



RE Capital Markets Update & Outlook



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Center for Real Estate and
Urban Economic Studies



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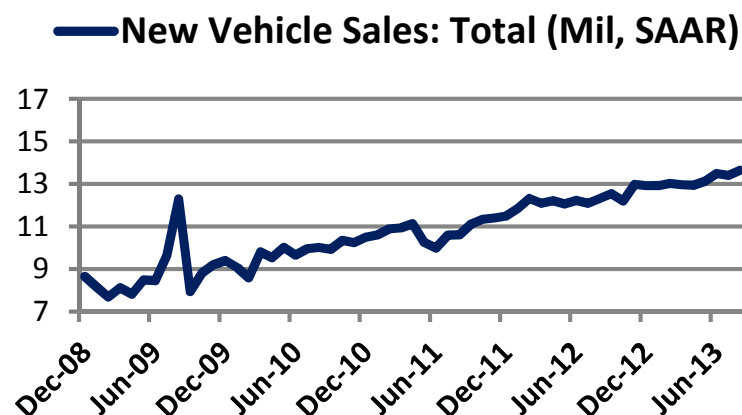
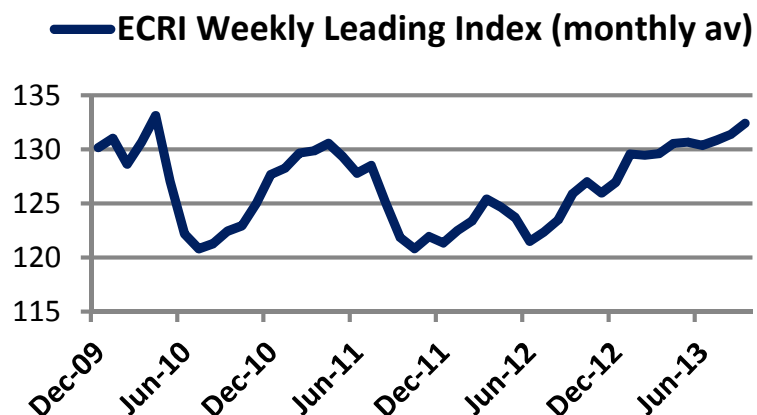
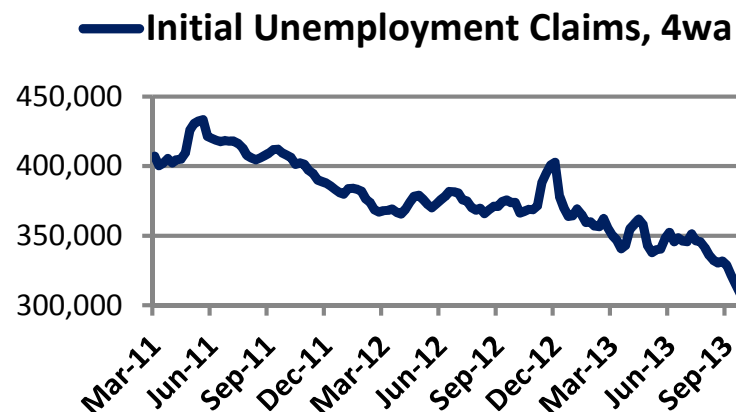
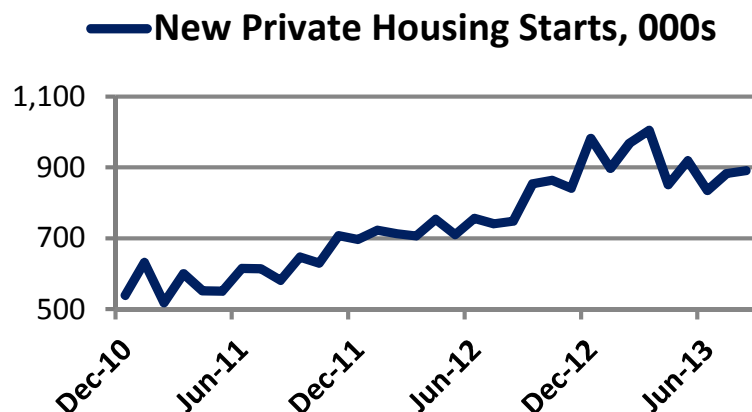
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From My Presentation Here ~~2~~ Years Ago ...



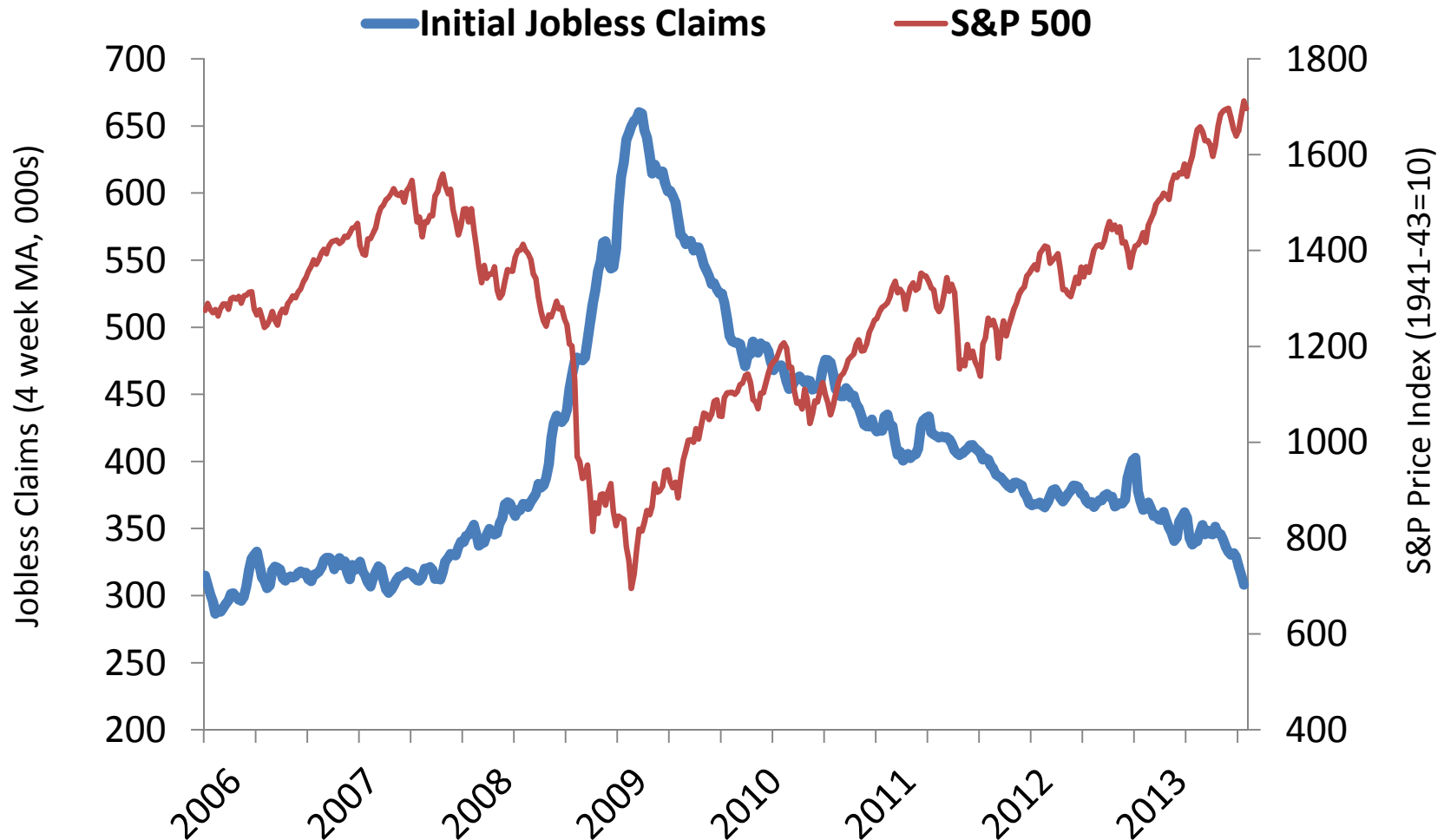
High Frequency Indicators Supporting Slow Expansion

Trends in housing, employment, manufacturing, and leading indicators



Sources: Moody's Analytics, Cornerstone Research, 10/10/2013

Stock Prices Show Strong Gains as Labor Market “Improves”

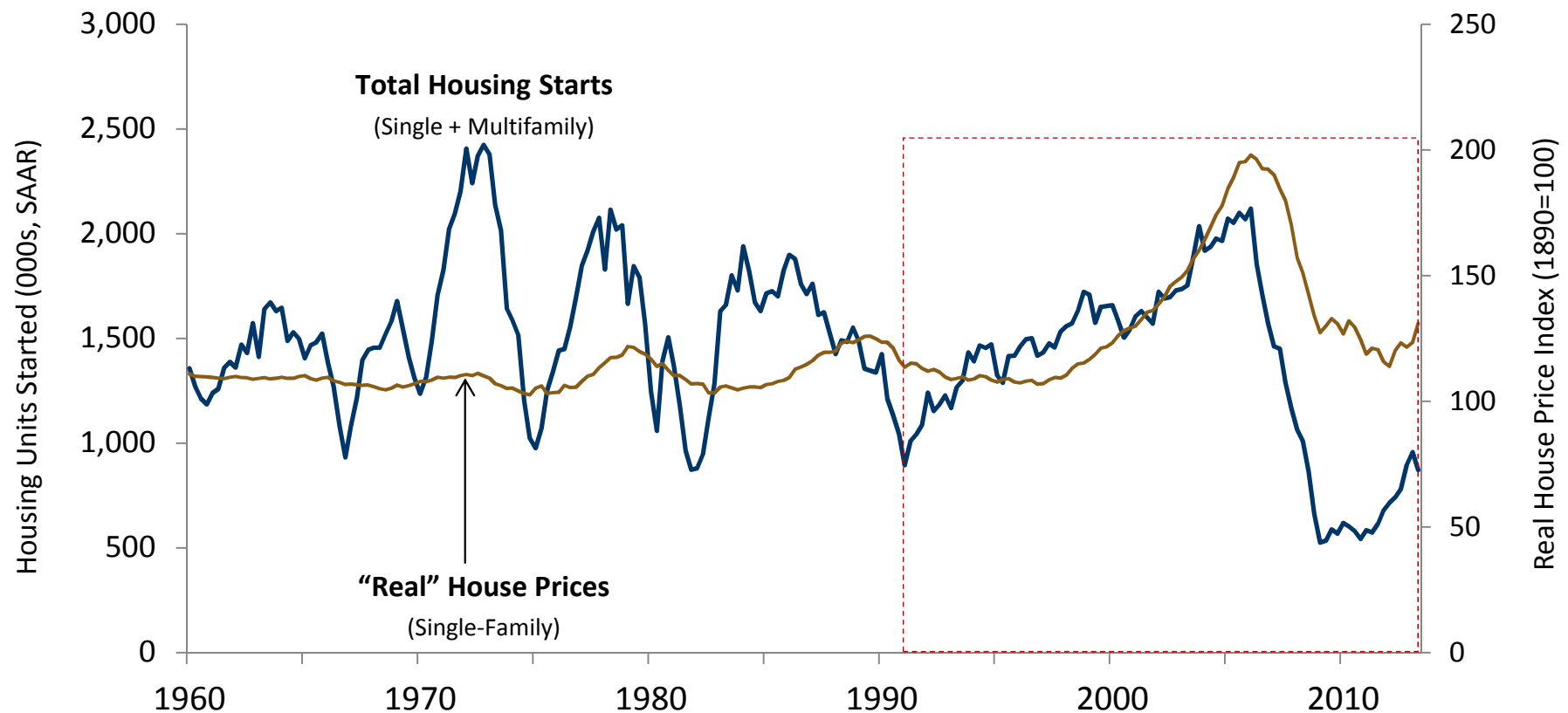


Weekly data through September 21, 2013 for initial claims and September 28, 2013 for S&P 500.

Sources: Cornerstone Research, Bureau of Labor Statistics, Federal Reserve Board.

Not a “Typical” Recovery ... *but starting to become more like one*

Housing cycle structurally different this time; Housing sector not able to lead the recovery as in previous cycles but now beginning to transition from a drag to a driver of economic growth



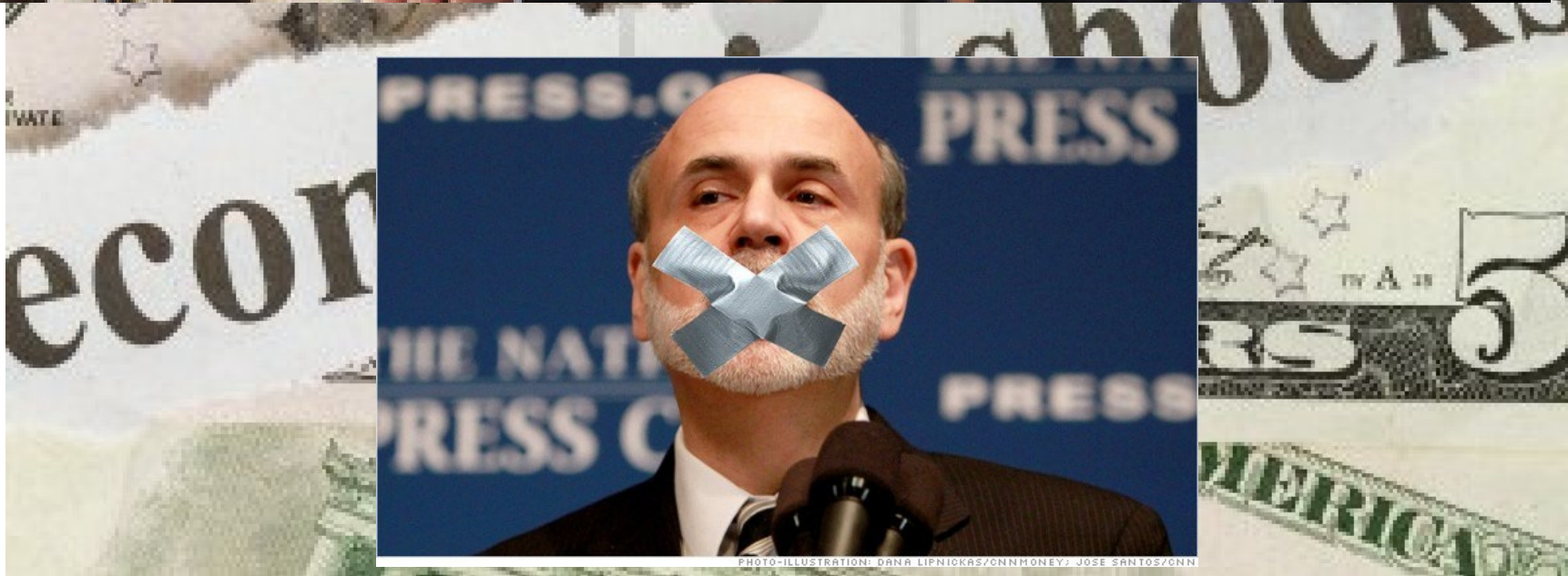
Quarterly data through 2Q13.

The "Real" House Prices series is an inflation adjusted index created by dividing a nominal house price index by the level of the Consumer Price Index (CPI).

Source: Cornerstone Research, Federal Reserve Board, Robert Shiller.

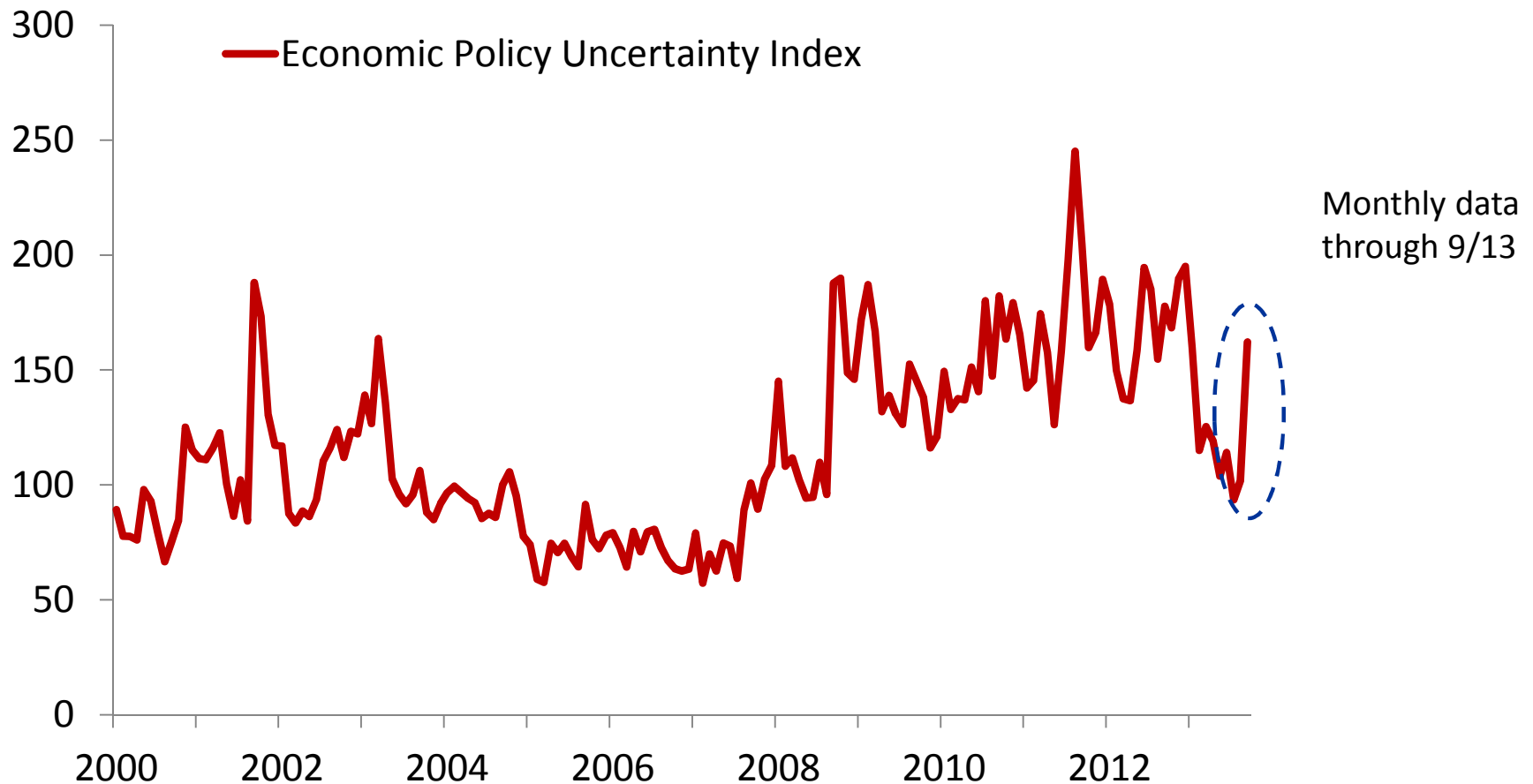
But ... Déjà vu all over again??





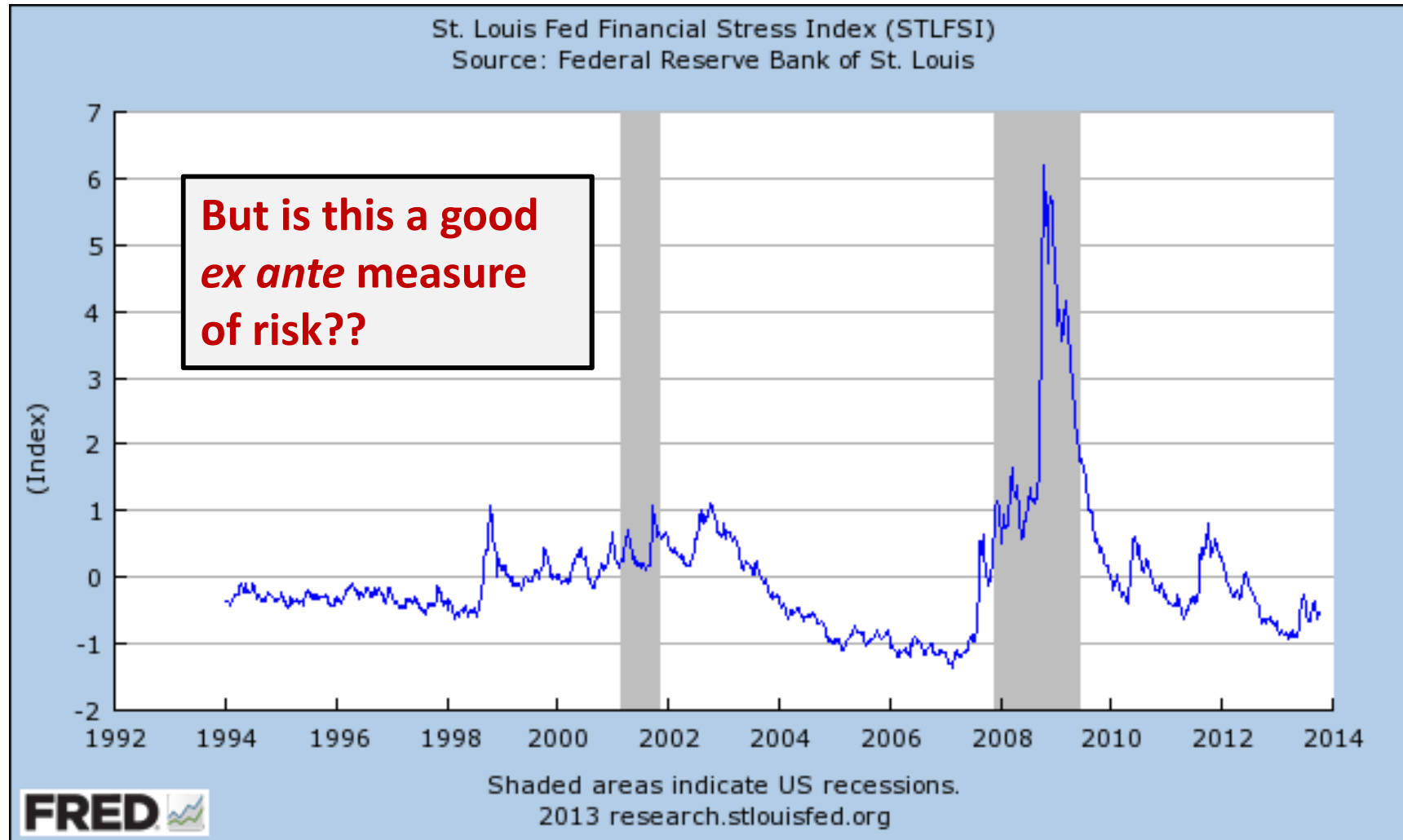
Macroeconomic and Policy Uncertainty Spikes

Does heightened volatility increase the (*real option*) value of waiting to invest??



Financial Market “Stress” Measures Up But Remain Low

Fed Stress Index = common component extracted from 18 financial market variables



Fed Set to Pare Back it's "QE" Asset Purchase Program "Soon"



Why Start Scaling Back Long-Term Asset Purchases (i.e. “QE”)?



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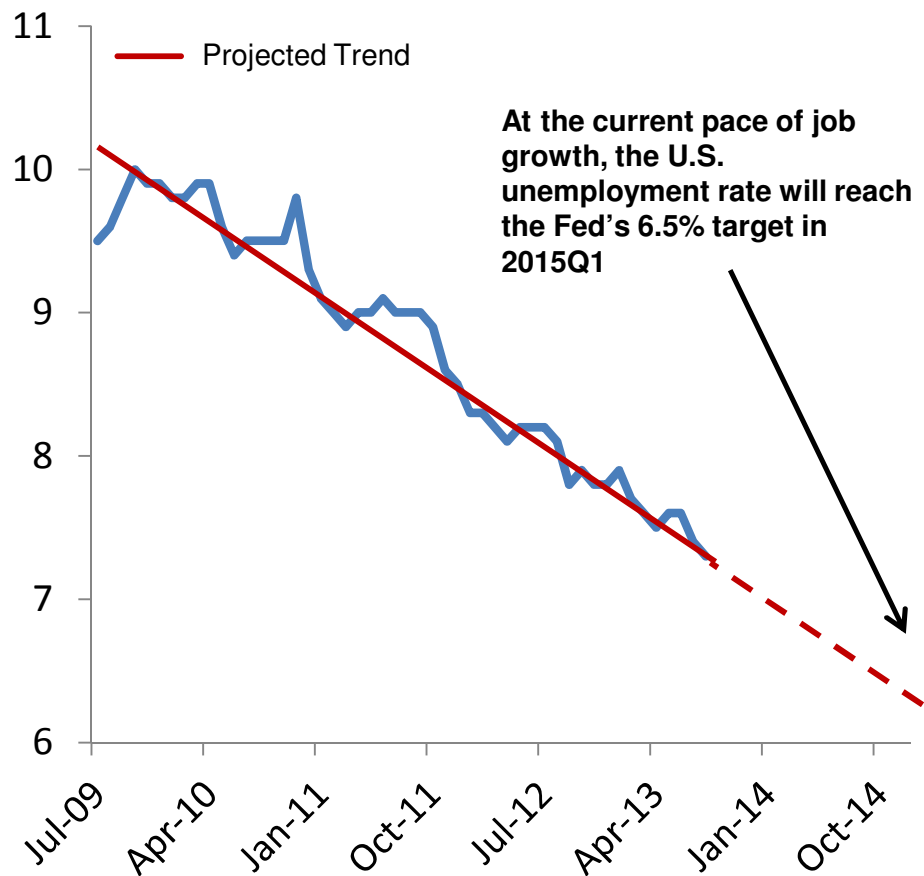
COMMENTARY

NO. 381

The Dangers of
an Extended Period of
Low Interest Rates:
Why the Bank of Canada
Should Start Raising
Them Now

Labor Market Good News/Bad News

Unemployment Rate

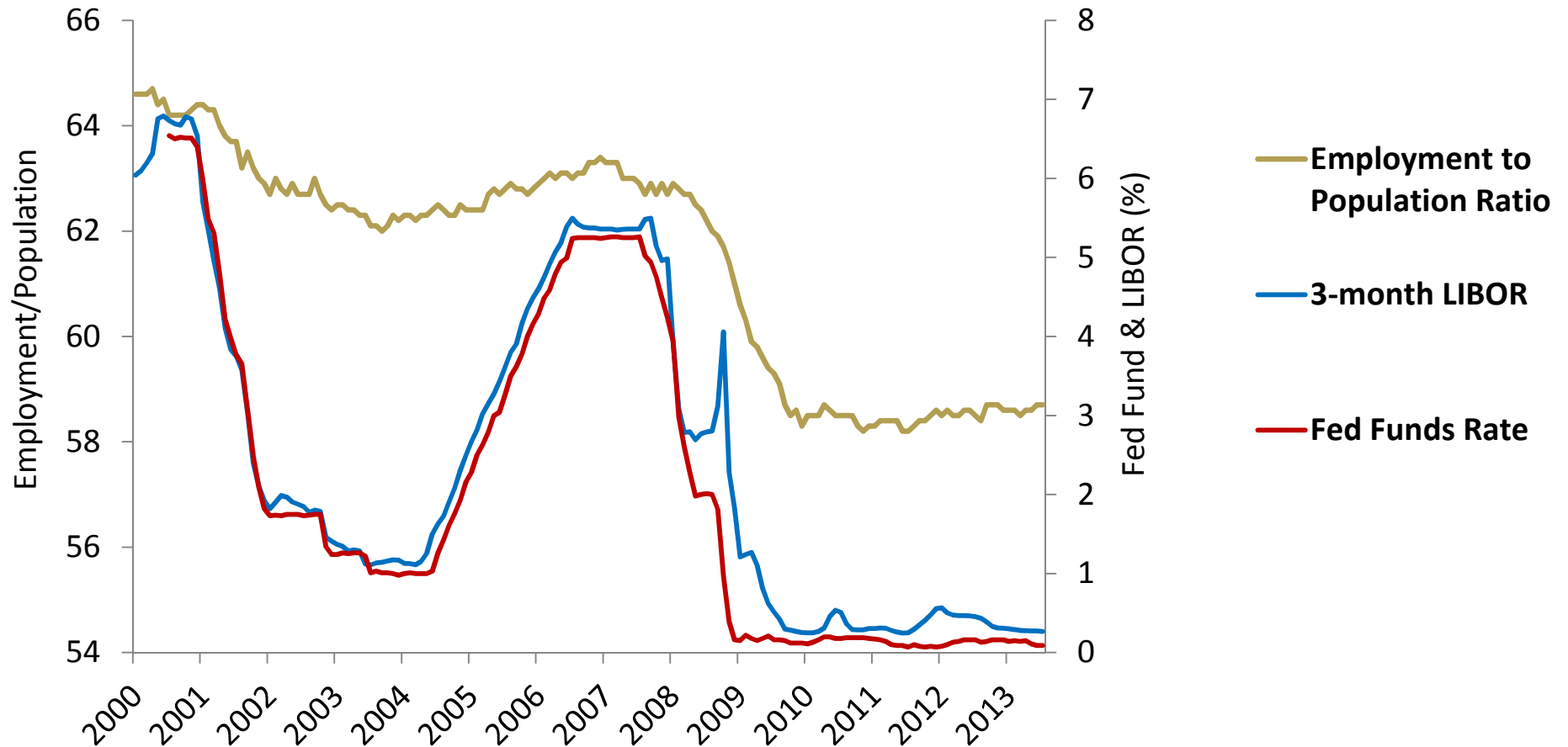


Labor Force Participation Rate



Short-Term Interest Rates to Stay Near Zero into 2015

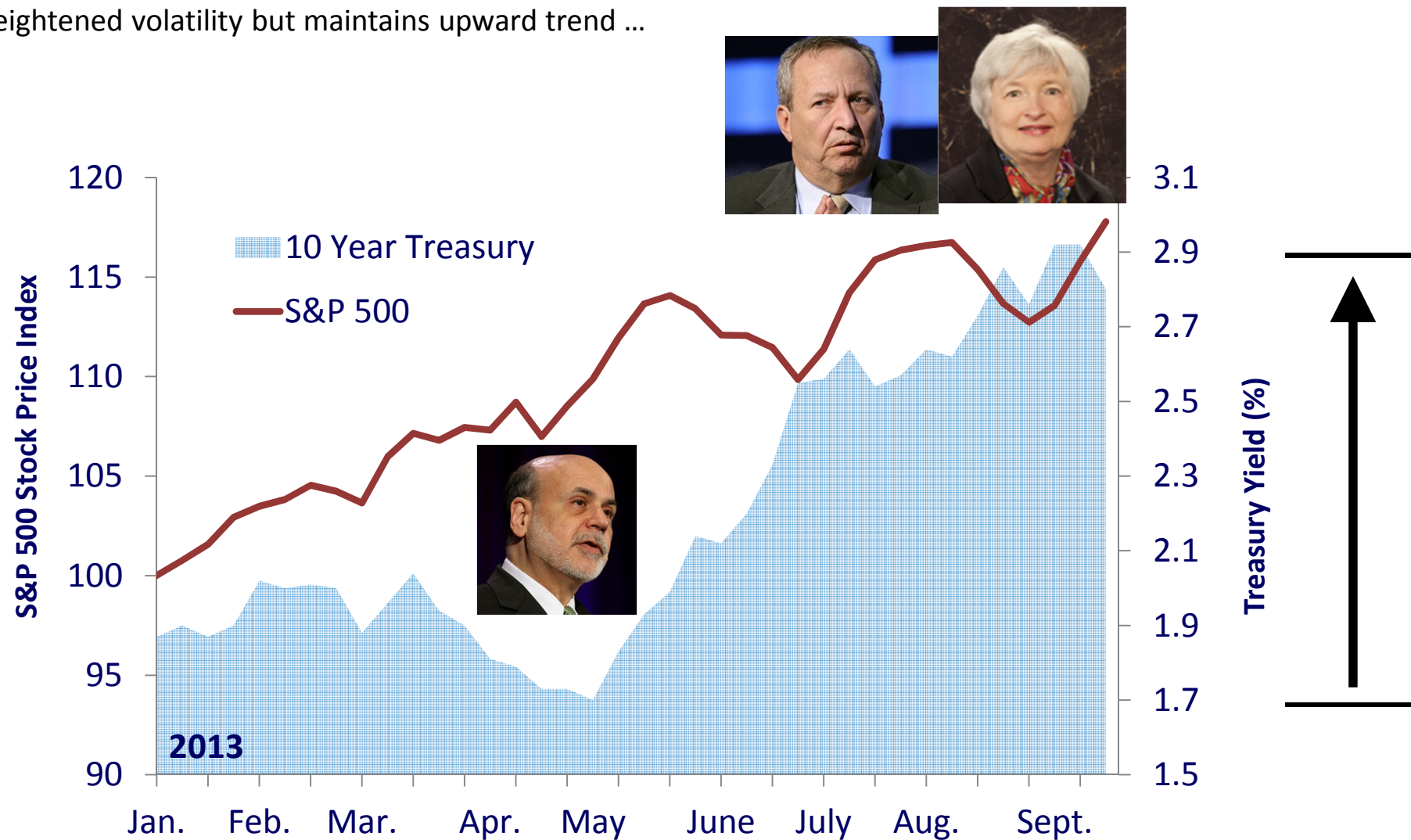
Slow process of labor market improvement and significant “slack” to keep



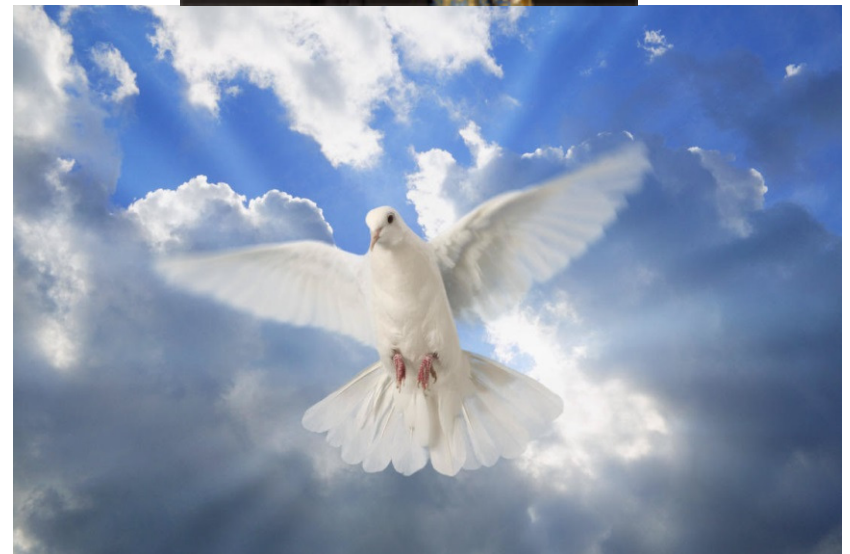
Monthly data through August 2013.
Sources: Cornerstone Research, Federal Reserve, BLS.

But Longer-Term Rates Have Risen Sharply ...

Treasury yields up sharply on talk of scaling back Treasury and MBS purchases; broader stock market shows heightened volatility but maintains upward trend ...

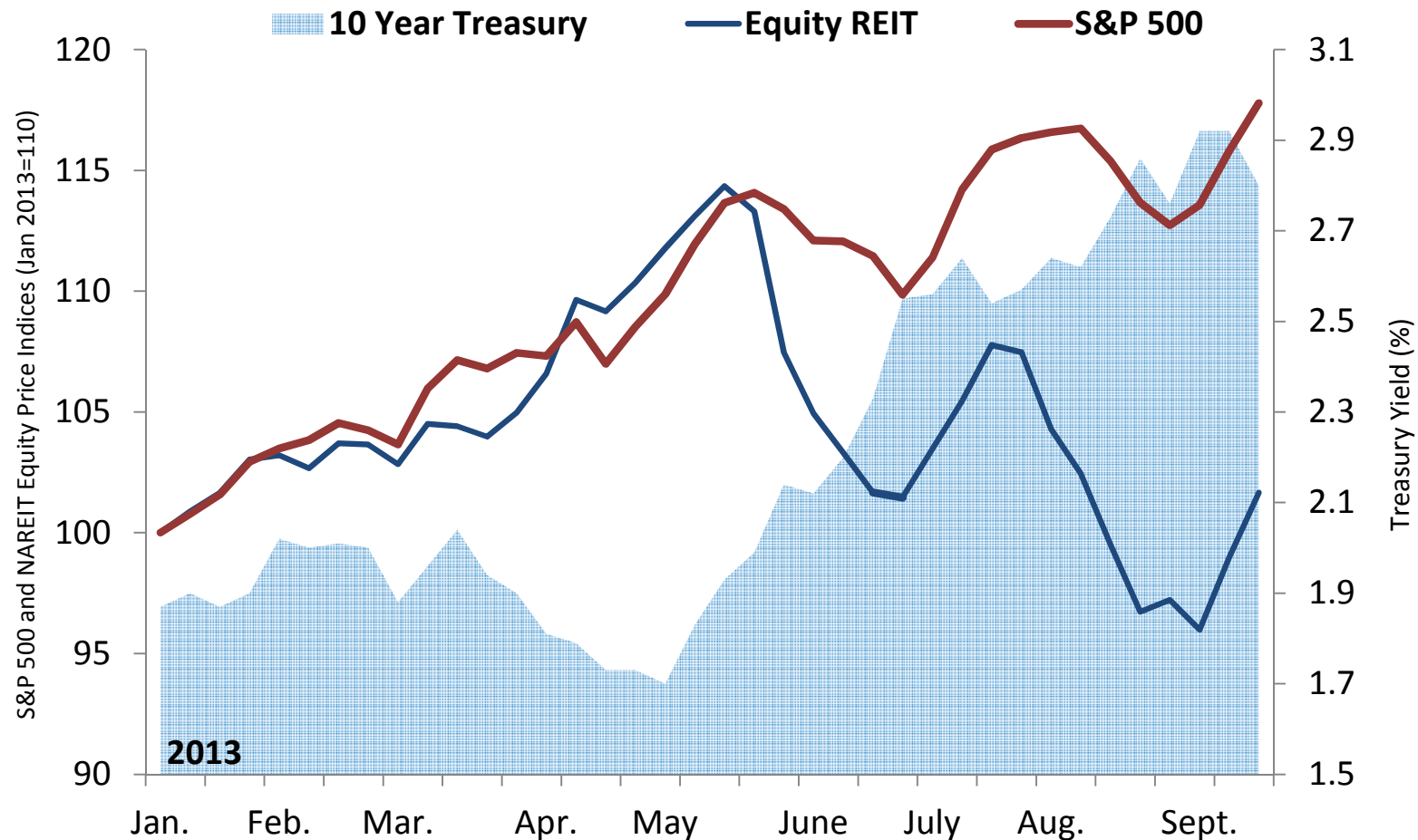


Fed Governor Candidates ... “Hawkish” or “Dovish”



“Taper Talk” Adds to Financial Market Volatility ... Hits REITs

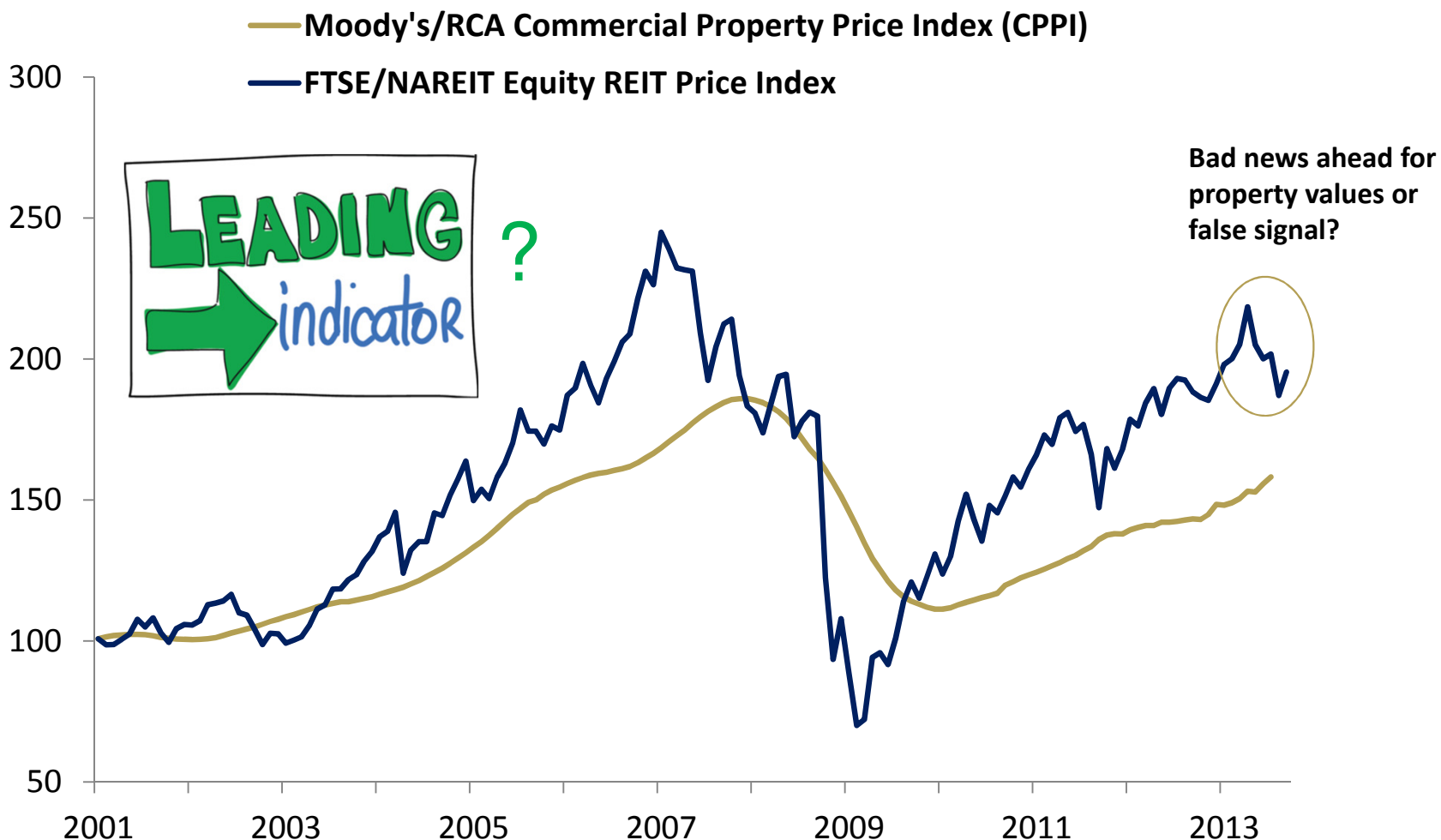
Treasury yields up sharply on talk of scaling back Treasury and MBS purchases; broader stock market shows heightened volatility but maintains upward trend while equity REIT prices hit hard ...



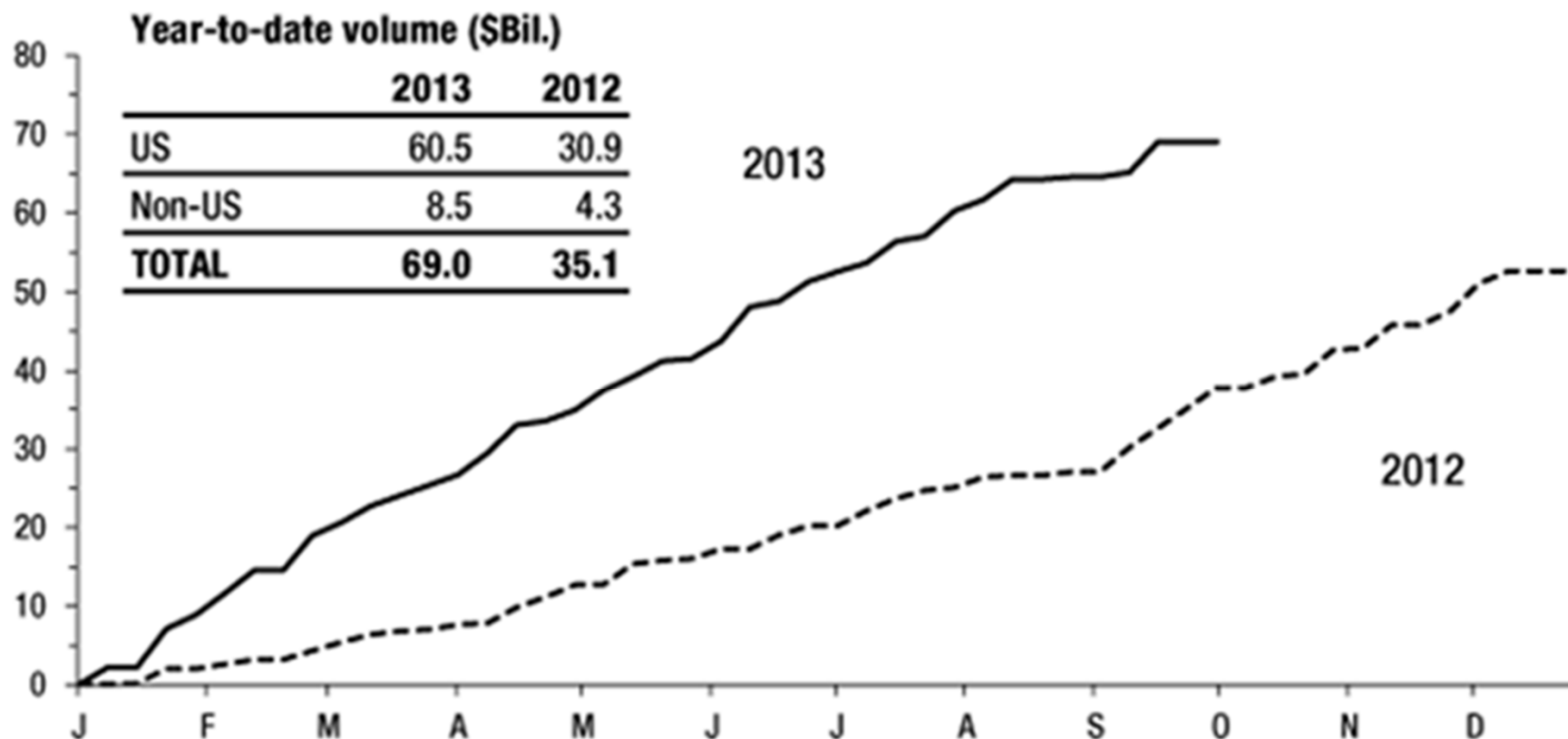
Weekly data through September 20, 2013.
Sources: Cornerstone Research, Federal Reserve, NAREIT.

Property Prices versus Equity REIT Prices

Public REIT prices often viewed as a leading indicator of private property values

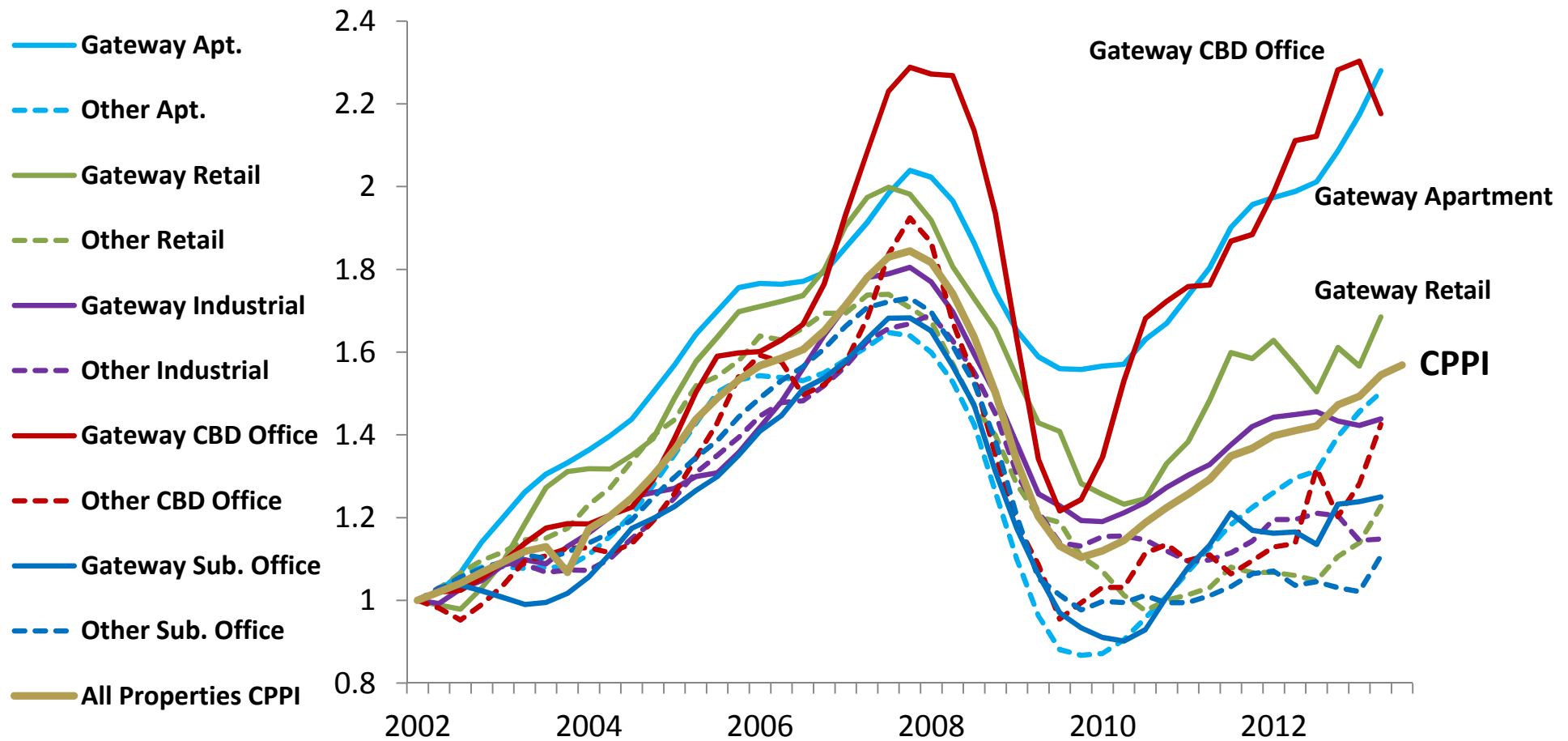


“Taper Talk” Adds to Financial Market Volatility ... Hits CMBS



Commercial Property Price Recovery

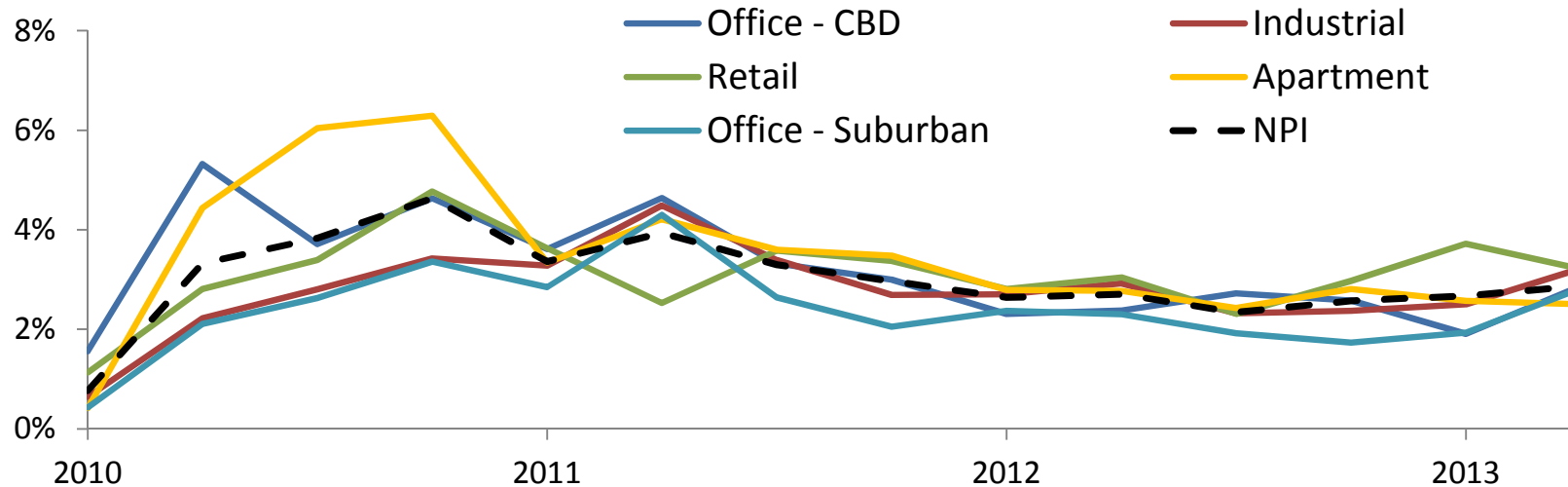
Aggregate indices mask divergent pricing dynamics (Moody's/RCA national all properties index and sub-indices)



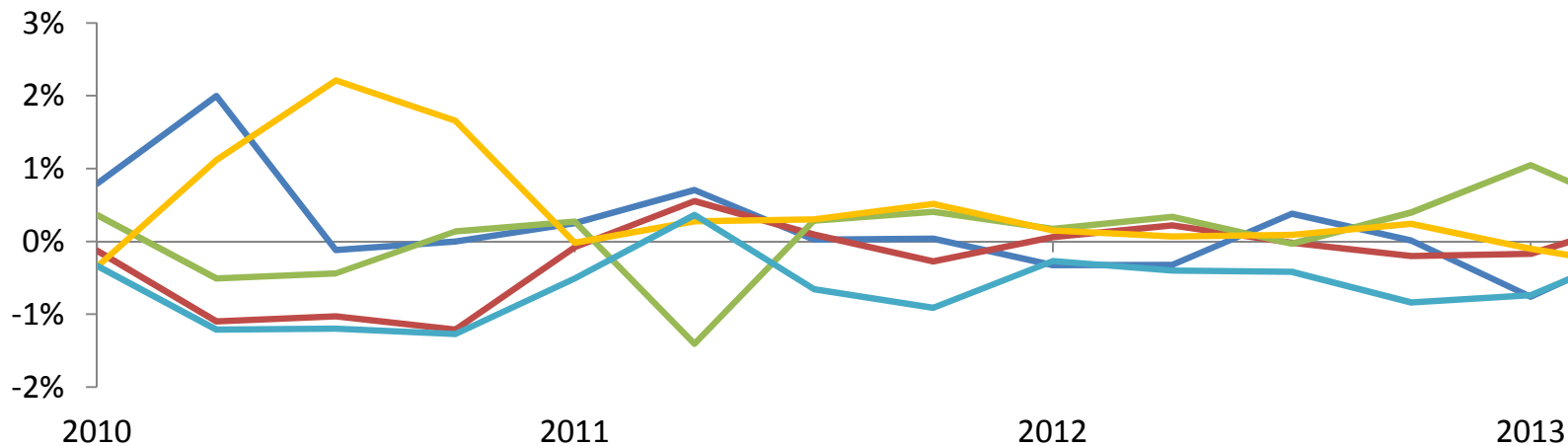
Top chart shows monthly data through August 2013. Bottom chart shows quarterly data through Q2 2013.
Sources: Moody's Investor Services, Real Capital Analytics (RCA), Cornerstone Research (October 10, 2013).

NCREIF Property Index (NPI) Returns by Property Sector

Quarterly total holding period (income plus capital) returns, 2010:1 – 2013:2

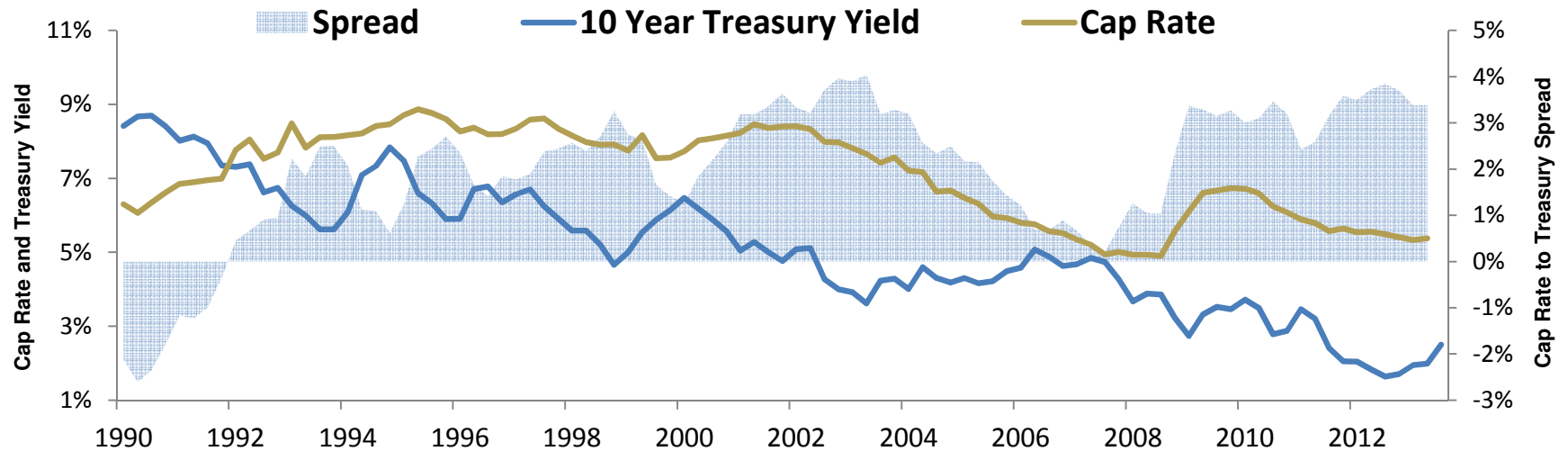


Spread over the aggregate NCREIF Property Index (NPI) each quarter – sector convergence to the index

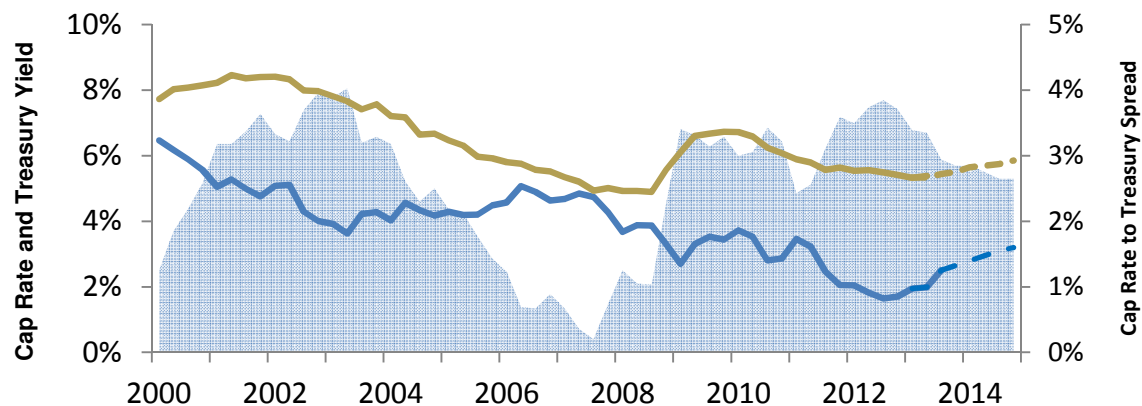


Core Real Estate Priced Favorably on a Relative Basis

Average NCREIF Property Index (NPI) cap rate spread to 10 year Treasury yield well above historical average



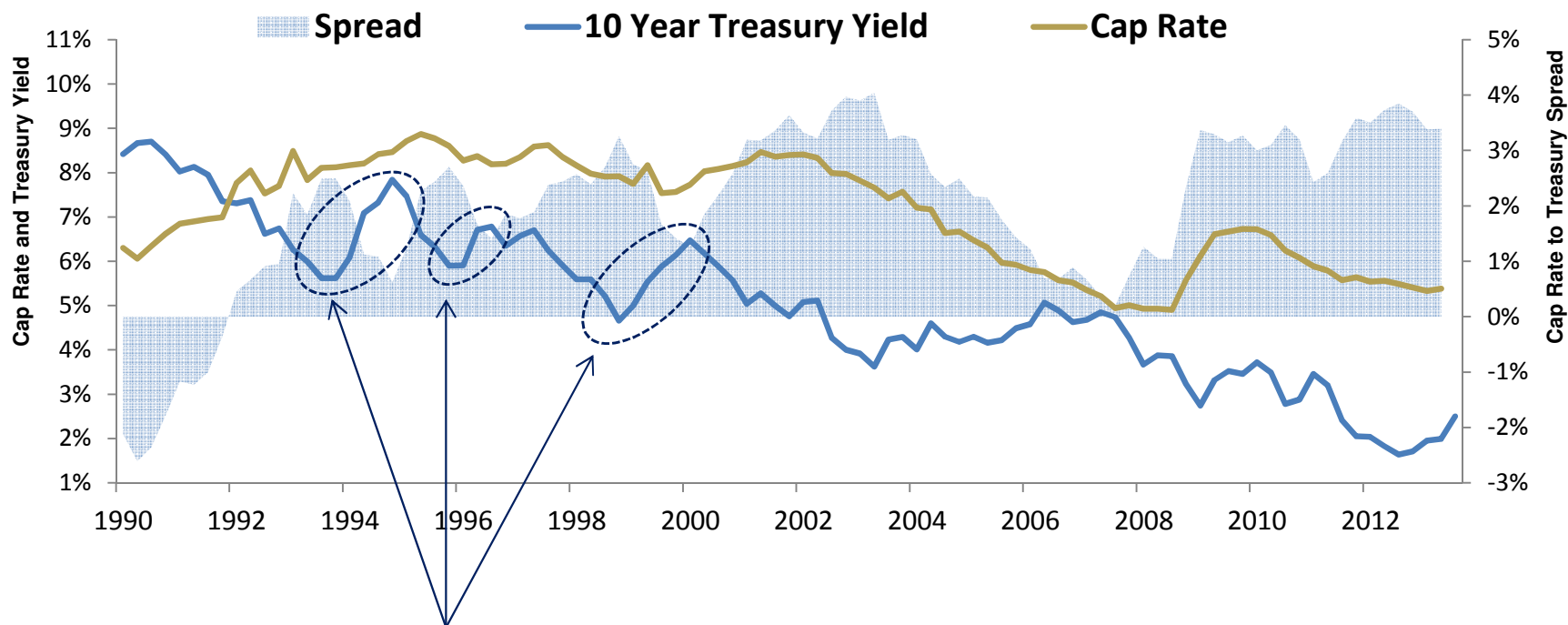
And expected to remain relatively high over the next couple of years



Cap rate is value weighted average of cap rates inferred from appraisals of properties held in the NPI. Treasury yield is average of end of week values during each quarter. Quarterly data with cap rates through 2Q13 and Treasury yields through 3Q13 as of September 19. Dashed lines are base case forecasts as of September 2013.

Core Property Cap Rates vs. Long Term Interest Rates

NCREIF Property Index (NPI) cap rates do not move one-to-one with Treasury yields; other influences matter



- ✓ Historically, relatively large upward moves in the 10 year Treasury yield have not caused similar magnitude changes in NCREIF cap rates.
- ✓ In fact, these periods have seen little subsequent change in cap rates, but rather adjustment via decline in the “Cap Rate Spread to Treasury Yield”, reflecting reduced economic and financial risk and improved rent growth prospects.

The relatively large cap rate to Treasury spread today provides measure of cushion to allow long-term interest rates to rise without impacting NPI average cap rates

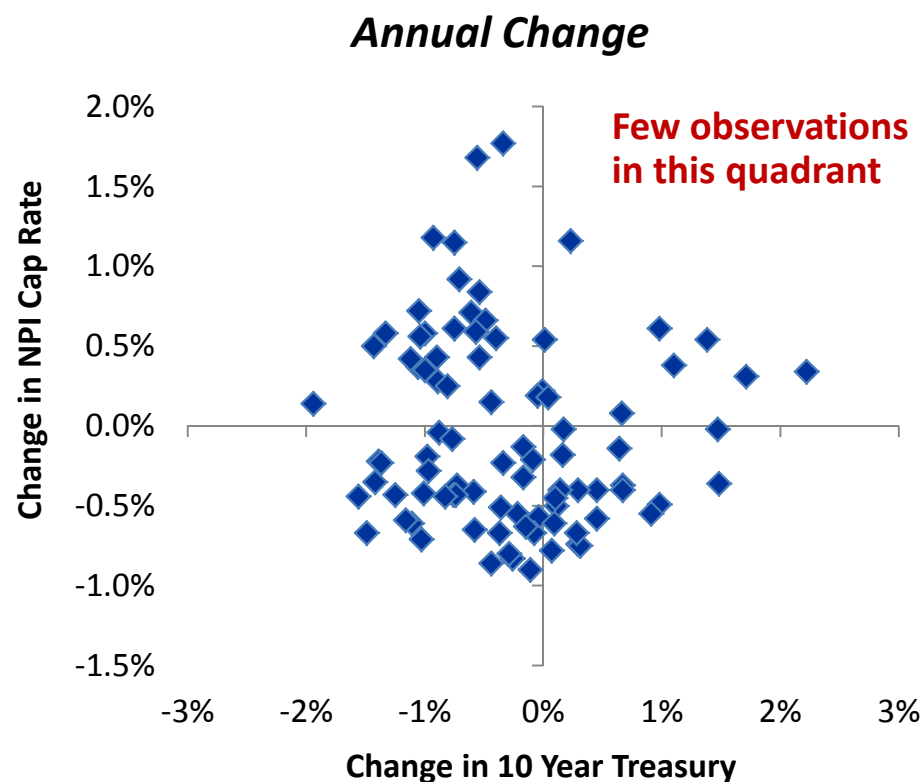
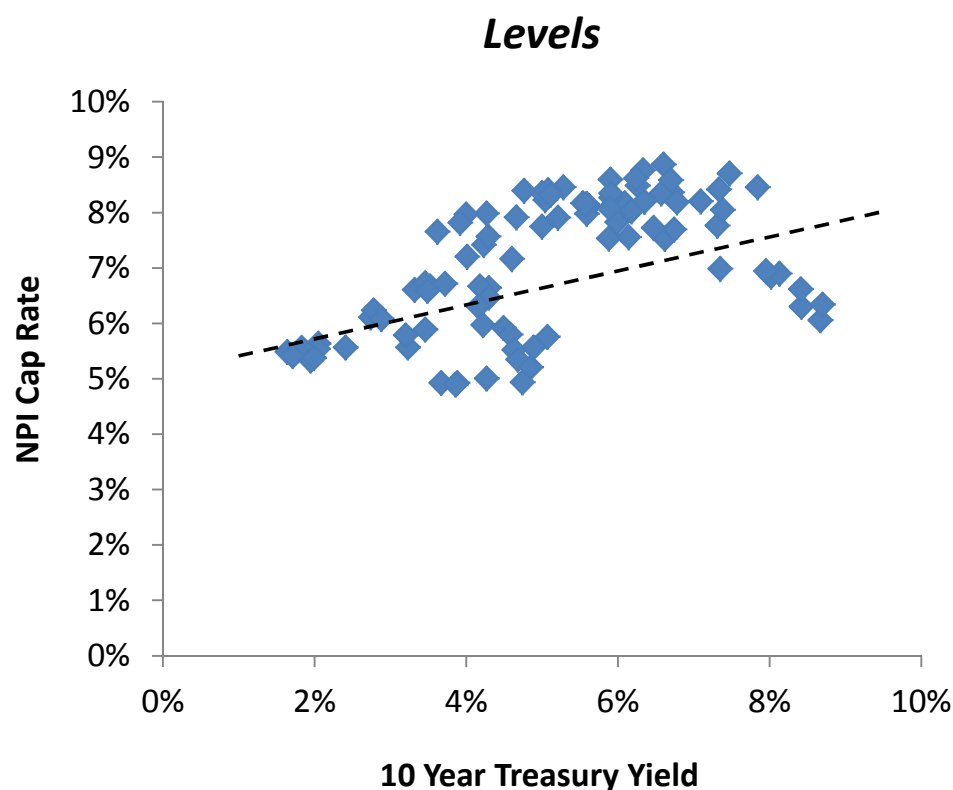
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Core Property Cap Rates vs. Long Term Interest Rates

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NPI Cap Rate vs. 10 Year Treasury Yield

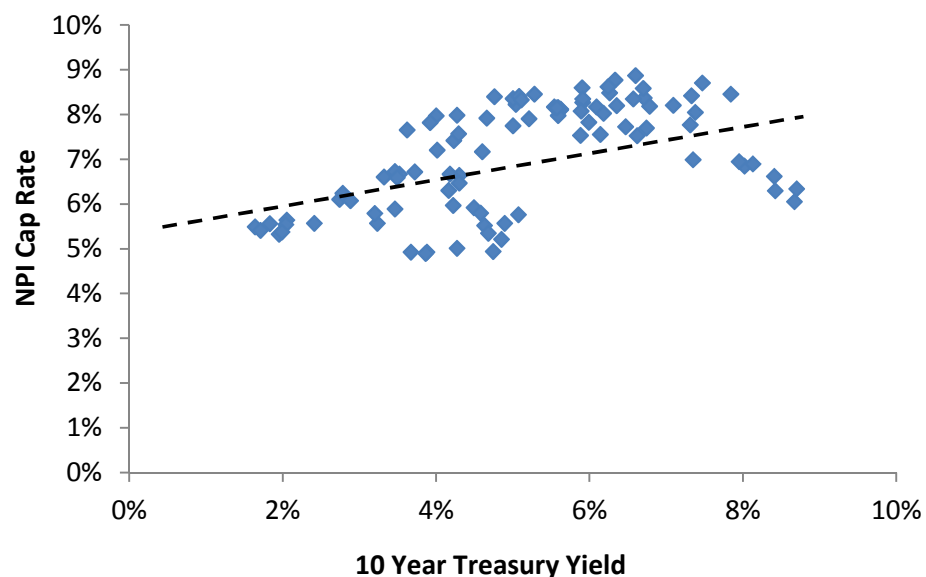
(Quarterly, 1990:1 – 2013:2)



Core Property Cap Rates vs. Long Term Interest Rates

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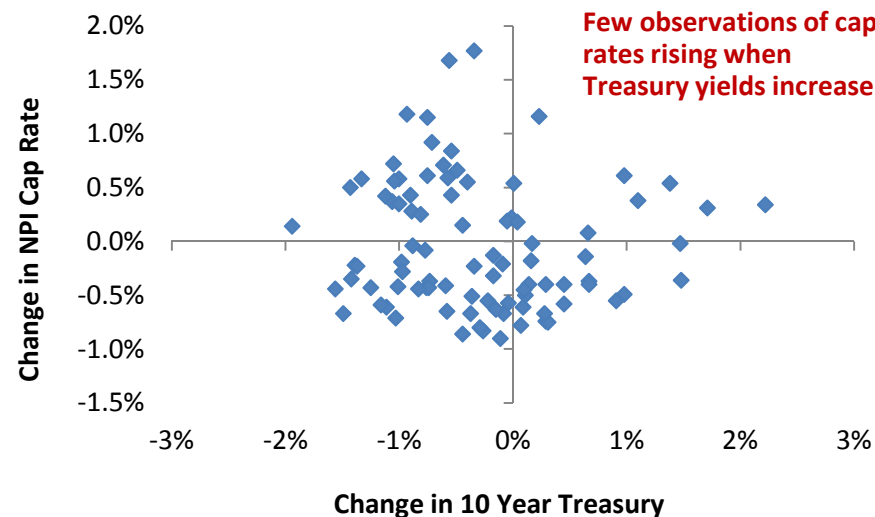
Average NPI Cap Rate and 10 Year Treasury Yield Levels
(Quarterly, 1990:1 – 2013:2)



- While positively related over the long-term, historical data reveal no statistically significant relationship between short-term (1 year) changes in Treasury yields and cap rate changes.
- The impact of changes in Treasury yields on cap rates depends on what drove the change in Treasury yields and what this implies for property income growth expectations and the real estate risk premium; cap rate to Treasury spread and the stage of the economic cycle are crucial to understanding the Treasury yield – cap rate linkage dynamic.

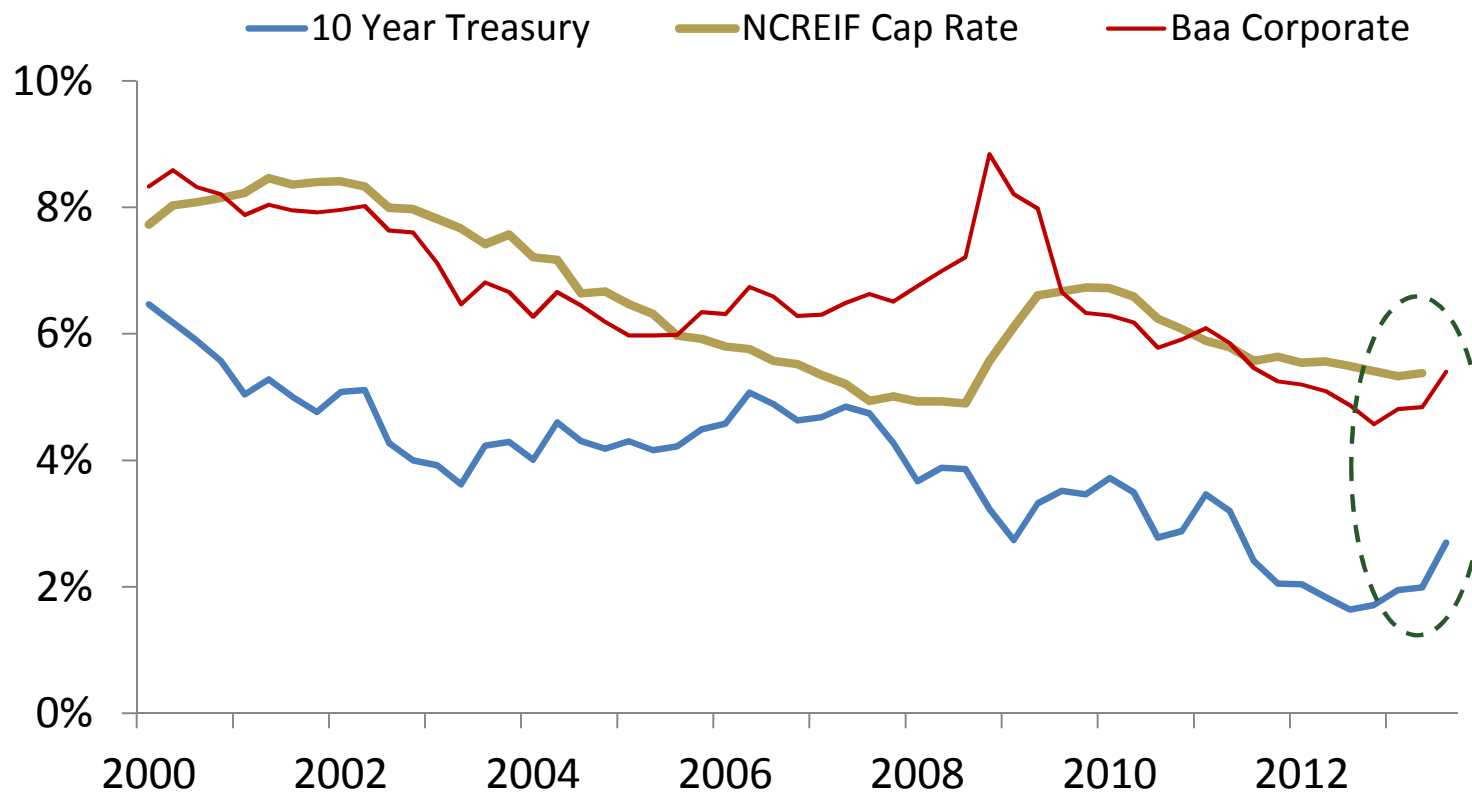
- Historical data indicate that over the long-term, there is a positive relationship between 10 year Treasury yields and average NPI appraisal cap rates, although the relationship is not a simple linear one.
- The correlation is well below one (about 0.37) indicating that, on average, a small change in Treasury yield tends to produce a change in cap rates in the same direction, but much smaller in magnitude. Moreover, changes in Treasury yields do not necessarily produce changes in cap rates in all periods

Changes in NPI Cap Rates and 10 Year Treasury Yields
(Annual change in quarterly data, 1991:1 – 2013:2)



Core Real Estate Priced Favorably on a Relative Basis ?

NCREIF Cap Rates versus to Moody's Baa Corporate Bond Yield

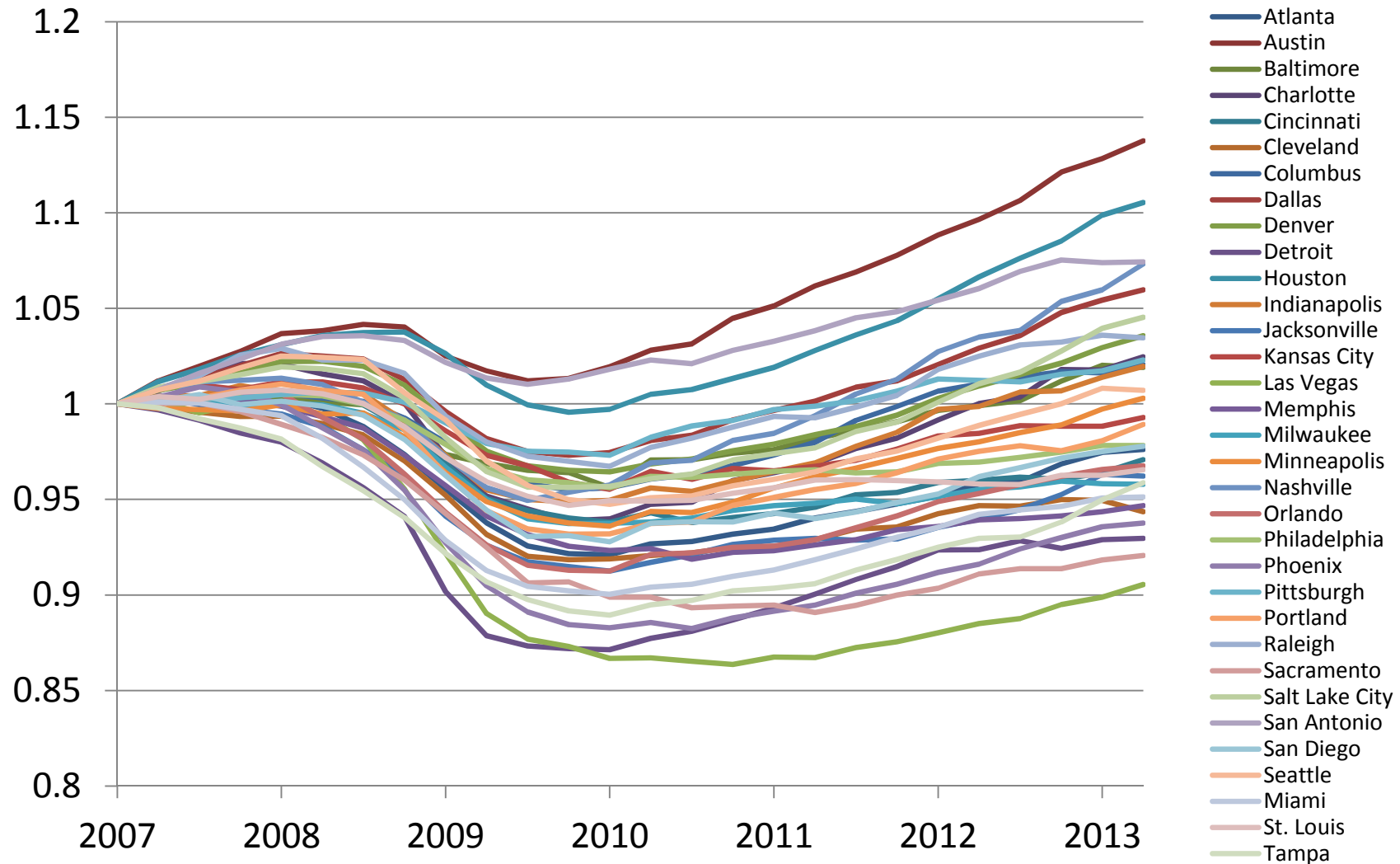


Quarterly data with 10 year treasury and Baa Corporate through Q3 2013 and NCREIF Cap Rate through Q2 2013.

Sources: Cornerstone Research, NCREIF, Federal Reserve, (October 10, 2013)

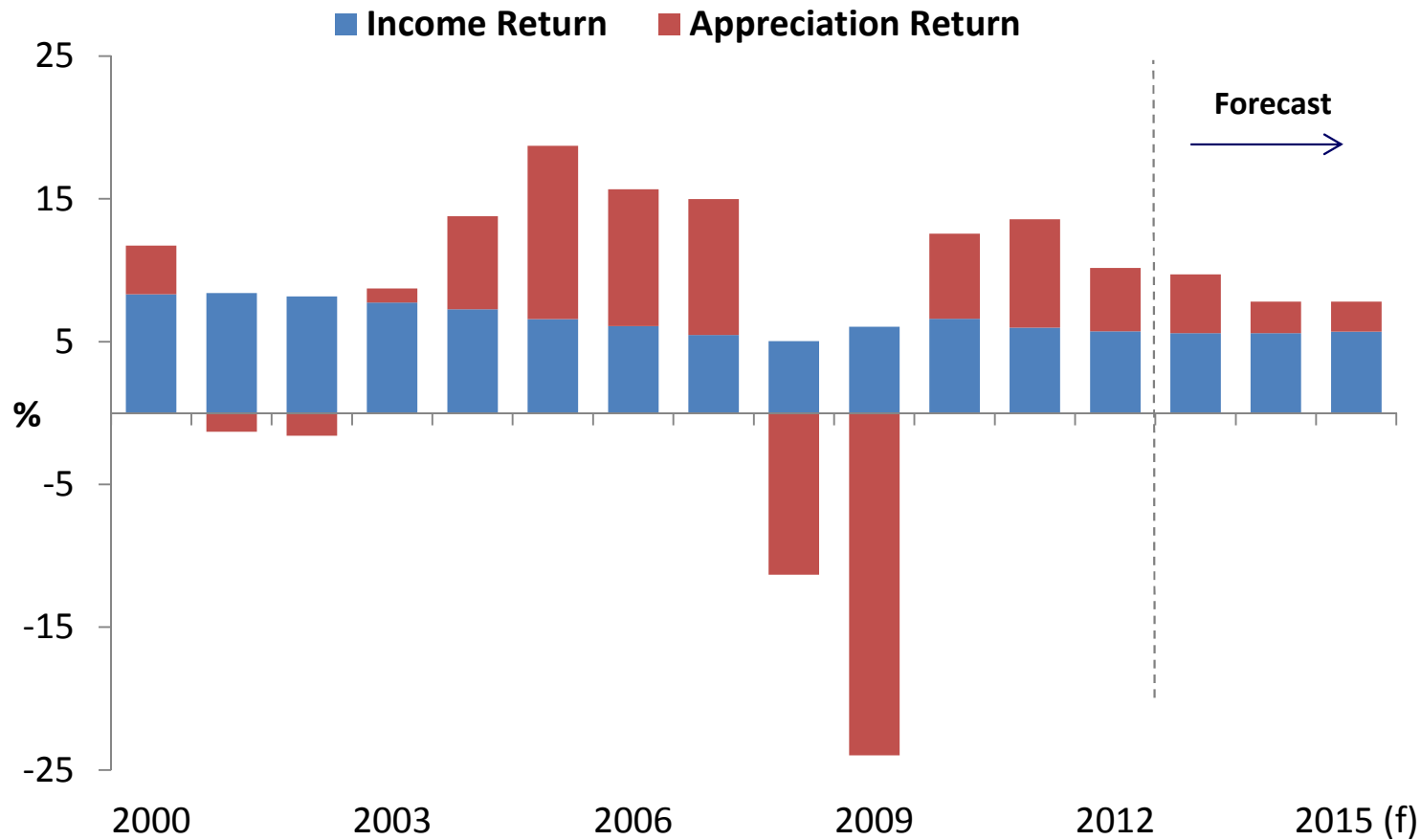
Total Non-Farm Employment in RCA “Secondary” Metros

Quarterly Employment, 2007:1 to 2013:2 (Index 2007:1 =1)



Looking Forward - PREA Consensus Forecast of the NPI 3Q13

Solid returns but reversion to the mean in 2014 and 2015 at the overall NCREIF portfolio level



Thanks

Questions?

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