A Bigger Picture: Risks from Macro-Sources

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J.P.Morgan
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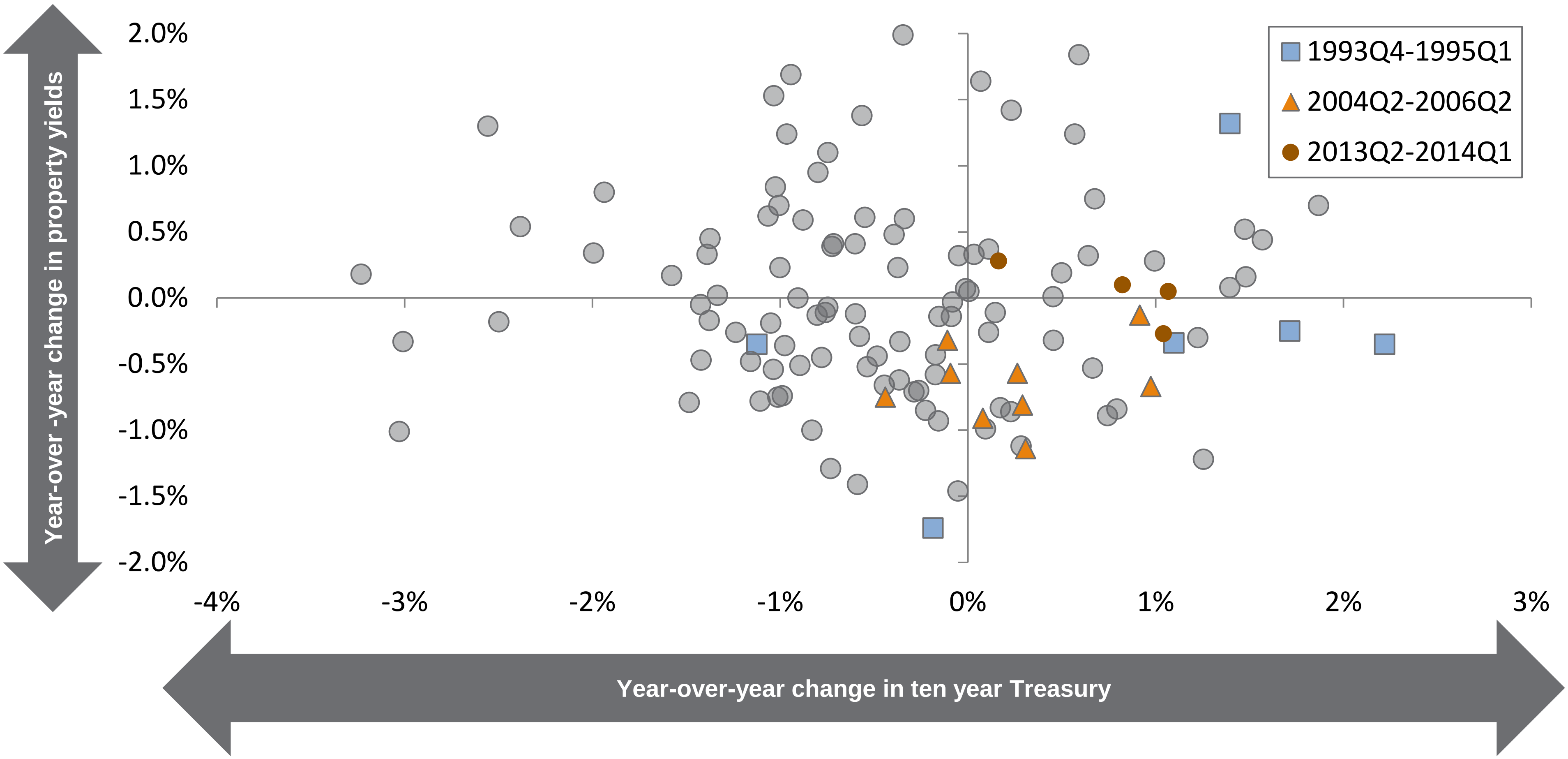
Macro challenges we're tracking

- What happens if interest rates rise more this year?
- What happens if they *don't* rise?

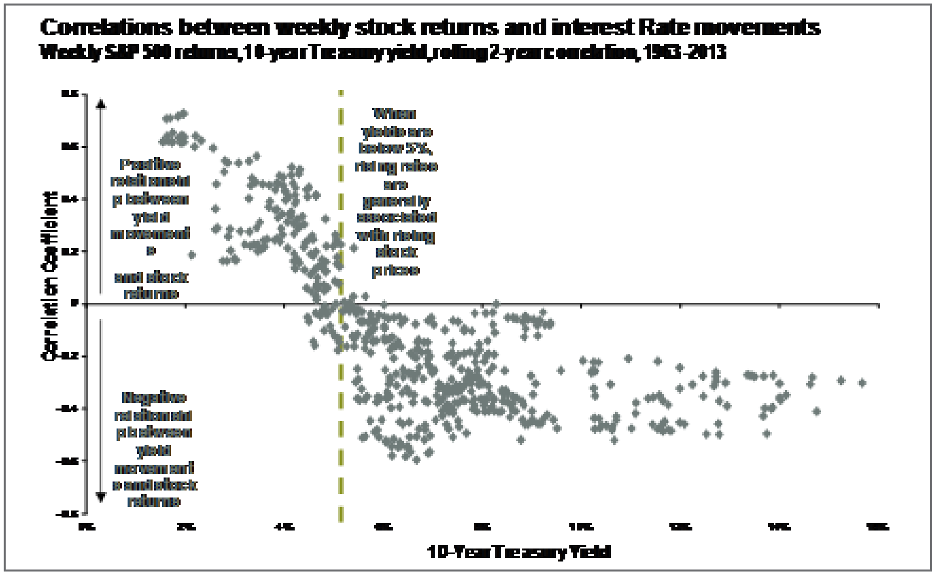
Unsurprisingly, short-term cap rate (lack of) relationship has held

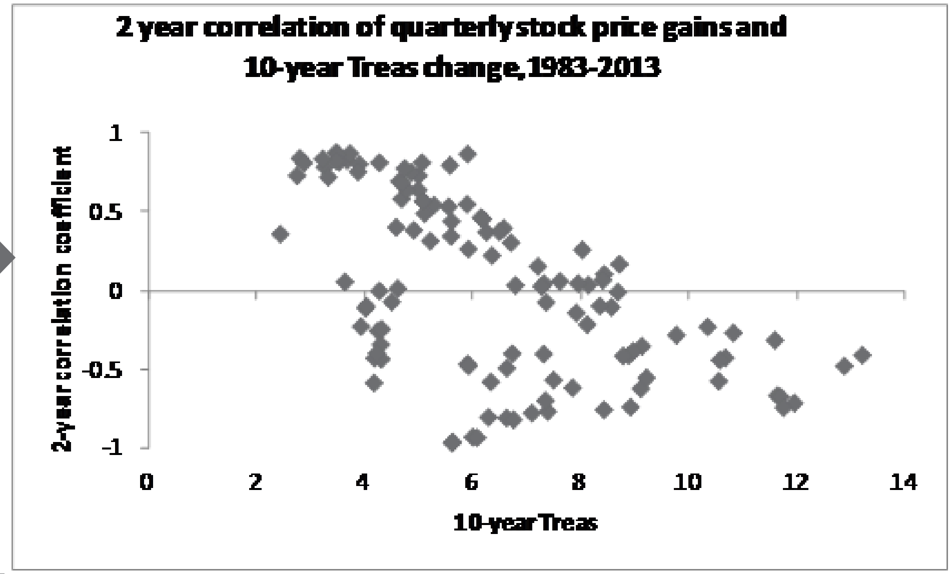
Year-over-year change in 10-yr Treasury (X axis) vs. NCREIF transaction cap rates (Y axis)

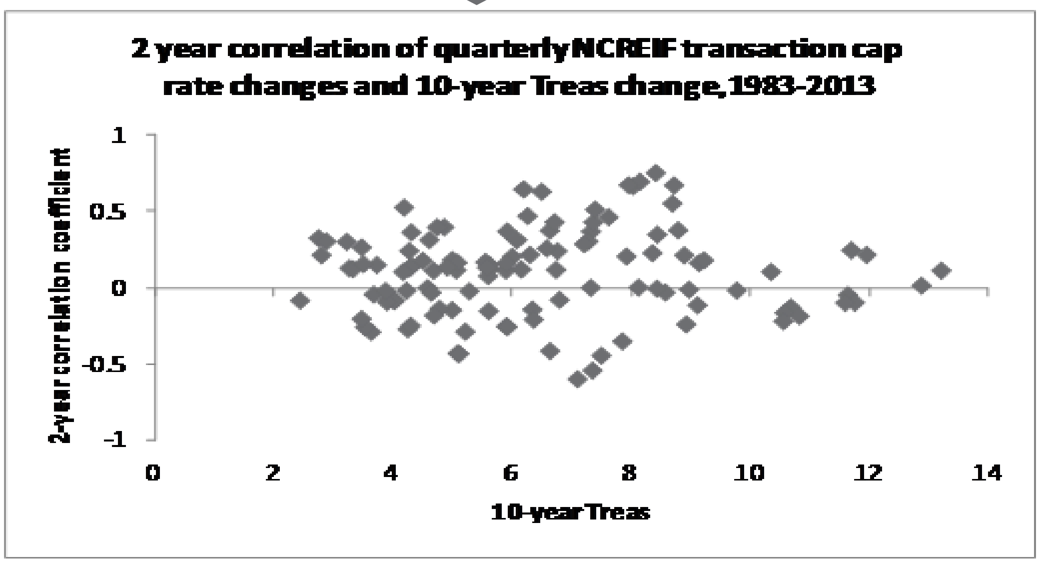


Sources: U.S. Federal Reserve, NCREIF (NPI), Moody's Analytics, J.P. Morgan Asset Management. Quarterly data for the period from 4q1983 through 1q2014.
The charts and/or graphs shown above and throughout the presentation are for illustration and discussion purposes only.

Comparing real estate to stocks







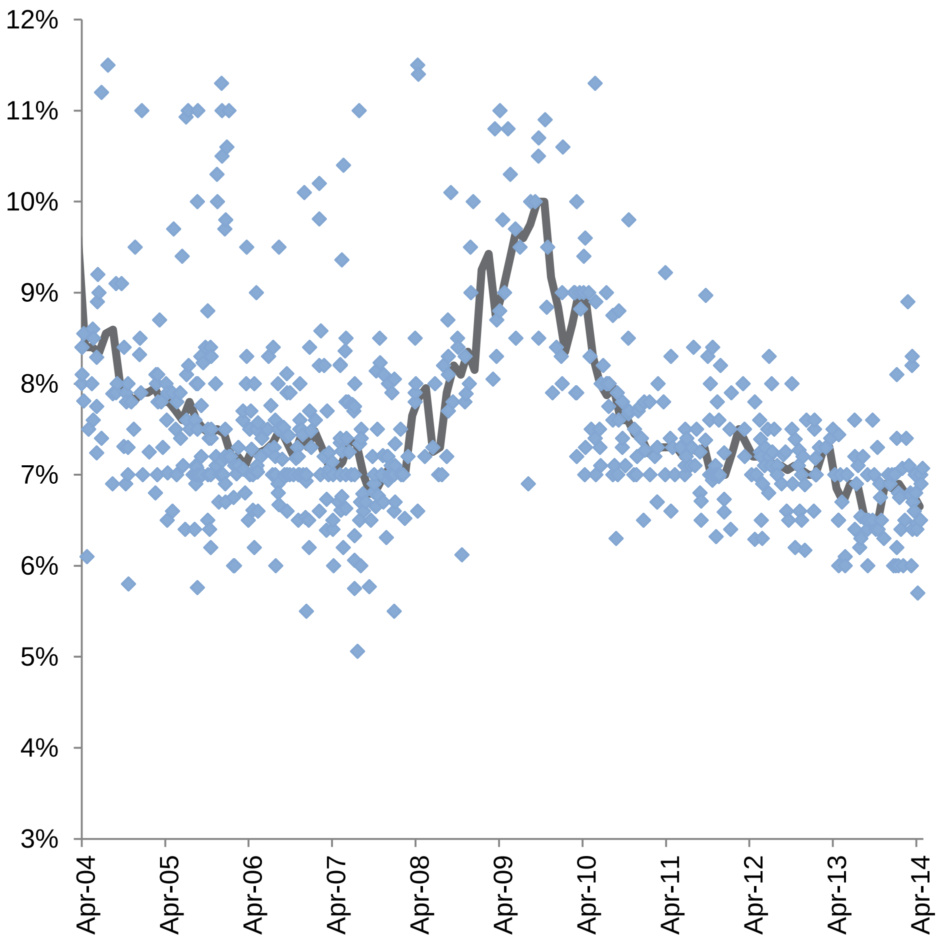
Sources: J.P. Morgan Asset Management, NCREIF, U.S. Federal Reserve and Standard & Poors. Data as of 2013.

How we thought about analyzing interest rate impact

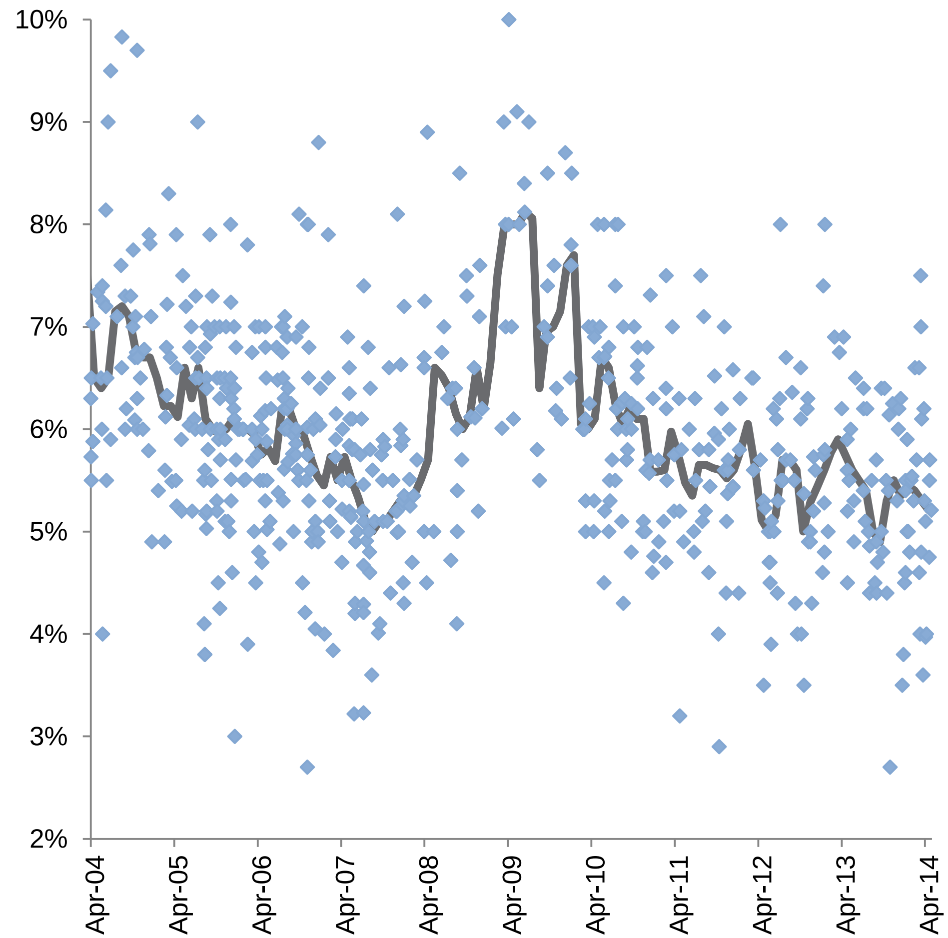
- Focus on underwriting IRRs not cap rates: take “IRR minus” versus “cap rate plus” approach
- Focus on what IRRs need to be in normalized Treasury environment, which also generally overlaps with the “next buyer” analysis
- What’s the right spread?
  - History is annoying, but useful
  - Don’t re-invent wheel: take advantage of the fact that (a) there is a lot of work done on appropriate equity risk premium, and that (b) most portfolio managers assume real estate’s risk and volatility should fall between bonds and equity in equilibrium
- Back out exit cap rate impact as a residual based on next-buyer NCF growth expectations
  - Pricing impacts flow from this

Some base data—JPM underwriting data

Median IRR for core assets as underwritten by J.P. Morgan acquisitions team



Median NOI Yield for core assets as underwritten by J.P. Morgan acquisitions team



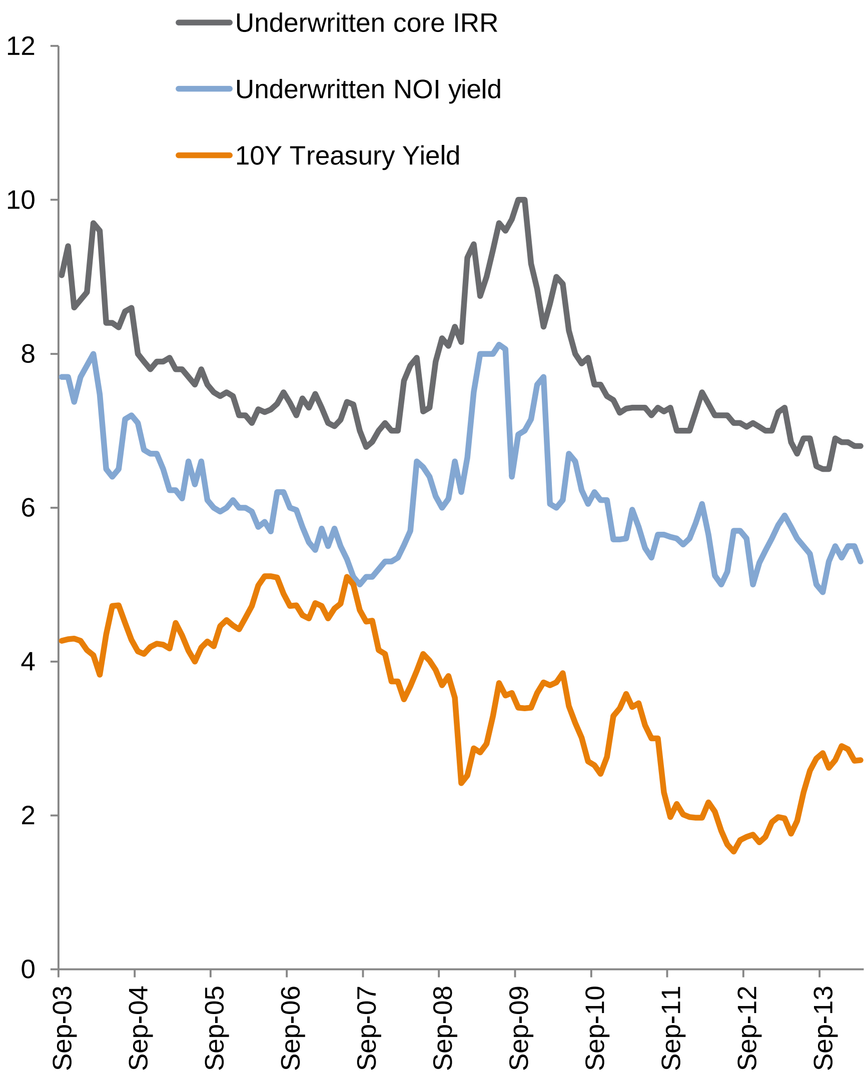
Source: J.P. Morgan Asset Management. Data as of April 2014.

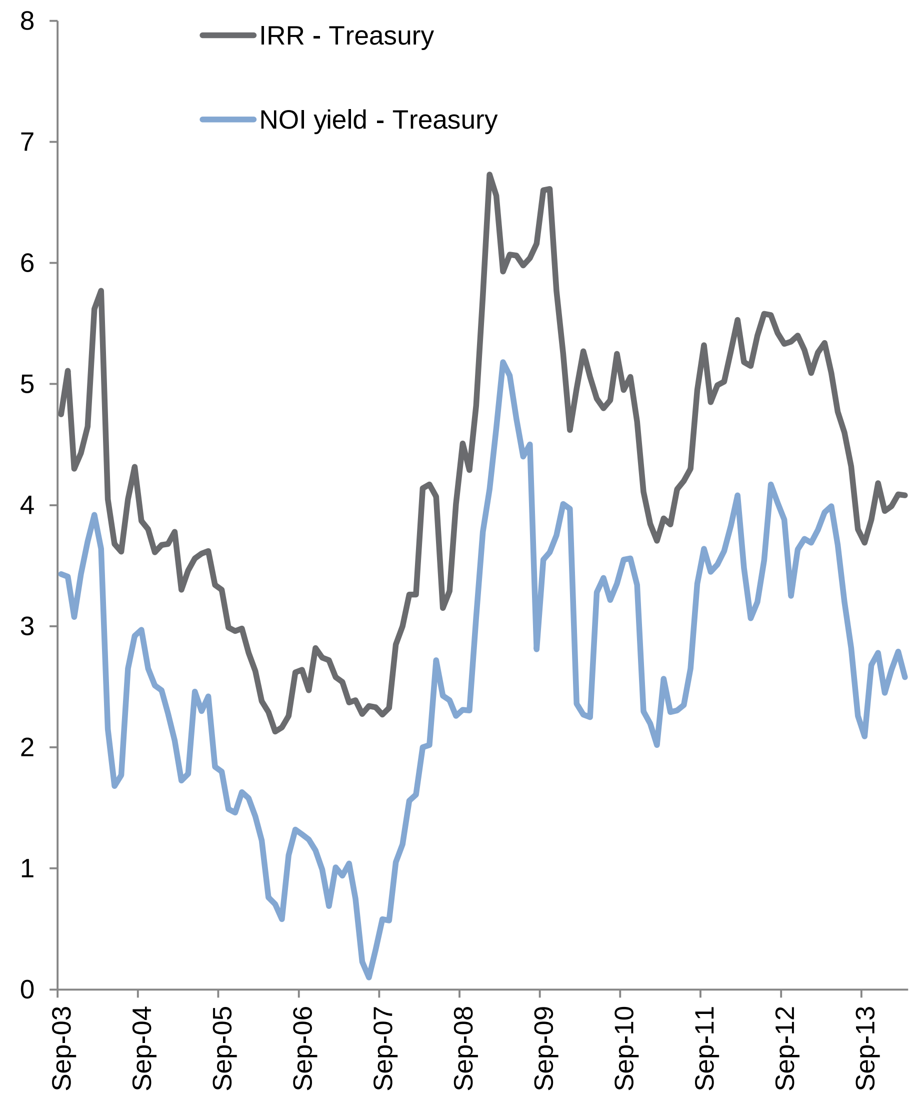
Some base data—JPM debt data

65% LTV mortgage yields

Source: J.P. Morgan Asset Management. Proprietary Lender Survey, as of April 2014.

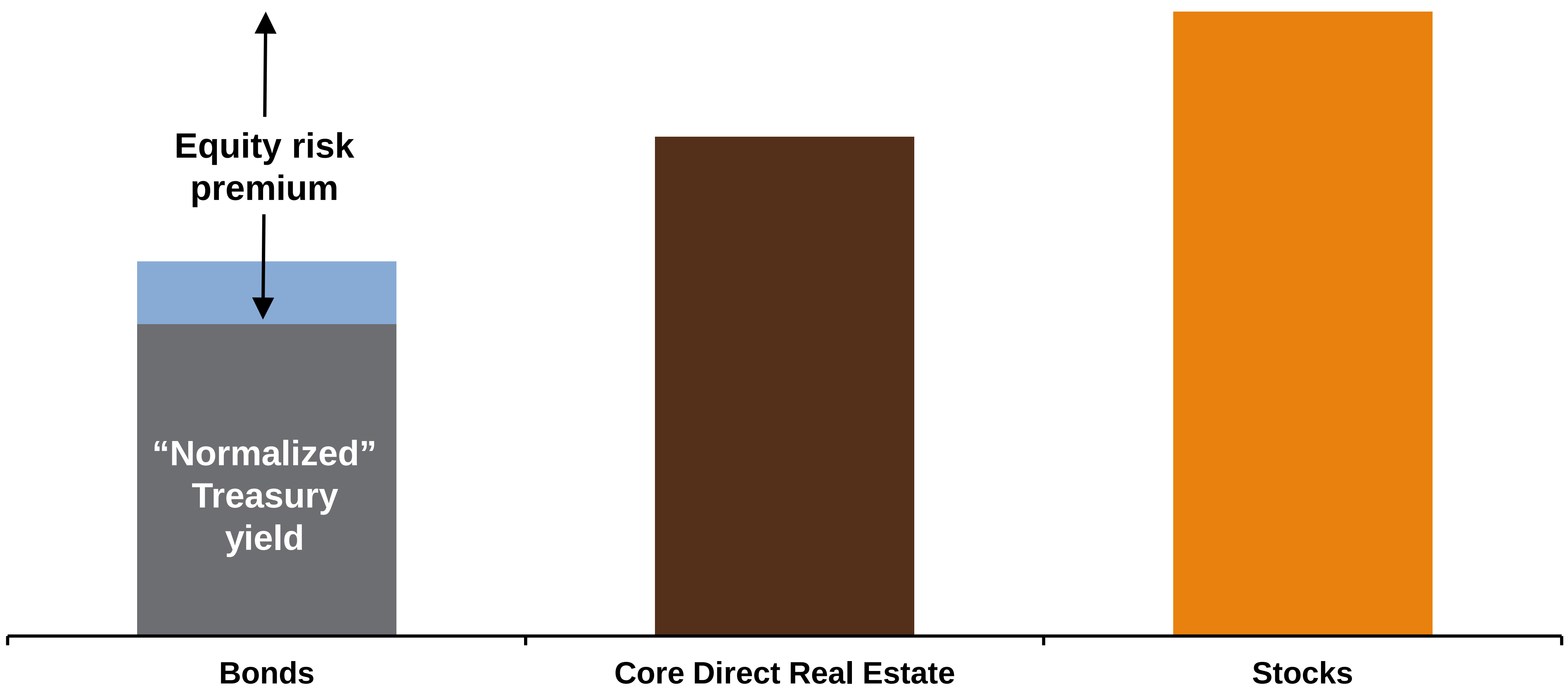
What's the spread? Depends what the rate is





Sources: J.P. Morgan Asset Management and Moody's Analytics. Data as of March 2014.

Cap rate plus or IRR minus?



Source: J.P. Morgan Asset Management.

A way to think of a range of reasonable next buyer IRRs

Core IRR spread to “equilibrium” Treasury yields

"Equilbrium" 10-year Treasury	Underwritten medium term IRR: 6.00%	**6.50%**	**7.00%**	**7.50%**	8.00%
3.00%	300	350	400	450	500
3.50%	250	300	350	400	450
4.00%	200	250	300	350	400
4.50%	150	**200**	**250**	**300**	350
5.00%	100	**150**	**200**	**250**	300
5.50%	50	100	150	200	250
6.00%	0	50	100	150	200

Source: J.P. Morgan Asset Management.

As NOI expectations normalize, residual cap rates should rise: today's underwriting assumes sale in higher rate environment

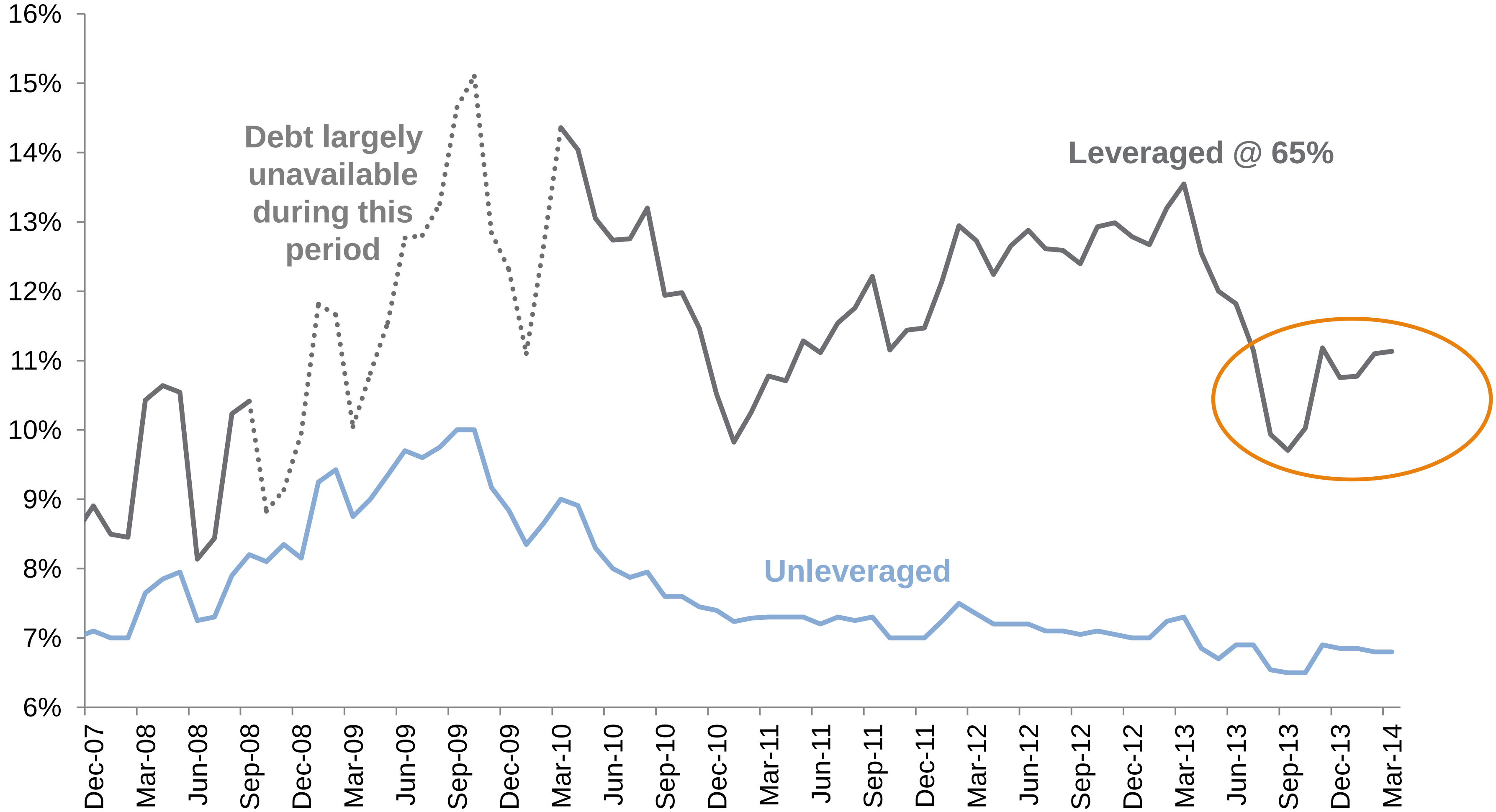
Example: Decomposing GRA discount rates

Strategy	GAV	Discount Rate (a)	Going-in Yield (b)	Exit Cap Rate (c)	Difference (c)-(b)
Core	$25.1 bn	7.43%	5.41%	6.46%	1.05%
Core-plus	$2.3 bn	7.56%	6.03%	6.68%	0.65%
Value-add	$3.1 bn	7.93%	5.10%	6.91%	1.81%

Source: J.P. Morgan Asset Management. Data as of March 2013.

The bigger macro risk? That interest rates stay too low

Leveraged & Unleveraged discount rates (IRRs) for newly underwritten core transactions, JPMAM



Source: JPMAM. Data as of March 2014.
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