Housing.** With the recent decline in oil, it is becoming increasingly more attractive vs. housing, see Figure 41. However, housing is still a relative bargain given that it currently takes 4700 barrels of oil to buy a home vs. long-term median at 5,400, see Figure 41.
- **Risk to housing: tepid growth in household income.** The S&P Case Shiller Home Price index has risen 34% from its low, while the median household income has only risen 5% since 2010. This divergence helps to explain new home purchase price to household income ratio rising back to near peak level of 5.4yrs compared to LT median of 4.0yrs. A significant pick-up in wage inflation could help push this metric lower or if more homebuilders decide to build more lower priced entry-level homes.

Figure 41: 4,700 Barrels of Oil to Purchase a Single-family Home
 Long-term median: 5,400 barrels of oil



Source: J.P. Morgan, Census Bureau and Bloomberg

Figure 42: New Single-family Home Price to Household Income/Yr
 Long-term median: 4.0 yrs of income

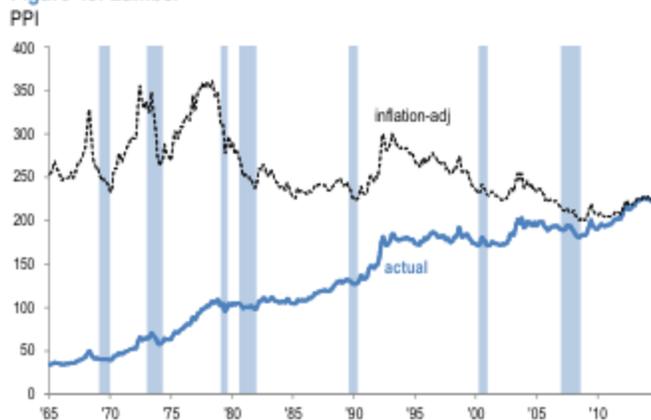


Source: J.P. Morgan, Census Bureau and Bloomberg

Commodity Prices: commodities linked to housing are rising. While we acknowledge most commodities are widely used outside of residential housing, a notable change in housing activity nonetheless should impact these commodities. We selected the following commodities to monitor the health of the housing market: lumber, gypsum, cement, and aggregates.

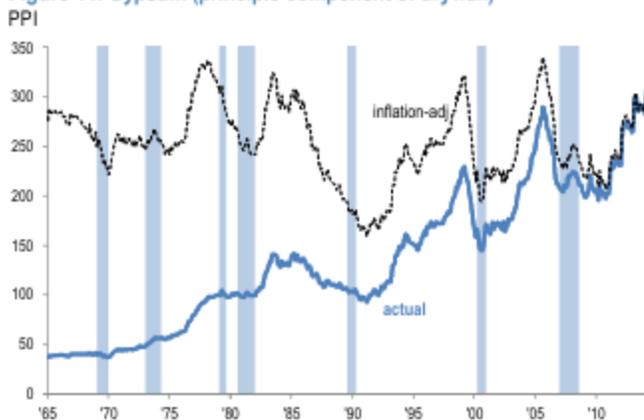
- Though steel framing has become more popular recently, an overwhelming majority of new homes constructed continue to rely on lumber for the shell / skeleton. Lumber prices in the US have risen 9.5% above last cycle's peak.
- Drywall installation generally occurs toward the end of home construction and thus lags housing starts and therefore demand for Gypsum is more closely aligned with housing completions. Gypsum prices made a new all-time high in February of this year, capping a 56% rally since crashing 32% in '06-07

Figure 43: Lumber



Source: J.P. Morgan, BLS and Bloomberg

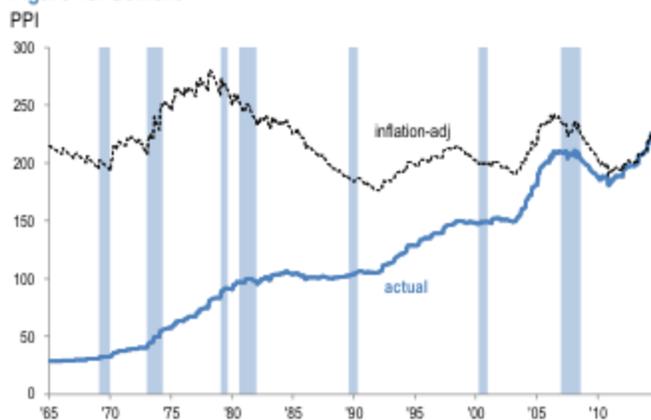
Figure 44: Gypsum (principle component of drywall)



Source: J.P. Morgan, BLS and Bloomberg

- Pouring a home's concrete foundation is one of the first steps taken in constructing a new home after site prep, grading and installation of basic utility footings. Concrete is a composite material prepared on-site from cement (10-15%), water (15-20%) and aggregates (60-75%).
- Cement prices, which took six years to recover since pre-crisis highs, continue to move higher reflecting broad-based demand from global construction. The cost of aggregates, which never declined during the crisis (partially due to infrastructure related expenditures), continues to move higher with the pick-up in residential and non-residential construction.

Figure 45: Cement



Source: J.P. Morgan, BLS and Bloomberg

Figure 46: Aggregates (crushed stone, rock and sand)



Source: J.P. Morgan, BLS and Bloomberg

Equity Fundamentals: Double-digit Earnings Growth

Stronger Fundamentals for Housing Stocks: 5-6% revenue growth and margin expansion expected to drive double-digit earnings growth. Full-year estimates have been revised down, which is setting up beats for rest of the year.

- Stronger sales and earnings growth:** housing stocks on average offer stronger revenue growth in the coming quarters compared to low single-digit growth for S&P 500 (ex-energy). This coupled with margin expansion is expected to drive double-digit earnings growth in the upcoming quarters.

Figure 47: Consensus Revenue Growth vs S&P 500 ex-Energy

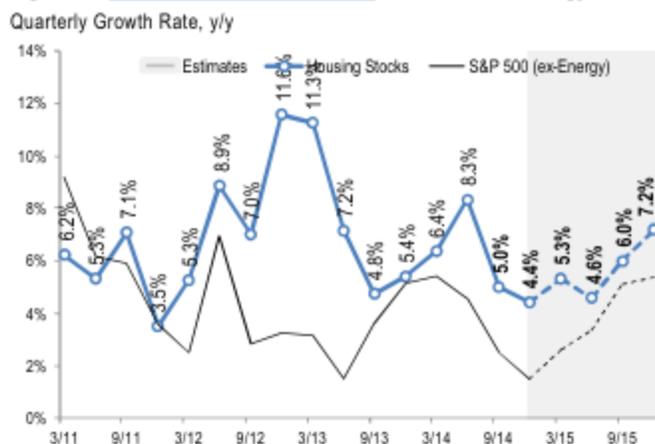
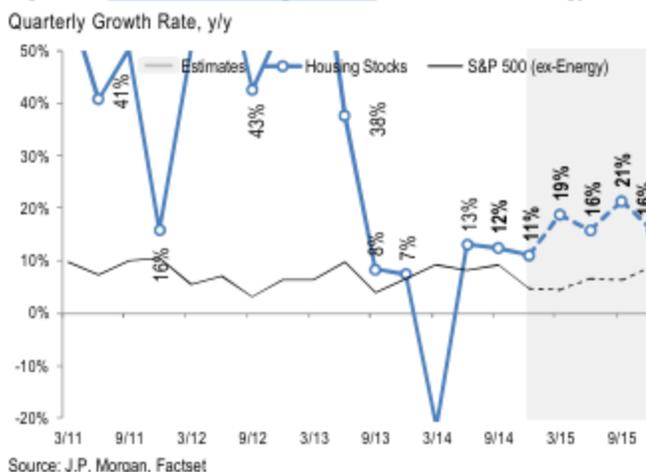


Figure 48: Consensus Earnings Growth vs S&P 500 ex-Energy



- Significant margin expansion:** the Street is expecting significant expansion for companies linked to housing with net income margins expected to increase from 6.4% (last four quarters) to 7.1% over the next four quarters (3Q15-2Q16). Based on estimates, margin expansion is expected to be driven by declining raw material prices while selling and administration expenses are expected to rise slightly in comparison, see Figure 50.

Figure 49: Net Income Margin

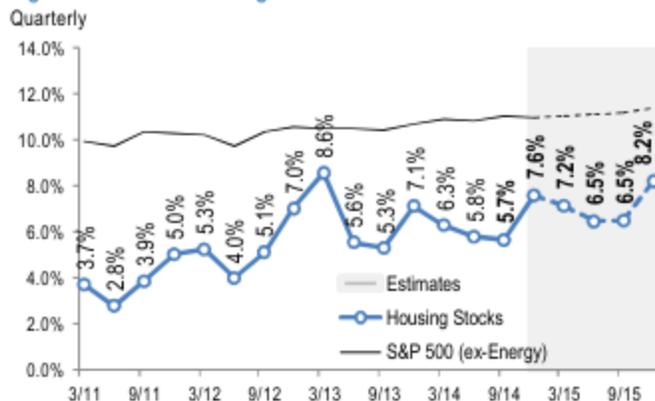
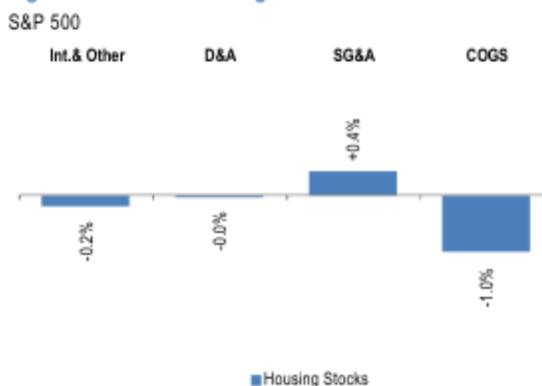
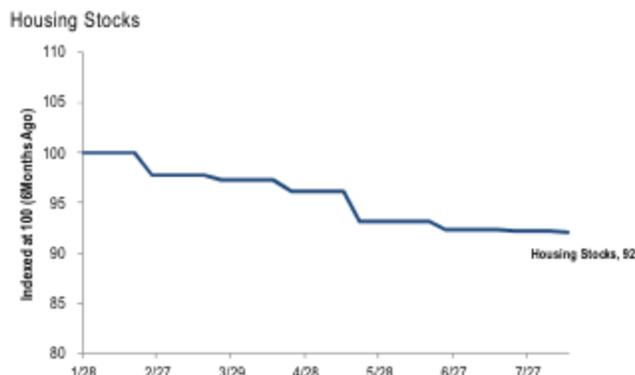


Figure 50: Net Income Margin Drivers



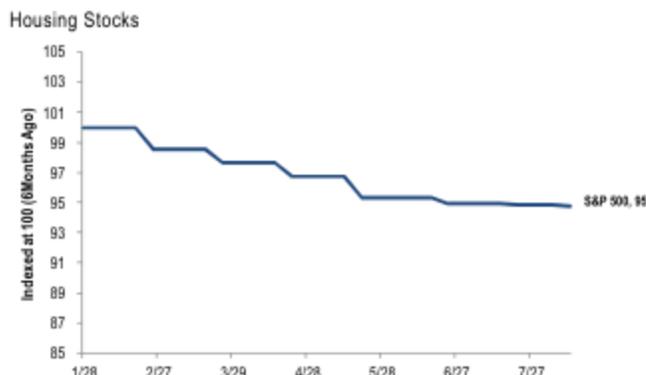
- **2015 earnings revised down by 5% over last six months:** As shown in Figure 52, the Street has sharply revised down 2015 estimates over the last six months. This is likely setting up easy beats for rest of the year as residential investment picks up in the coming quarters.

Figure 51: 2Q2015 Earnings Revisions, Last 6 Months



Source: J.P. Morgan, Factset

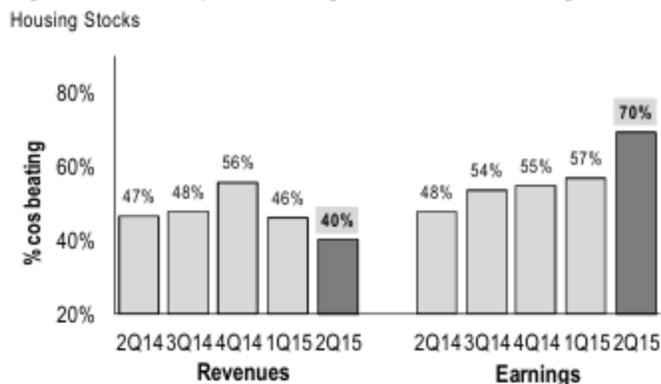
Figure 52: 2015 Earnings Revisions, Last 6 Months



Source: J.P. Morgan, Factset

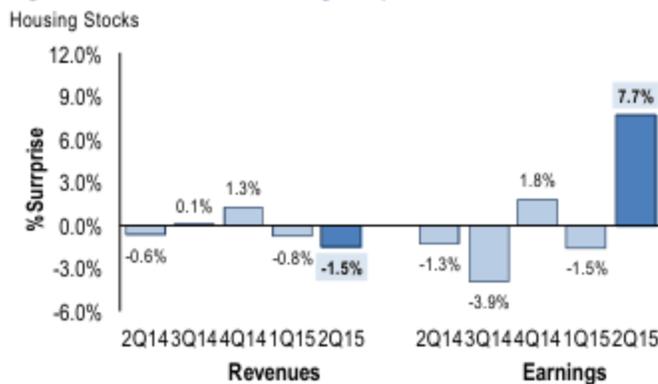
- **Sharp earnings beats seen in 2Q15 likely to continue into YE.** 70% of companies in the housing composite beat on the bottom-line with an earnings surprise of +7.7% but the quality of beats was poor with more companies missing than beating on the top-line.

Figure 53: % of Companies Beating on Revenue and Earnings



Source: J.P. Morgan, Factset

Figure 54: % Revenue and Earnings Surprises



Source: J.P. Morgan, Factset

- **Strongest growth seen by housing stocks within Industrials and Discretionary.** Similar to S&P 500 sectors, the strongest surprises were delivered by housing-related Financials.

Figure 55: Earnings Report – Housing Stocks

2Q2015

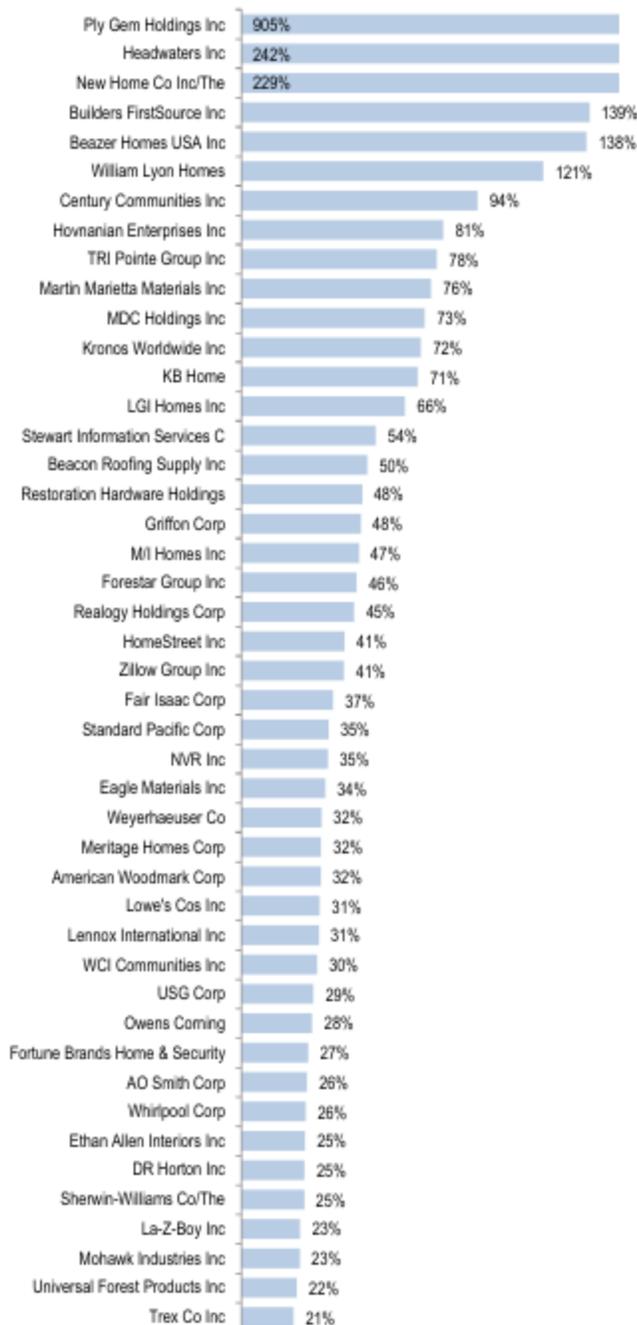
	# of Cos	Total Rep Cos	% of Cos Rep	Sales Growth (YoY)		Earnings Growth (YoY)		% Surprise...				% of Companies Beating...				2Q15 Blended Growth		Price Performance	
				Growth (YoY)	Growth (YoY)	Revenue		Earnings		Revenue		Earnings		Reported + Est		Bottom-up			
						Avg (Last 4Qs)	2Q15	Avg (Last 4Qs)	2Q15	Avg (Last 4Qs)	2Q15	Avg (Last 4Qs)	2Q15	Sales Growth (YoY)	Earnings Growth (YoY)	Since start of season	5Day % After-Reporting		
Housing Stocks	82	100	82%	5.8%	14.0%	0.0%	-1.5%	-1.2%	7.7%	49%	40%	53%	70%	5.1%	11.3%	1.4%	-0.2%		
Materials	12	14	86%	3.0%	11.7%	-1.3%	-3.8%	-3.4%	-2%	37%	25%	44%	33%	2.5%	10.6%	-0.8%	-0.5%		
Industrials	22	26	85%	-1.8%	19.9%	-1.3%	-2.5%	-1.6%	10%	36%	36%	49%	81%	-1.3%	18.5%	4.7%	1.4%		
Discretionary	26	34	76%	14.0%	25.4%	0.6%	0.1%	1.1%	8%	57%	42%	55%	70%	7.7%	13.4%	2.4%	0.7%		
Financials	20	23	87%	2.9%	-5.5%	-0.1%	-1.1%	-10.4%	15%	57%	50%	63%	75%	2.9%	-5.5%	-3.6%	-3.1%		

Source: J.P. Morgan, Factset

- **Strongest Consensus Earnings Growth by Company:** the figures below show next twelve months earnings growth for housing stocks, sorted from strongest to weakest. About a quarter of the housing names are expected to deliver >30% earnings growth.

Figure 56: Strongest Y/Y Earnings Growth (Next Twelve Months)

Sort Highest to Lowest



Source: J.P. Morgan and FactSet

Figure 57: Weakest Y/Y Earnings Growth (Next Twelve Months)

Sort Highest to Lowest



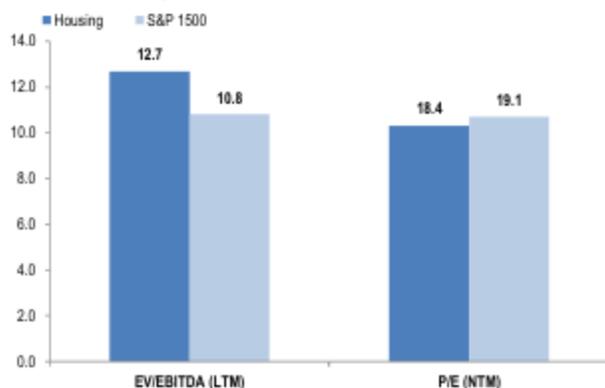
Source: J.P. Morgan and FactSet

Characteristics of Stocks Levered to Housing: in this section of the report, we compare the financial metrics of housing stocks to S&P 1500. Generally, stocks levered to housing have higher growth with riskier attributes:

- **Similar valuation but stronger expected growth:** on average housing stocks trade at a similar EV/EBITDA and P/E (NTM) multiples but have a higher growth profile on average. Housing companies have significantly higher sales and EPS growth of +6.8% and +18% (vs. +1.5% and +11% for S&P 1500).

Figure 58: VALUATION: EV/EBITDA and P/E

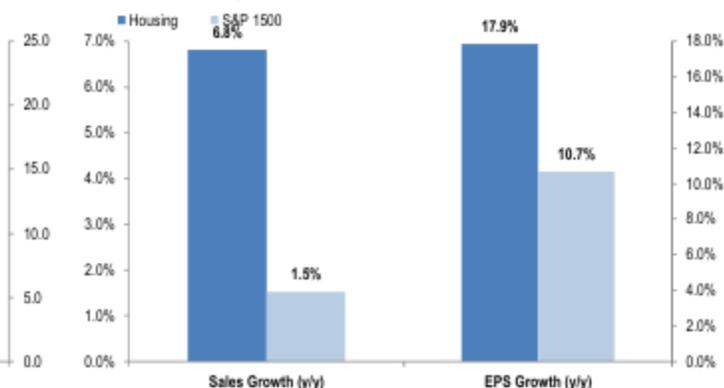
Median for Housing Stocks vs S&P 1500



Source: J.P. Morgan and Factset

Figure 59: GROWTH: Sales and Earnings Growth

Median for Housing Stocks vs S&P 1500

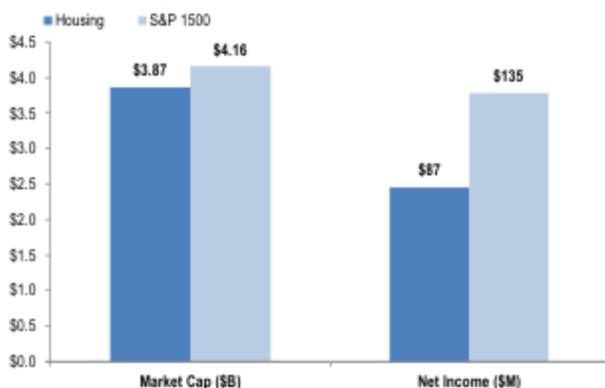


Source: J.P. Morgan and Factset

- **Size: similar in market-cap though smaller in profits.** Housing stocks are similar in size to S&P 1500 names (\$3.9b median market cap vs. \$4.2b median market cap for S&P 1500) but generate lower net income (\$87m vs. \$135m).
- **Leverage: higher financial leverage** with a median total debt to equity ratio of 0.72x vs. 0.54x for S&P 1500 and lower interest coverage ratio of 5.9x vs. 9.0x.

Figure 60: SIZE: Market Cap and Net Income

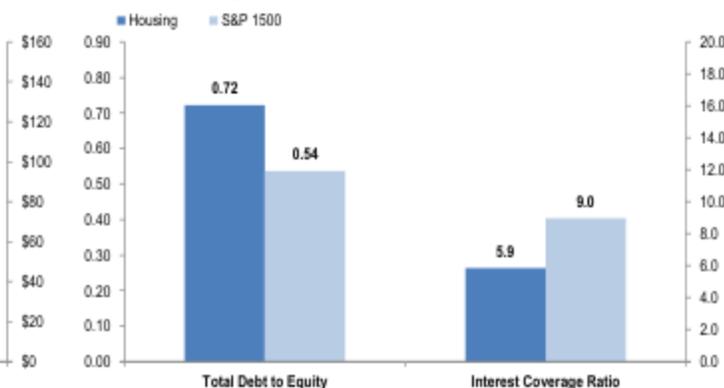
Median for Housing Stocks vs S&P 1500



Source: J.P. Morgan and Factset

Figure 61: LEVERAGE: Debt/Equity and Int. Coverage

Median for Housing Stocks vs S&P 1500

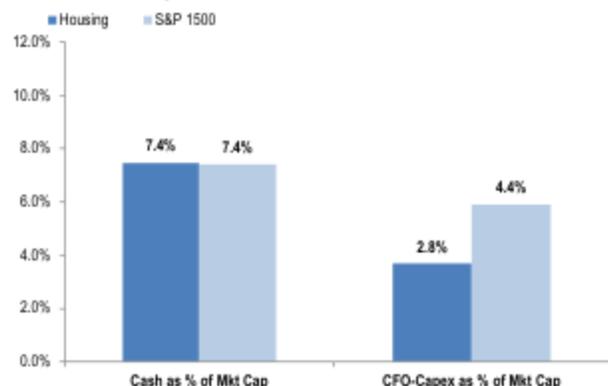


Source: J.P. Morgan and Factset

- Liquidity: similar cash balance but cash flow yield lower.** Housing companies on average hold 7.4% cash as % of market (similar to S&P 1500 companies) and generate lower cash flow as % of market cap (2.8% vs. 4.4%).
- Cash usage: lower capex requirement and lower dividend yield.** Housing companies have a lower capex requirement at 1.8% of sales compared to S&P 1500 at 3.2%. Dividend yield on average is also lower at 1.4% vs 2.0% for S&P 1500.

Figure 62: **LIQUIDITY: Cash and Cash Flow**

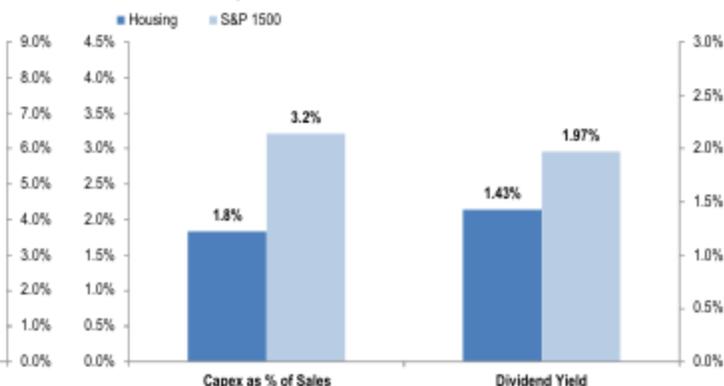
Median for Housing Stocks vs S&P 1500



Source: J.P. Morgan and Factset

Figure 63: **CASH USAGE: Capex and Dividends**

Median for Housing Stocks vs S&P 1500

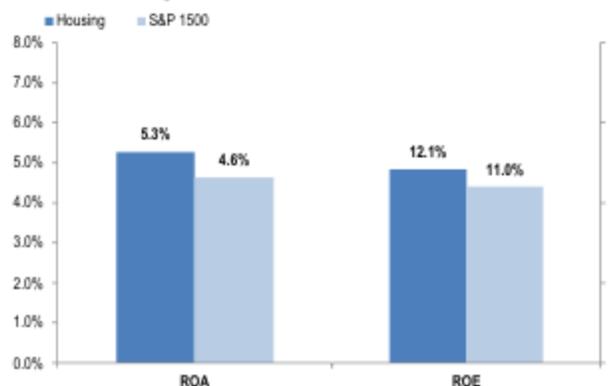


Source: J.P. Morgan and Factset

- Surprisingly, higher return on investment and similar volatility.** Housing stocks generate stronger return on investment (on both ROA and ROE) than S&P 1500 companies. More surprisingly, however, the risk profile is similar as measured by both beta and annualized volatility for an average housing stock vs. S&P 1500.

Figure 64: **PROFITABILITY: ROA and ROE**

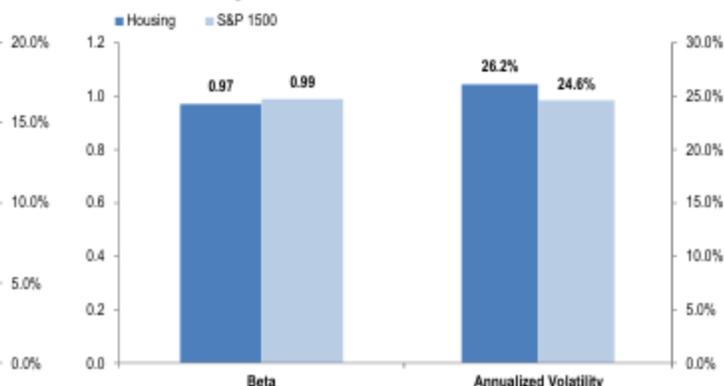
Median for Housing Stocks vs S&P 1500



Source: J.P. Morgan and Factset

Figure 65: **RISK: Beta and Volatility**

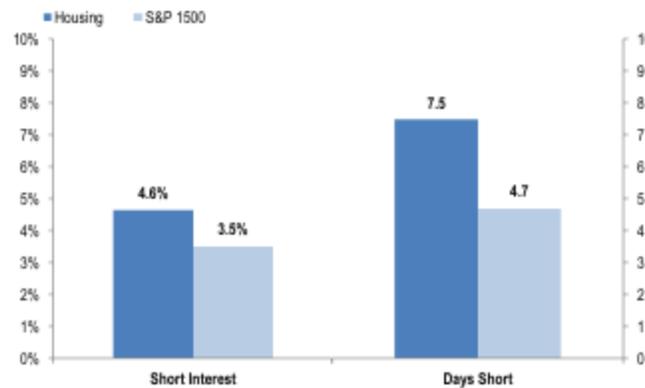
Median for Housing Stocks vs S&P 1500



Source: J.P. Morgan and Factset

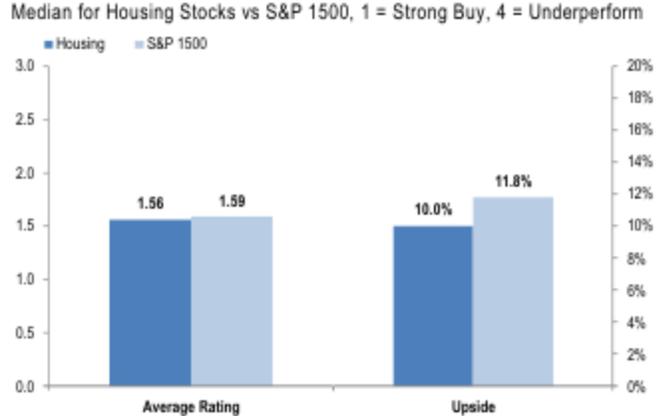
- **Sentiment:** on average, housing names have higher short interest as compared to the rest of the market and the Street is less constructive on the target price upside — the median consensus target price upside is 10% compared to 12% for the rest of the market.

Figure 66: **SENTIMENT: Short Interest as % of Total Float, Days Short**
 Median for Housing Stocks vs S&P 1500



Source: J.P. Morgan and Factset

Figure 67: **SENTIMENT: Average Analyst Stock Rating, Consensus Target Price as % of Current Price**
 Median for Housing Stocks vs S&P 1500, 1 = Strong Buy, 4 = Underperform



Source: J.P. Morgan and Factset

Shareholder yield near 5% for Housing Stocks. Perhaps due to the uneven growth and highly cyclical nature of most companies levered to housing, the shareholder yield has been quite volatile over the last few years. Over the last twelve months, the total shareholder yield increased to 4.7%, which is now higher than the S&P 500 at 4.1%.

- As shown below, housing companies have been inconsistent with buybacks with net buyback yield in the range of -0.1 (2008) to 3.6% (2011) of market cap. However, the dividend payout has been more consistent and rising.

Figure 68: **Corporate Activity (Share Issuance and Repurchases)**

Housing Stocks

	Housing Stocks													
	2008	2009	2010	2011	2012	2013	2014	2Q2014	3Q2014	4Q2014	1Q2015	2Q2015	LTM	
Gross Stock Buybacks	\$2,671	\$1,785	\$7,886	\$11,122	\$12,778	\$18,188	\$19,791	\$5,434	\$5,783	\$4,366	\$5,287	\$4,341	\$19,778	
Less: Equity Issuance	2,717	2,064	5,608	1,489	6,703	10,173	3,085	828	798	374	657	373	2,202	
Net Buybacks	-\$46	-\$279	\$2,278	\$9,633	\$6,074	\$8,015	\$16,696	\$4,606	\$4,985	\$3,992	\$4,630	\$3,969	\$17,576	
Net Buyback Yield	0.0%	-0.1%	0.8%	3.6%	1.6%	1.6%	2.9%	0.9%	1.0%	0.7%	0.8%	0.7%	3.1%	
Cash Dividend Paid	\$5,594	\$4,236	\$5,771	\$5,705	\$6,841	\$6,434	\$7,795	\$1,866	\$2,099	\$2,001	\$2,763	\$2,186	\$9,049	
Total Net Buybacks + Dividends	\$5,548	\$3,957	\$8,049	\$15,338	\$12,915	\$14,449	\$24,490	\$6,472	\$7,084	\$5,993	\$7,393	\$6,155	\$26,625	
Total Shareholder Yield	3.3%	1.8%	3.0%	5.6%	3.4%	2.8%	4.3%	1.3%	1.4%	1.1%	1.2%	1.1%	4.7%	
Net Income	-\$5,522	\$1,944	\$9,875	\$12,569	\$16,699	\$24,190	\$25,940	\$7,925	\$6,802	\$6,005	\$5,678	\$7,541	\$26,025	
Dividend Payout as % of Net Income	-101%	218%	58%	45%	41%	27%	30%	24%	31%	33%	49%	29%	35%	
Buybacks as % of Net Income	-48%	92%	80%	88%	77%	75%	76%	69%	85%	73%	93%	58%	76%	
Total Payout as % of Net Income	-100%	204%	82%	122%	77%	60%	94%	82%	104%	100%	130%	82%	102%	
Cash flow from Operations	\$15,915	\$16,988	\$20,948	\$21,826	\$26,327	\$35,116	\$40,087	\$11,240	\$10,380	\$9,425	\$9,336	\$10,876	\$40,017	
less Capex	\$10,639	\$6,242	\$6,533	\$8,253	\$8,191	\$9,401	\$10,455	\$2,302	\$2,459	\$3,527	\$2,240	\$2,418	\$10,644	
Adjusted CFO	\$5,276	\$10,746	\$14,415	\$13,572	\$18,136	\$25,715	\$29,633	\$8,937	\$7,920	\$5,898	\$7,096	\$8,459	\$29,373	
Total Payout as % of Cash Flow	105%	37%	56%	113%	71%	56%	83%	72%	89%	102%	104%	73%	91%	

Source: J.P. Morgan and FactSet

Valuation: housing stocks trade richer on trailing multiples but at a discount on forward and book multiples

- **Based on median P/E (LTM), housing stocks trade at a premium to S&P 1500 but trade at a discount on forward next twelve months multiple.** Based on forward multiples, housing stocks trade at more than 1x discount compared to the market. As historical and forward multiples converge, this could be a source of upside for housing stocks.

Figure 69: Price to Earnings (LTM)



Source: J.P. Morgan, FactSet

Figure 70: Price to Earnings (NTM)



Source: J.P. Morgan, FactSet

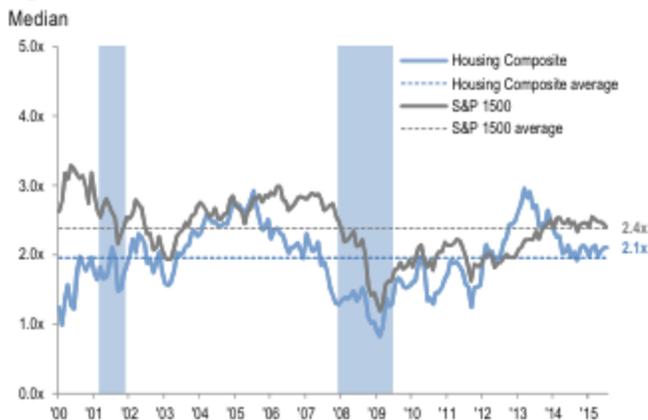
- **Housing stocks on EV/EBITDA (LTM) trade at a premium:** Due to significantly higher expected growth, housing stocks on EV/EBITDA trade at a premium to S&P 1500 companies.
- **On a book value basis, housing stocks trade at a discount to the market but inline with its 15yr average.**

Figure 71: EV/EBITDA



Source: J.P. Morgan, FactSet

Figure 72: Price to Book



Source: J.P. Morgan, FactSet

J.P. Morgan US Housing Basket – JPAMHOUS <Index>

Housing market fundamentals remain constructive with a pick-up in demand, tightening supply, high affordability, low household leverage, and easing credit standards. After more than six years into this recovery, we believe there are few opportunities that offer stronger growth and cheaper valuation than housing, and recommend investors overweight stocks and industries that are exposed to it. **The J.P. Morgan US Housing Basket is composed of a diversified portfolio of companies that have direct or indirect exposure to the US housing market and should benefit from the continued pick-up in residential investment.** Basket constituents are screened for liquidity (trade at least \$10M ADV), and include direct beneficiaries of housing (e.g., Homebuilders, Building Products) as well as derivative industry plays (e.g., Durables, Retail, Financials). The basket contains 65 names, and the weights are optimized to replicate as closely as possible an equal-weighted basket, subject to a maximum of 10% of ADV traded in any single name within a \$100M basket. The basket can be accessed on Bloomberg via ticker JPAMHOUS <Index>.

Figure 73: Composition of the J.P. Morgan US Housing Basket – JPAMHOUS <Index>, as of Aug 12th 2015

Ticker	Name	Industry Group	Wgt (%)	Price	Mkt. Cap (\$M)	3M ADV (\$M)	Price Movement	1Y Perf	Price/Book	FCF Yield		
							1M	3M	12M			
PCL	POLYONE CORP	Chemicals	1.5%	\$ 33.54	\$ 2,973	\$ 26	-11.5%	-15.2%	-12.3%	14.2	3.7	4.3%
WAK	WESTLAKE CHEMICA	Chemicals	1.5%	\$ 82.80	\$ 8,288	\$ 41	-3.8%	-8.8%	-27.4%	12.1	2.7	7.4%
VAL	VALSPAR CORP/THE	Chemicals	1.5%	\$ 88.36	\$ 6,457	\$ 38	-3.4%	-4.2%	4.1%	15.4	7.4	3.4%
SMG	SCOTT'S MIRACLES-A	Chemicals	1.5%	\$ 64.84	\$ 3,972	\$ 20	7.1%	8.9%	21.2%	18.9	5.2	4.2%
SHH	SHERWIN-WILLIAMS	Chemicals	1.5%	\$ 273.17	\$ 25,484	\$ 286	-1.6%	-4.9%	31.3%	21.1	33.8	3.4%
RPM	RPM INTL INC	Chemicals	1.5%	\$ 46.03	\$ 6,144	\$ 32	-4.3%	-5.3%	4.6%	15.9	4.7	4.1%
AXLL	AXIALL CORP	Chemicals	1.5%	\$ 28.03	\$ 1,978	\$ 24	-18.2%	-24.7%	-27.7%	13.1	0.8	5.6%
EXP	EAGLE MATERIALS	Construction Materials	1.5%	\$ 83.83	\$ 4,224	\$ 66	7.0%	-1.4%	-8.0%	15.5	4.0	2.4%
MUM	MARTIN MARI INTLS	Construction Materials	1.5%	\$ 172.81	\$ 11,685	\$ 137	12.8%	14.8%	38.1%	22.7	2.7	1.4%
HW	HEADWATERS INC	Construction Materials	1.29%	\$ 21.19	\$ 1,585	\$ 13	14.4%	8.9%	82.2%	17.4	14.2	2.4%
LPX	LOUISIANA PACIFI	Paper & Forest Products	1.5%	\$ 16.99	\$ 2,340	\$ 32	-0.1%	-3.8%	22.2%	32.5	2.4	-3.0%
BCC	BOISE CASCADE CO	Paper & Forest Products	1.5%	\$ 31.35	\$ 1,229	\$ 16	-8.3%	-8.4%	18.8%	14.3	2.3	1.7%
FBHS	FORTUNE BRANDS H	Building Products	1.5%	\$ 48.86	\$ 7,976	\$ 77	18.7%	13.9%	23.1%	18.9	3.4	2.4%
MAS	MASCO CORP	Building Products	1.5%	\$ 27.09	\$ 9,318	\$ 144	15.4%	17.5%	43.8%	18.9	N/A	5.7%
LI	LENNOX INTL INC	Building Products	1.5%	\$ 122.46	\$ 5,514	\$ 50	13.4%	11.6%	47.4%	18.9	N/A	2.2%
ALLE	ALLEGION PLC	Building Products	1.5%	\$ 63.07	\$ 6,940	\$ 36	4.6%	2.2%	24.5%	18.5	N/A	3.0%
AGS	SMITH A.O. CORP	Building Products	1.5%	\$ 68.89	\$ 6,123	\$ 57	4.1%	1.3%	46.5%	18.6	4.3	2.7%
USG	USG CORP	Building Products	1.5%	\$ 31.70	\$ 4,838	\$ 63	17.4%	17.5%	18.5%	18.2	9.7	2.2%
OC	OWENS CORNING	Building Products	1.5%	\$ 45.42	\$ 5,395	\$ 71	9.5%	16.1%	35.1%	15.9	5.4	4.3%
CSTE	CAESARSTONE SOOT	Building Products	1.5%	\$ 52.46	\$ 1,843	\$ 21	-23.4%	-12.8%	1.3%	17.2	5.7	-8.6%
AWI	ARMSTRONG WORLD	Building Products	1.5%	\$ 57.54	\$ 3,182	\$ 32	8.6%	3.1%	7.1%	21.0	4.3	2.2%
DOOR	MASONITE INTERNA	Building Products	1.32%	\$ 66.98	\$ 1,982	\$ 13	-6.5%	-3.5%	28.8%	23.9	3.0	8.8%
TREX	TREX CO INC	Building Products	1.5%	\$ 41.32	\$ 1,324	\$ 24	-13.7%	-15.9%	15.9%	28.1	8.7	-8.2%
BLDR	BUILDERS FIRSTSO	Building Products	1.5%	\$ 14.18	\$ 1,940	\$ 19	11.7%	11.8%	131.7%	14.0	28.3	1.2%
NDSN	NORDSON CORP	Machinery	1.39%	\$ 74.36	\$ 4,524	\$ 14	-2.0%	-8.1%	-1.6%	16.4	5.5	5.2%
GGG	GRACO INC	Machinery	1.5%	\$ 72.27	\$ 4,172	\$ 25	5.4%	-4.2%	-1.5%	18.6	5.9	5.1%
SAK	STANLEY BLACK &	Machinery	1.5%	\$ 104.89	\$ 16,044	\$ 134	-1.8%	1.7%	28.8%	15.9	2.8	5.2%
WSO	WATSCO INC	Trading Companies & Distributors	1.5%	\$ 128.50	\$ 4,549	\$ 27	4.8%	4.8%	42.3%	22.3	4.9	2.5%
BEON	BEACON ROOFING S	Trading Companies & Distributors	1.5%	\$ 35.77	\$ 1,778	\$ 21	11.9%	14.9%	28.5%	21.3	2.1	5.0%
RVL	RYLAND GROUP INC	Household Durables	1.5%	\$ 44.80	\$ 2,890	\$ 24	-4.3%	7.3%	33.5%	18.8	1.8	-8.8%
LEN	LENNAR CORP-A	Household Durables	1.5%	\$ 51.73	\$ 10,389	\$ 133	-2.9%	10.9%	42.1%	13.6	2.1	-10.7%
TOL	TOLL BROTHERS	Household Durables	1.5%	\$ 38.22	\$ 6,907	\$ 71	0.9%	7.2%	18.1%	14.6	1.7	4.7%
PHM	PULTEGROUP INC	Household Durables	1.5%	\$ 28.86	\$ 7,399	\$ 111	0.8%	7.3%	18.5%	13.6	5.6	8.0%
MHK	MOHAWK INDUS	Household Durables	1.5%	\$ 206.30	\$ 15,180	\$ 122	5.8%	13.5%	53.8%	17.5	3.3	1.9%
SFP	STANDARD PACIFIC	Household Durables	1.5%	\$ 8.80	\$ 2,434	\$ 22	-2.9%	8.2%	13.2%	11.6	1.4	-13.5%
MDC	MDC HOLDINGS INC	Household Durables	1.5%	\$ 28.52	\$ 1,443	\$ 22	-4.1%	7.9%	14.8%	13.1	1.2	-1.8%
DH	DR HORTON INC	Household Durables	1.5%	\$ 28.96	\$ 10,989	\$ 146	8.5%	18.3%	48.2%	12.8	2.0	8.1%
KRH	KR HOME	Household Durables	1.5%	\$ 15.26	\$ 1,494	\$ 41	-8.1%	7.1%	-5.8%	11.3	0.9	-15.4%
MTH	MERITAGE HOMES C	Household Durables	1.5%	\$ 42.38	\$ 1,681	\$ 20	-12.8%	-1.7%	6.4%	18.0	5.4	-7.7%
TPH	TRI POINTE GROUP	Household Durables	1.5%	\$ 14.49	\$ 2,344	\$ 33	-4.8%	1.8%	12.2%	9.9	5.6	-17.1%
NVR	NVR INC	Household Durables	1.5%	\$ 151.82	\$ 6,140	\$ 49	8.9%	15.7%	34.8%	14.0	4.8	2.3%
WRH	WHIRLPOOL CORP	Household Durables	1.5%	\$ 172.79	\$ 13,551	\$ 196	-0.9%	-4.8%	28.8%	11.3	2.7	5.4%
LEJ	LEGGOTT & FLATT	Household Durables	1.5%	\$ 47.73	\$ 6,533	\$ 43	-4.6%	3.8%	44.8%	28.3	5.9	4.7%
POOL	POOL CORP	Distributors	1.5%	\$ 78.45	\$ 3,025	\$ 16	-0.7%	6.4%	28.2%	21.9	11.7	3.1%
HSN	HSN INC	Internet & Catalog Retail	1.5%	\$ 62.98	\$ 3,331	\$ 17	-12.0%	-4.2%	25.9%	15.9	28.8	3.8%
LOW	LOWES COS INC	Specialty Retail	1.5%	\$ 88.97	\$ 64,327	\$ 358	2.1%	-8.3%	48.5%	17.5	6.9	8.7%
HD	HOME DEPOT INC	Specialty Retail	1.5%	\$ 117.99	\$ 152,876	\$ 514	4.1%	5.1%	44.9%	18.5	16.8	4.8%
WFM	WILLIAMS-SONOMA	Specialty Retail	1.5%	\$ 88.53	\$ 7,922	\$ 49	3.4%	13.3%	25.3%	21.7	6.7	3.2%
BBBY	BED BATH BEYOND	Specialty Retail	1.5%	\$ 63.91	\$ 10,839	\$ 98	-5.9%	-4.8%	2.5%	11.5	4.2	7.2%
RH	RESTORATION HARD	Specialty Retail	1.5%	\$ 98.40	\$ 3,971	\$ 66	1.1%	12.8%	28.1%	25.4	5.5	8.1%
AAN	AARONS INC	Specialty Retail	1.5%	\$ 37.15	\$ 2,896	\$ 27	1.8%	5.9%	44.4%	14.1	2.0	5.7%
FRC	FIRST REPUBLIC B	Banks	1.5%	\$ 62.90	\$ 8,917	\$ 43	-0.7%	5.4%	38.3%	17.2	2.1	5.8%
MTG	MGIC INVY CORP	Trusts & Mortgage Finance	1.5%	\$ 18.82	\$ 3,675	\$ 56	-5.3%	1.0%	38.4%	11.0	3.0	-5.2%
RDN	RADIAN GROUP INC	Trusts & Mortgage Finance	1.5%	\$ 18.34	\$ 3,827	\$ 43	-0.4%	1.2%	35.2%	18.6	5.6	1.0%
WZ	WALKER & DUNLOP	Trusts & Mortgage Finance	0.95%	\$ 24.02	\$ 733	\$ 10	-12.0%	5.4%	62.1%	18.0	5.6	-16.3%
GNW	GENWORTH FINANC	Insurance	1.5%	\$ 5.27	\$ 2,621	\$ 41	-29.6%	-36.6%	-59.3%	4.8	0.2	90.9%
FAF	FIRST AMERICAN F	Insurance	1.5%	\$ 48.36	\$ 4,385	\$ 36	2.1%	14.5%	51.8%	14.2	1.7	8.4%
ORI	OLD REPUBLIC INTL	Insurance	1.5%	\$ 16.80	\$ 4,335	\$ 20	3.8%	8.8%	28.4%	14.7	1.1	-1.2%
HRTG	HERITAGE INSURAN	Insurance	1.03%	\$ 18.48	\$ 985	\$ 11	-22.3%	-5.9%	32.8%	6.3	2.3	38.1%
WY	WEYBHAUSER CO	Real Estate Investment: Trusts	1.5%	\$ 38.95	\$ 15,922	\$ 94	-1.0%	-2.2%	-0.9%	18.9	3.8	4.1%
PCL	FLUM CREEK TIMBR	Real Estate Investment: Trusts	1.5%	\$ 48.96	\$ 7,199	\$ 36	1.6%	-4.4%	4.6%	38.3	4.7	5.7%
AMH	AMERICAN HOMES A	Real Estate Investment: Trusts	1.5%	\$ 15.66	\$ 3,312	\$ 23	-4.2%	-5.3%	-10.2%	N/A	1.0	-36.2%
RLGY	REALOGY HOLDINGS	Real Estate Management & Dev	1.5%	\$ 43.38	\$ 6,354	\$ 50	-10.1%	-4.2%	8.9%	21.6	2.8	5.8%
Z	ZILLO GROUP I-A	Internet Software & Services	1.5%	\$ 74.49	\$ 4,394	\$ 147	-5.3%	-24.0%	-43.8%	87.1	5.6	-8.3%
RCO	FAIR ISAC CORP	Software	1.49%	\$ 88.62	\$ 2,791	\$ 15	-4.5%	3.5%	61.8%	18.0	7.0	4.7%
SP5HOIR	S&P Homebuilders Index						2.0%	6.3%	25.4%	15.2	3.8	8.8%
SPX	S&P 500 Index						0.6%	-8.1%	18.8%	15.9	2.9	5.6%

Source: J.P. Morgan Equity Derivatives Strategy, Bloomberg. Note on noncovered companies: This basket has been created to leverage the theme of this research report. It includes companies that are not covered by J.P. Morgan Research and should not be viewed as a recommendation with respect to these companies.

Basket Performance

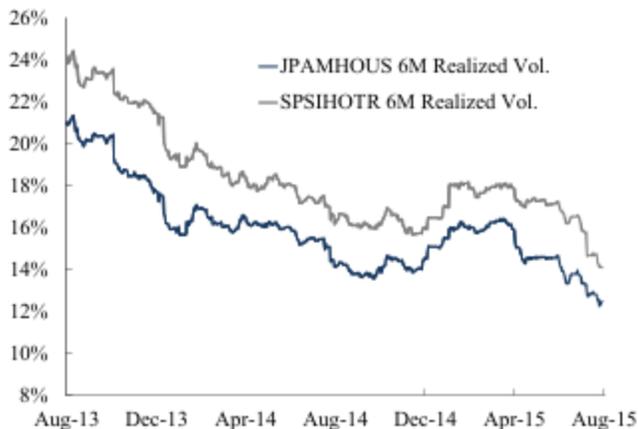
In this section, we examine the hypothetical performance of the J.P. Morgan US Housing Basket over the last three years¹. The basket – JPAMHOUS <Index> – would have returned +18% on an annualized basis, narrowly outperforming the S&P Homebuilders Select Industry Index (SPSIHOTR Index), which returned +17.7% over the same period. The correlation of the basket to the SPSIHOTR Index is 93%, and the recent 6M realized volatility of the basket is 12.5% (the realized volatility of the SPSIHOTR Index over the same time frame is 1.5 vol points higher at 14.1%). The figures below show the performance and volatility of the J.P. Morgan US Housing Basket vs. that of the SPSIHOTR Index. The historical beta and correlation between them is also shown in the charts below.

Figure 74: Hypothetical performance of JPAMHOUS and SPSIHOTR



Source: J.P. Morgan Equity Derivatives Strategy, Bloomberg. Note: All price performance excludes commissions and fees. Past performance is not indicative of future returns

Figure 76: 6M Realized Volatility of JPAMHOUS vs. SPSIHOTR



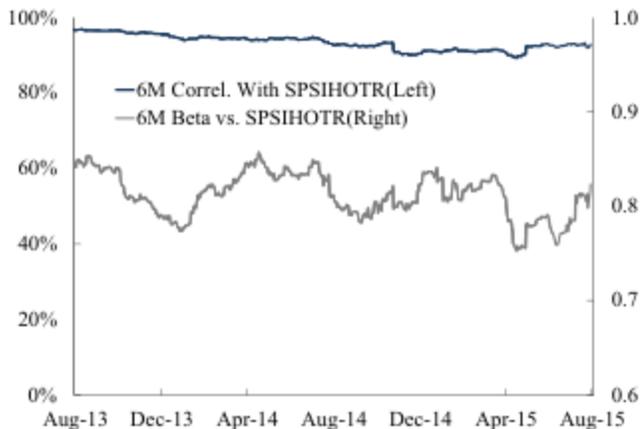
Source: J.P. Morgan Equity Derivatives Strategy, Bloomberg. Note: All price performance excludes commissions and fees. Past performance is not indicative of future returns

Figure 75: Daily Returns of JPAMHOUS vs. SPSIHOTR



Source: J.P. Morgan Equity Derivatives Strategy, Bloomberg. Note: All price performance excludes commissions and fees. Past performance is not indicative of future returns

Figure 77: 6M Beta and 6M Correlation of JPAMHOUS vs. SPSIHOTR



Source: J.P. Morgan Equity Derivatives Strategy, Bloomberg. Note: All price performance excludes commissions and fees. Past performance is not indicative of future returns

¹ Not all stocks in the basket have 3 years of price history (BCC, ALLE, TPH, RH, HRTG, AMH, and RLGY). In such cases, we have replaced the stock with an equivalent quantity of cash prior to its listing for the purpose of the back-test.

Additional Basket Methodology Information

In order to keep the basket relevant to the investment theme, J.P. Morgan reserves the right to review the following at any time:

- **Basket methodology.** This is to ensure the rules of the basket remain relevant following any structural changes to the theme. This may include ensuring that the sector exposure of the basket remains broadly consistent with the investment theme.
- **Basket change implementation.** J.P. Morgan will consider extending the implementation of changes to the basket composition from one trading session to any period up to five trading sessions in the event that a material increase in the liquidity or capacity of the basket is required to minimize market impact.

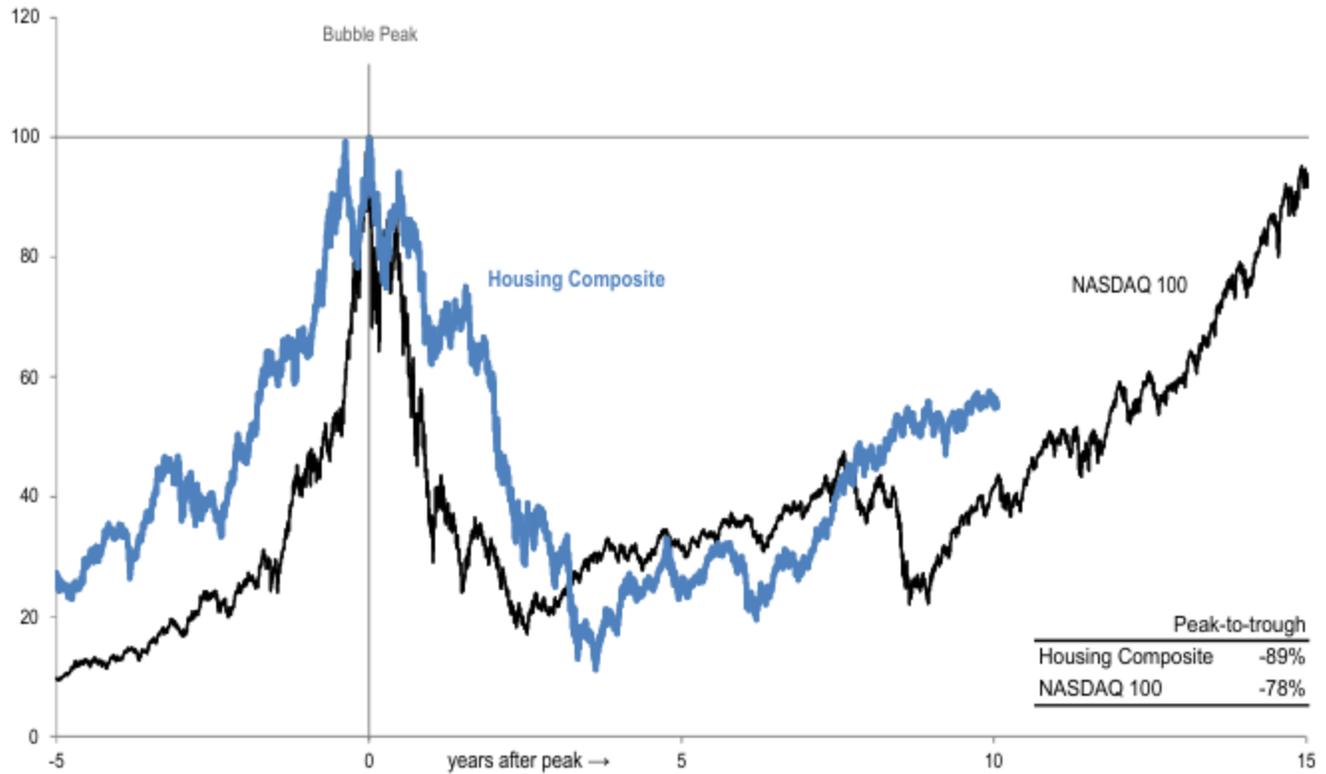
Corporate actions may affect the JPAMHOUS basket. The composition of a custom basket is typically adjusted in the following manner:

- **Cash Merger.** The divisor is adjusted and we remove the merging company from the basket on the day of merger and redistribute gains into remaining companies according to recalculated market cap weights of surviving constituents in the basket.
- **Stock Merger.** If the acquirer is a member of the basket, then the weight allocated to the acquired will transfer to the surviving entity on the close of the last day it trades. If the acquirer is not a part of the basket, then proceeds (losses) from the acquired company will be redistributed to the surviving basket constituents based on the recalculated weighting on the close of its last trading day.
- **Spinoffs.** The spinoff company and parent will be included in the basket and both the spinoff and parent company weights will be readjusted according to new market capitalizations after the spinoff date.
- **Tender Offers & Share Buybacks.** The company remains in the basket and its weight is adjusted according to the impact the tender/buyback has on the stock's market value.
- **Delisting/Insolvency/Bankruptcy.** The company is removed from the basket as of the close of the last trading day, and the proceeds (losses) will be redistributed into remaining companies according to re-calculated weights of remaining companies in the basket. If a stock trades on "pink sheets" it will not be included in the basket.

Appendix I: Price Decline Housing vs Tech

Figure 78: Tracking the Recovery in Housing Stocks

Index to 100 at peak



Source: J.P. Morgan and Bloomberg

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