

March 2014

Too many unknowns and not enough spread

The 5 questions that weigh on the outlook for credit

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See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures

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How real are current valuations?

Where will rates go?

Has too much money gone into credit?

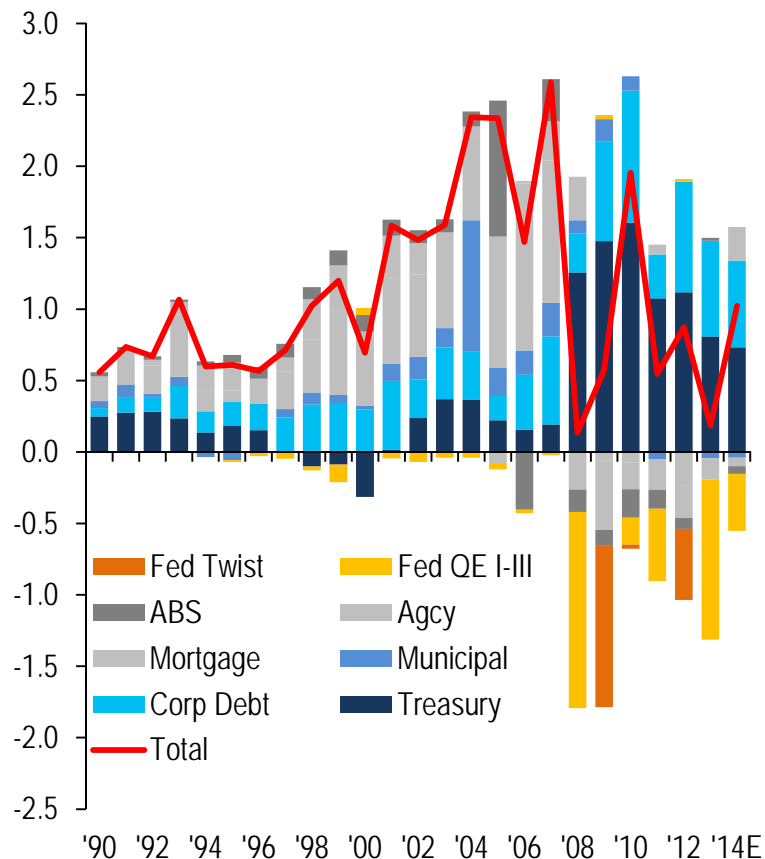
Does activism and M&A matter?

How do you make money anymore?

The central bank formula has worked so far

Remove safe assets ...

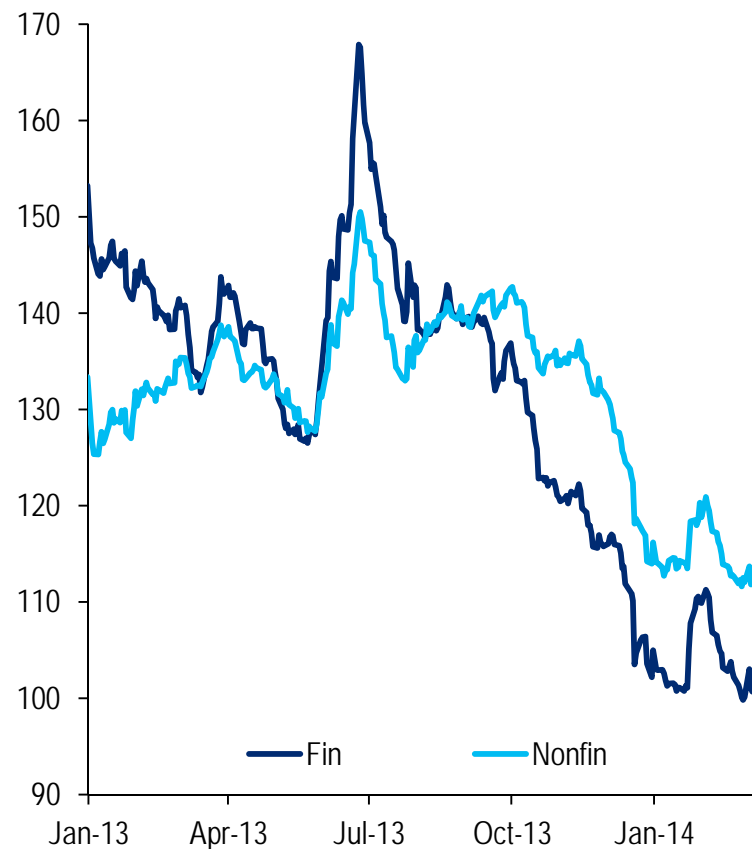
Fixed income net issuance vs Fed interventions (\$tn)



Source: Citi Research, SIFMA, Federal Reserve Bank of NY

... and watch risky assets reprice

Financial vs nonfinancial OAS (bp)

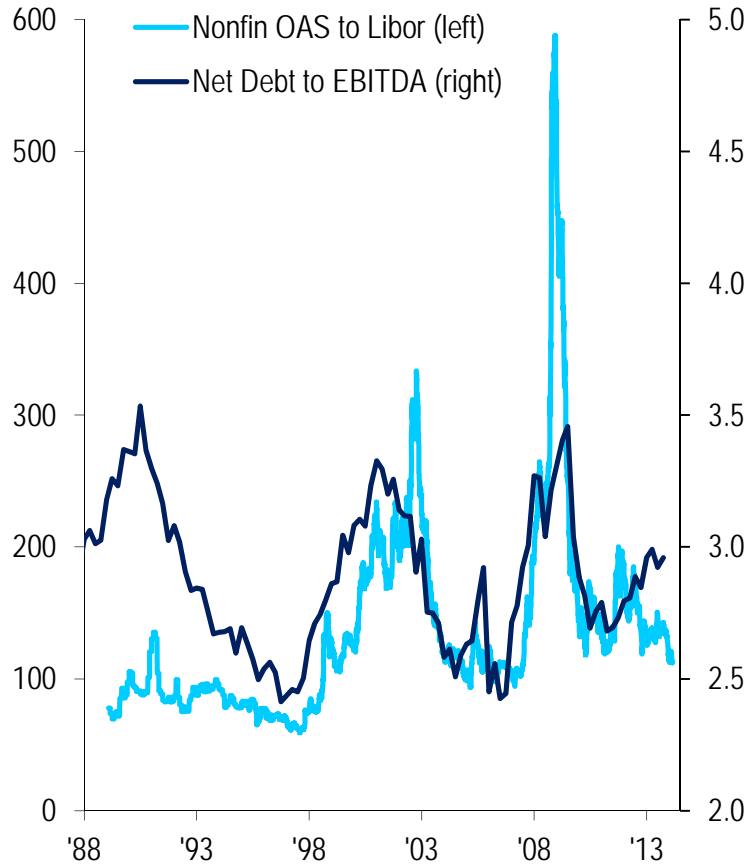


Source: Yieldbook, Citi Research

But distortions are growing

Spreads no longer follow leverage

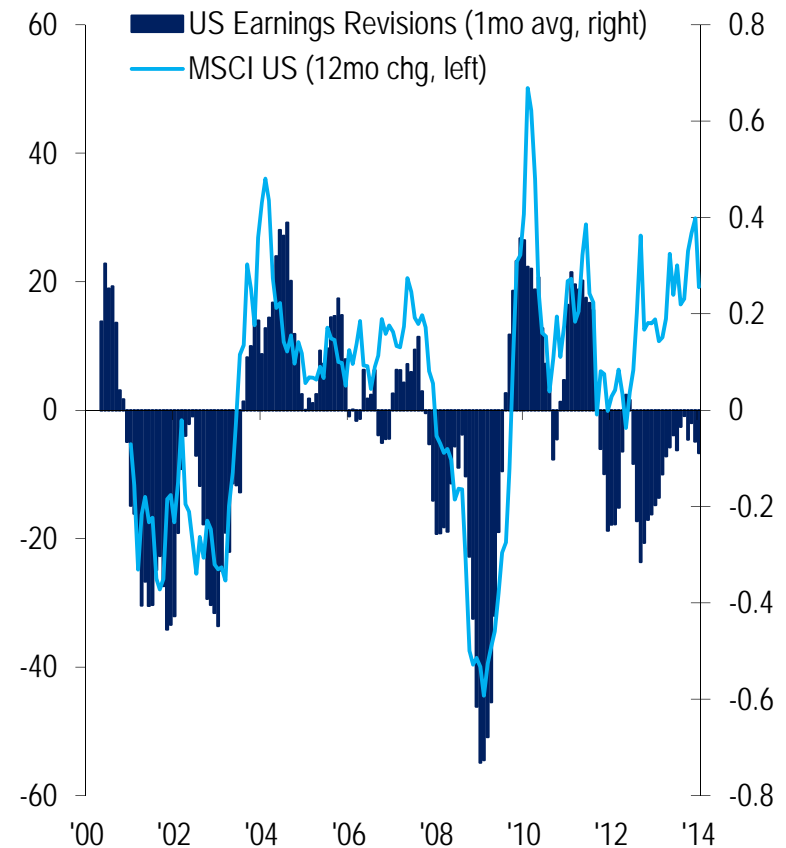
US nonfin OAS to Libor (bp) vs net debt/EBITDA



Source: Citi Research, Federal Reserve, Haver Analytics, Yieldbook

Equities no longer follow earnings

US earnings rev idx (4-wk avg) vs equity (12-mo chg)

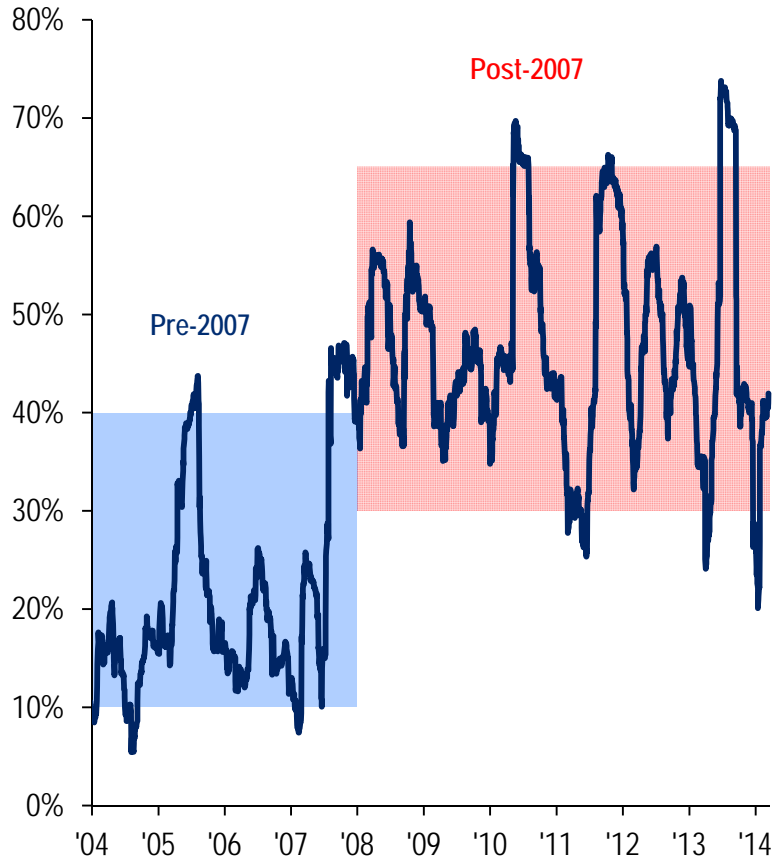


Source: Citi Research

Markets have become more correlated

Today's correlation lows ...

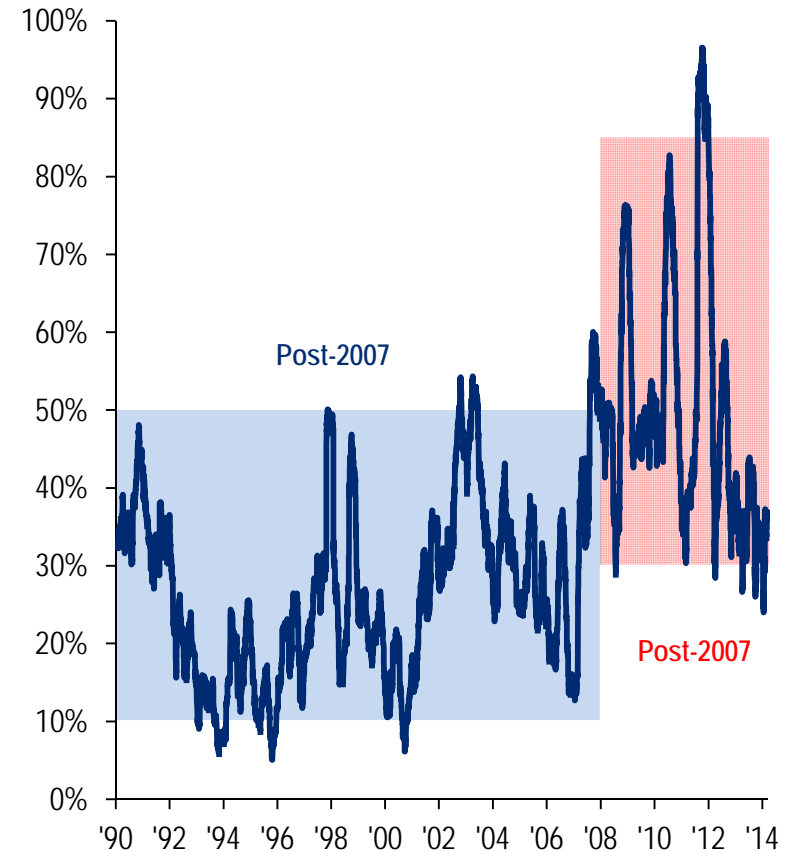
CDX IG average pairwise correlation (3mo rolling)



Source: Citi Research

... remain close to pre-crisis highs

S&P 500* average pairwise correlation (3mo rolling)



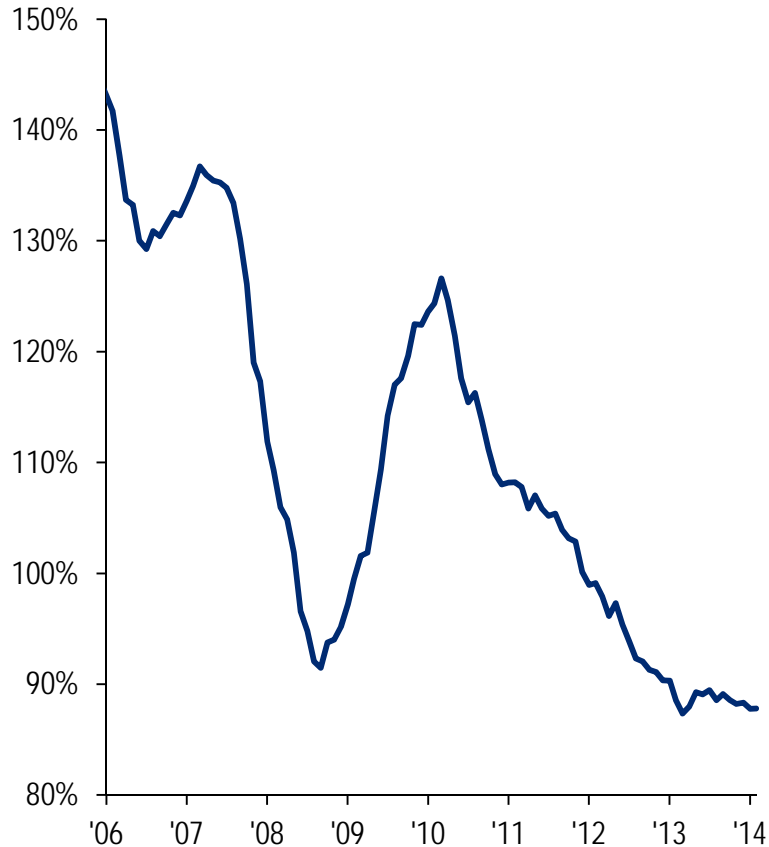
Source: Bloomberg, Citi Research

*Average correlation of the largest 50 companies by market cap in the S&P 500 (excluding Citi)

Liquidity has suffered

Turnover on the decline ...

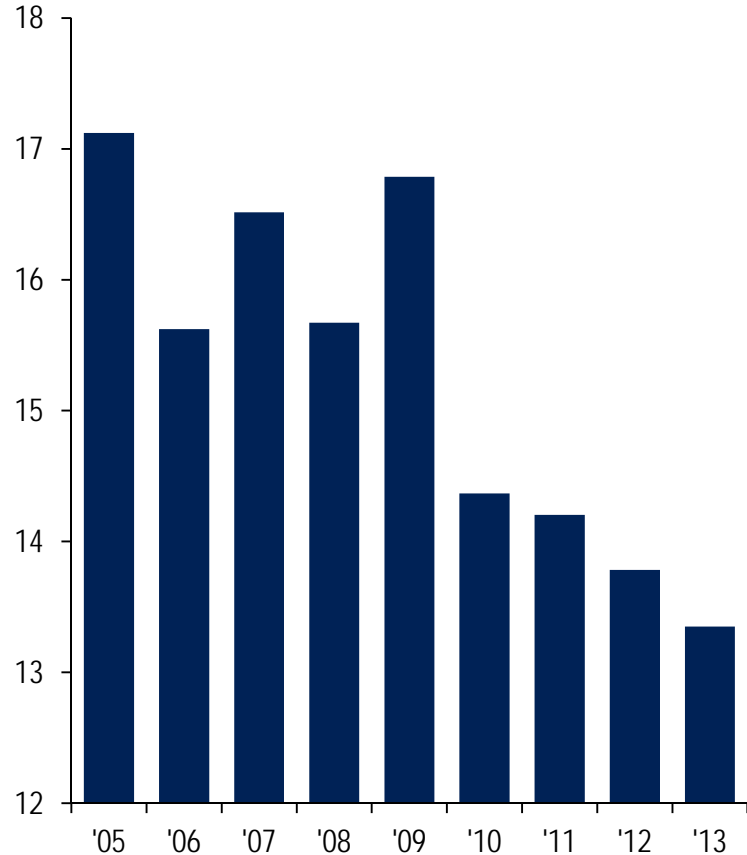
12mo rolling IG volumes as a % of BIG Corp Par (%)



Source: Citi Research, TRACE, Yieldbook

... and block trades getting smaller

Est. IG trade size for TRACE eligible block trades* (\$mn)



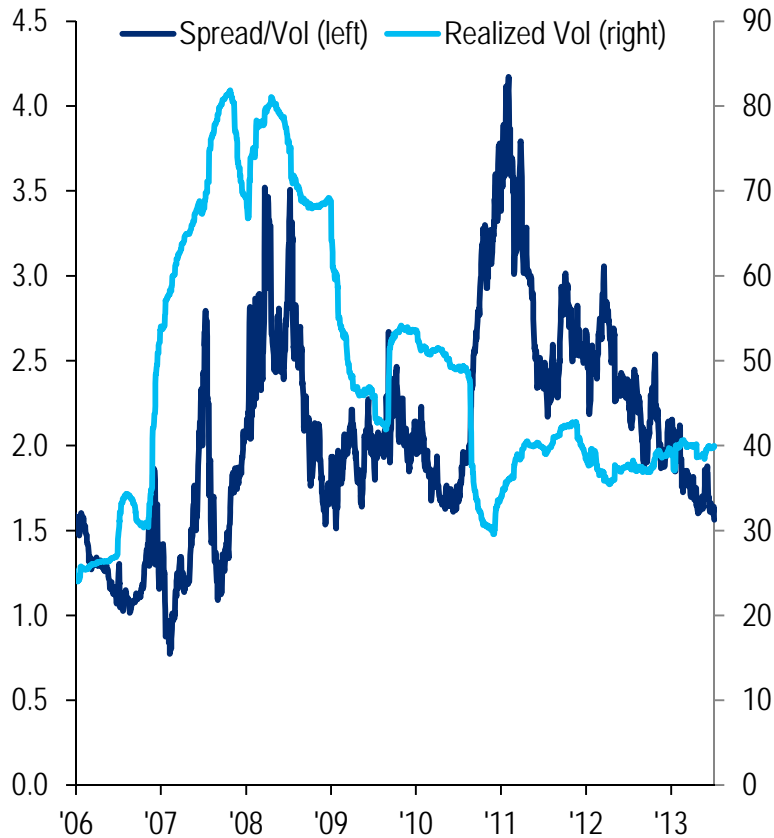
Source: Citi Research, TRACE

*Block size IG trades are defined as ones with notional of \$5mn or greater.

And volatility has become misleading

Too high in some places ...

CDX IG 5y spread-to-vol (bp/%) vs 1yr realized vol (%)

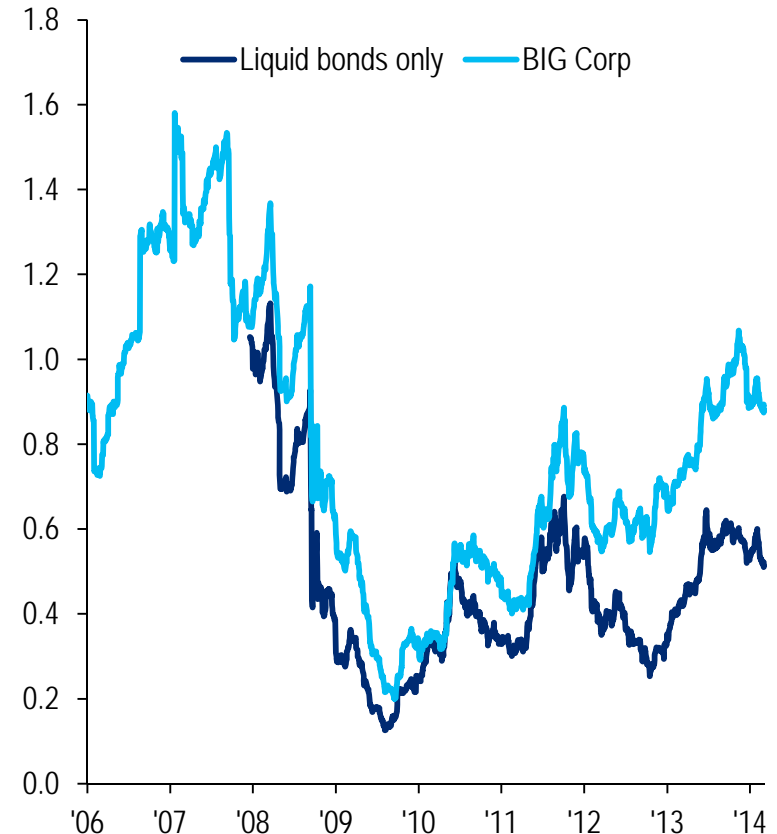


Source: Citi Research

Note: we use a 1-year rolling volatility of daily spread changes.

... and too low in others

Breakeven spread move normalized by annual vol*



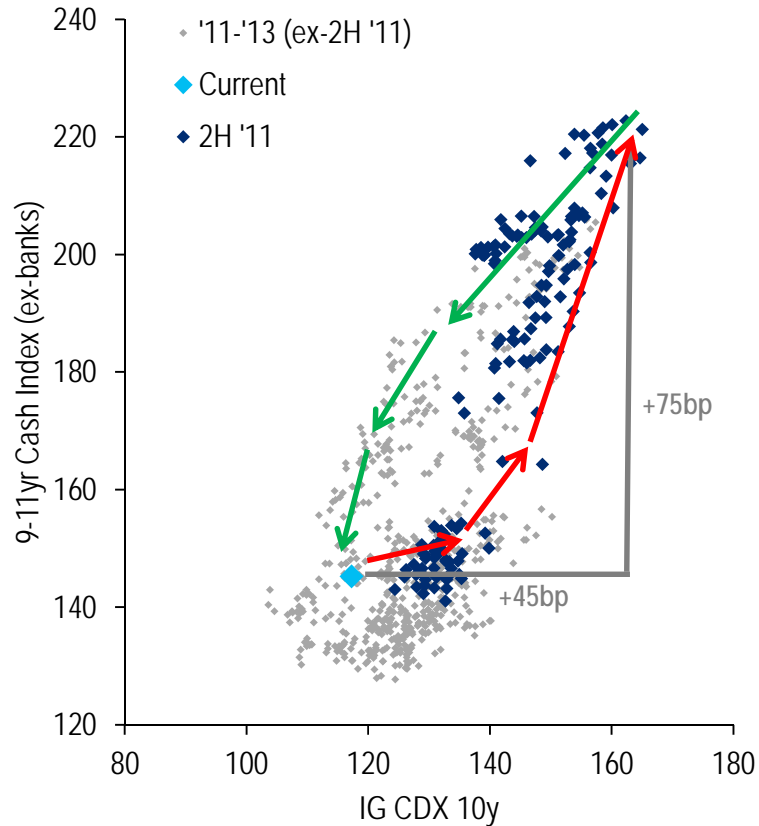
Source: Citi Research, Yieldbook

*Breakeven spread move is normally looked at as the duration divided by spread. This answers the question: "How much of a **spread backup** can you sustain before you wipe out your annual carry?". In the figure above, we normalize by volatility to answer the question: "How many **standard deviations** can you survive before you wipe out your annual carry?"

But who cares?

Tail events can expose “fakeness” ...

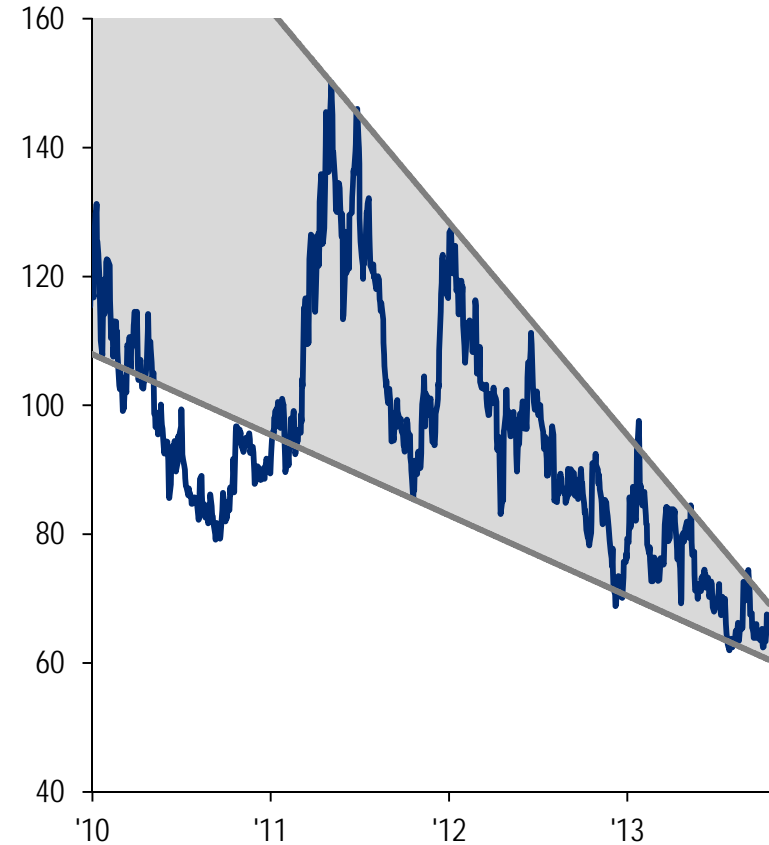
CDX IG 10y (x-axis) vs non-bank IG cash OAS (y-axis) (bp)



Source: Citi Research, Yieldbook

... but the corrections are getting smaller

On-the-run CDX IG 5yr spread (bp)

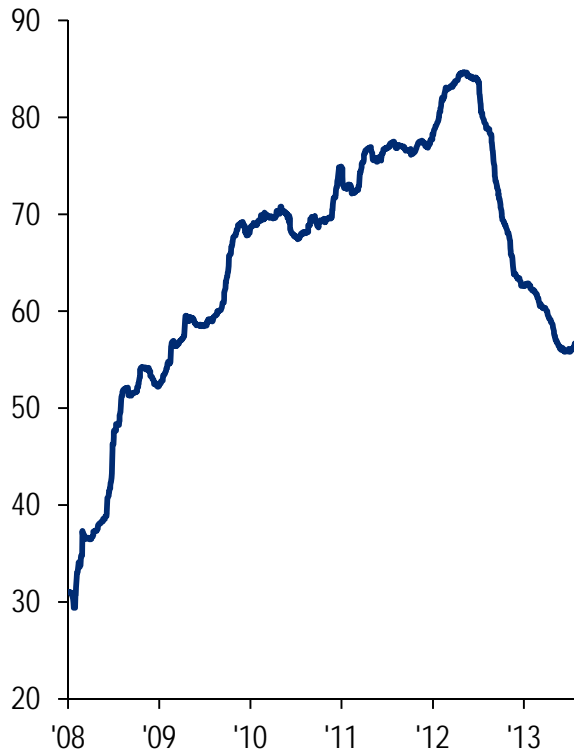


Source: Citi Research

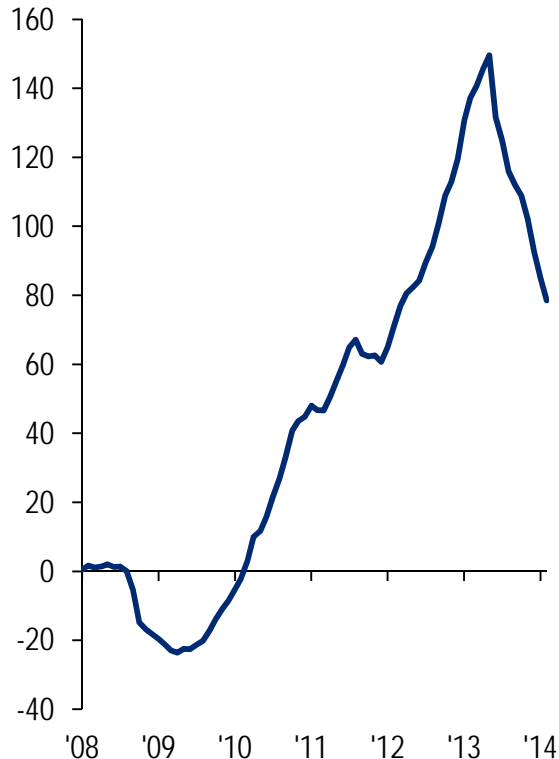
Everything's awesome... until the bubble truly pops

Stable until the asset allocators go home

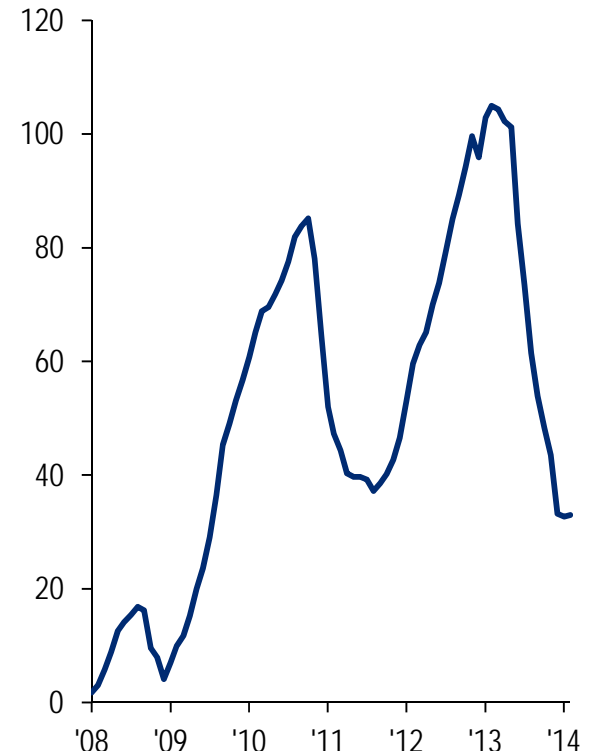
Gold ETF holdings (mn oz t)



Cumulative muni flows since '08 (\$bn)



Cumulative EM flows since '08 (\$bn)



Source: EPFR, Bloomberg

How real are current valuations?

Where will rates go?

Has too much money gone into credit?

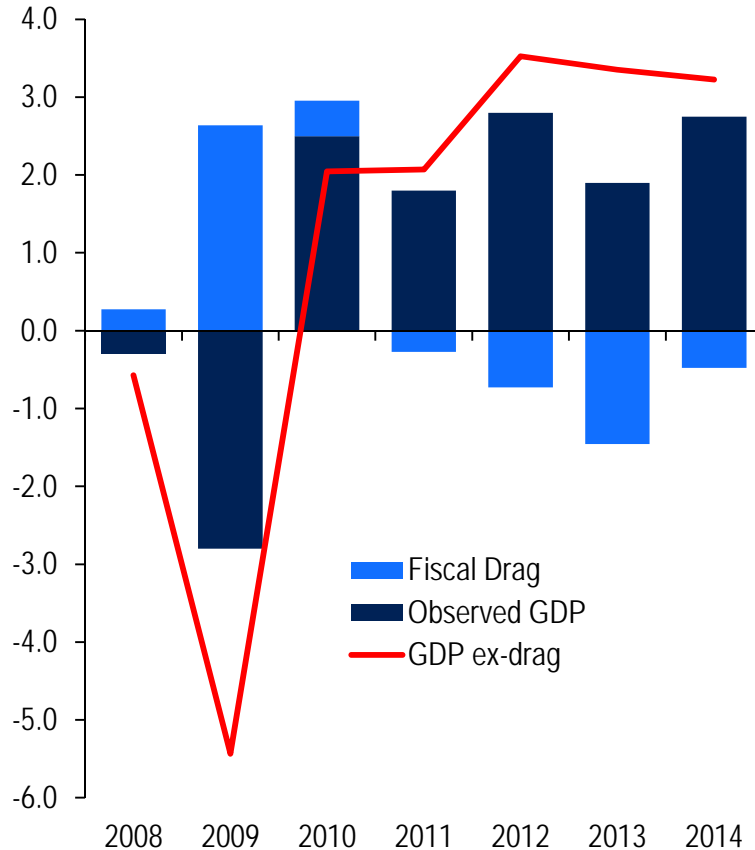
Does activism and M&A matter?

How do you make money anymore?

Cyclical recovery or secular stagnation?

A case of economic activity restrained ...

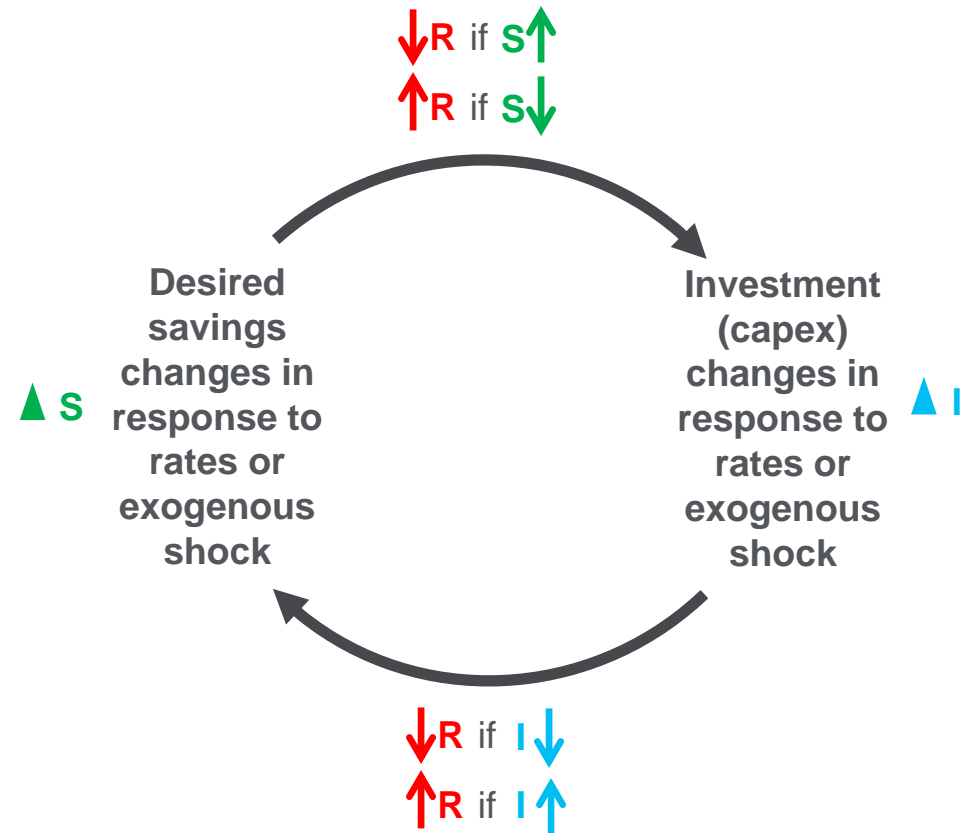
Observed GDP vs fiscal drag (%)



Source: Moody's Analytics, Citi Research

... or an economy broken by the ZLB

The savings/investment relationship

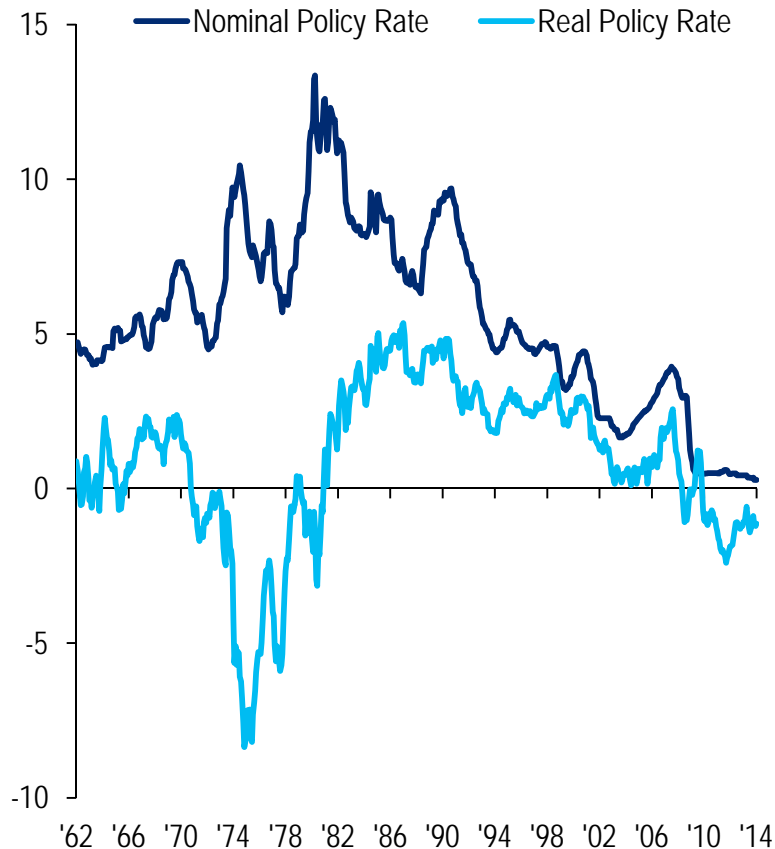


Source: Citi Research

Evidence of stagnation everywhere

Low rates and disappointing growth ...

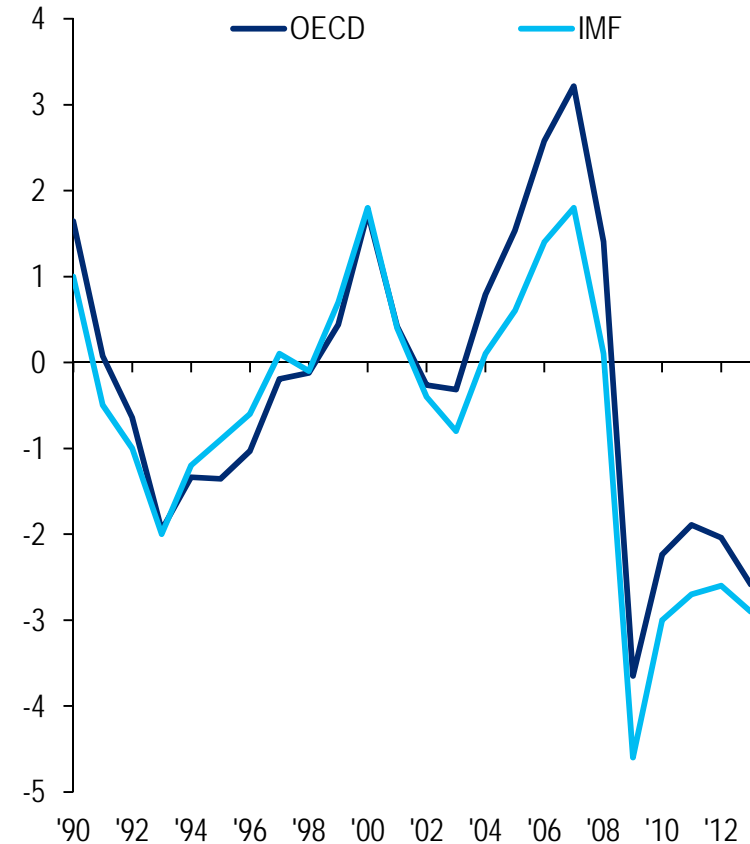
Avg policy interest rate vs GDP for advanced economies (%)



Source: Citi Research, National Central Banks, National Sources

... with large persistent output gaps

Output gap for advanced economies (% of potential GDP)

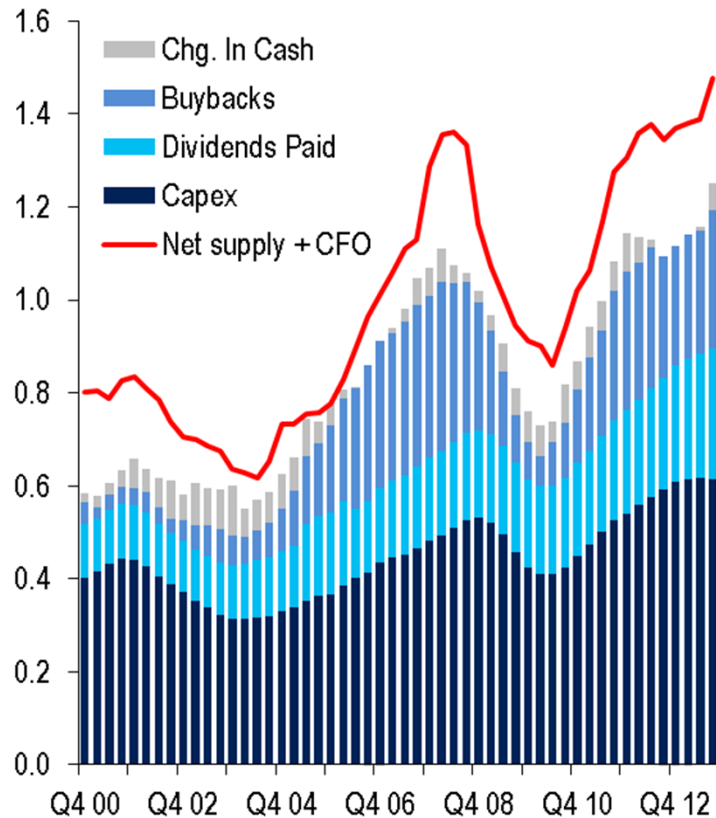


Source: Citi Research, OECD, IMF

Or simply a weak recovery ...

Investment *is* growing outright...

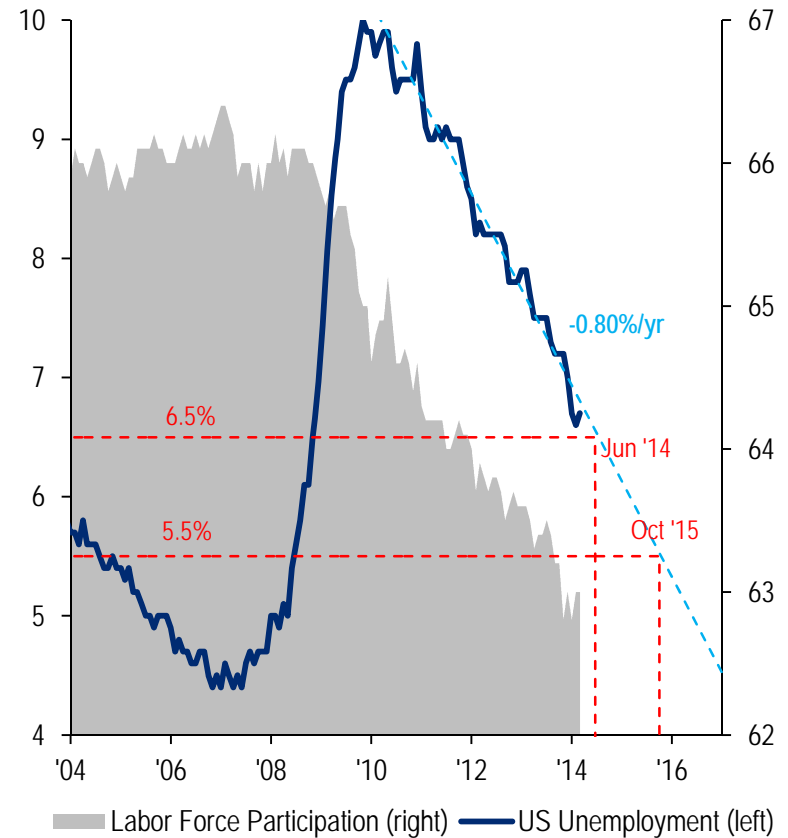
S&P500 nonfin cash generation vs cash uses (\$tn)



Source: Citi Research, Bloomberg

... and unemployment *is* falling

US unemployment rate vs labor force participation rate (%)

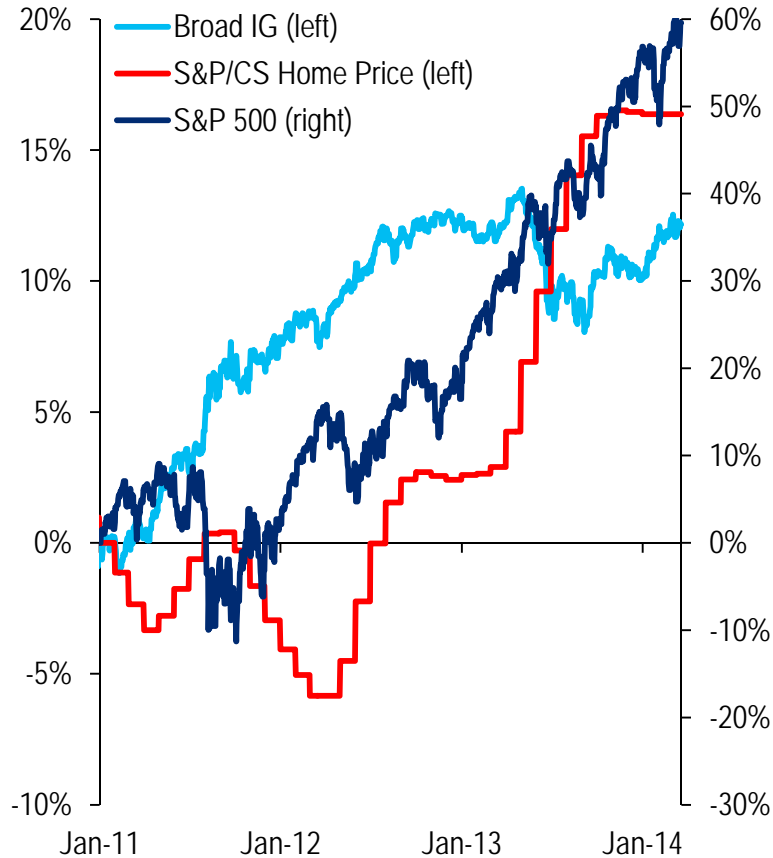


Source: Citi Research, Haver Analytics, Bloomberg

... with the Fed in a catch 22

Asset inflation leads to recklessness ...

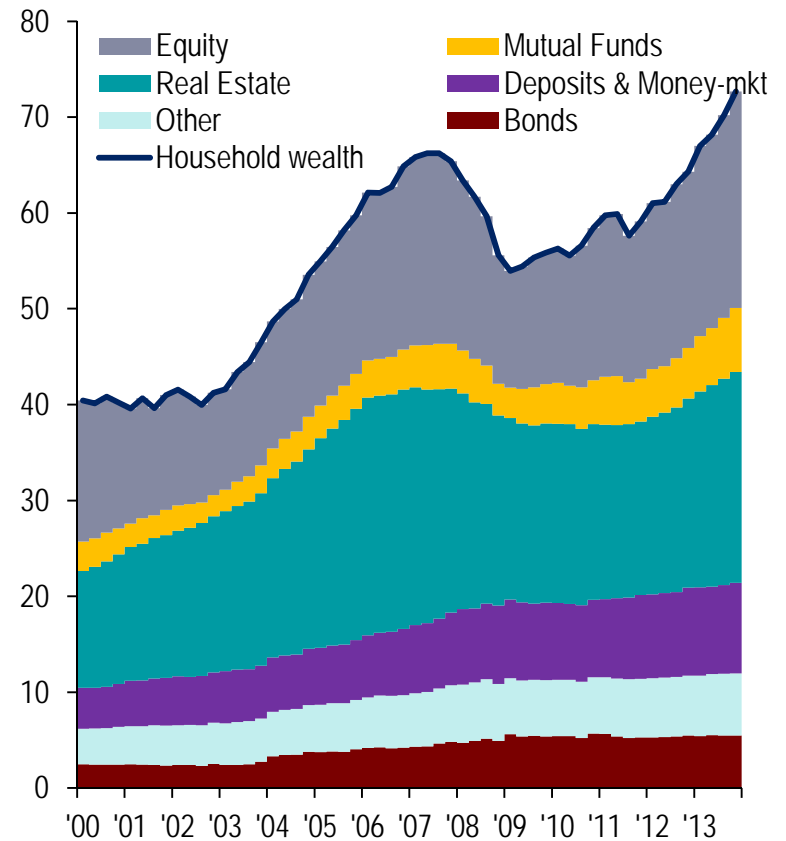
Home prices, equities and bonds, cumulative returns (%)



Source: Citi Research, Haver, Bloomberg

... and just allows more to retire

Household wealth (ex Insurance) by asset type (\$tn)

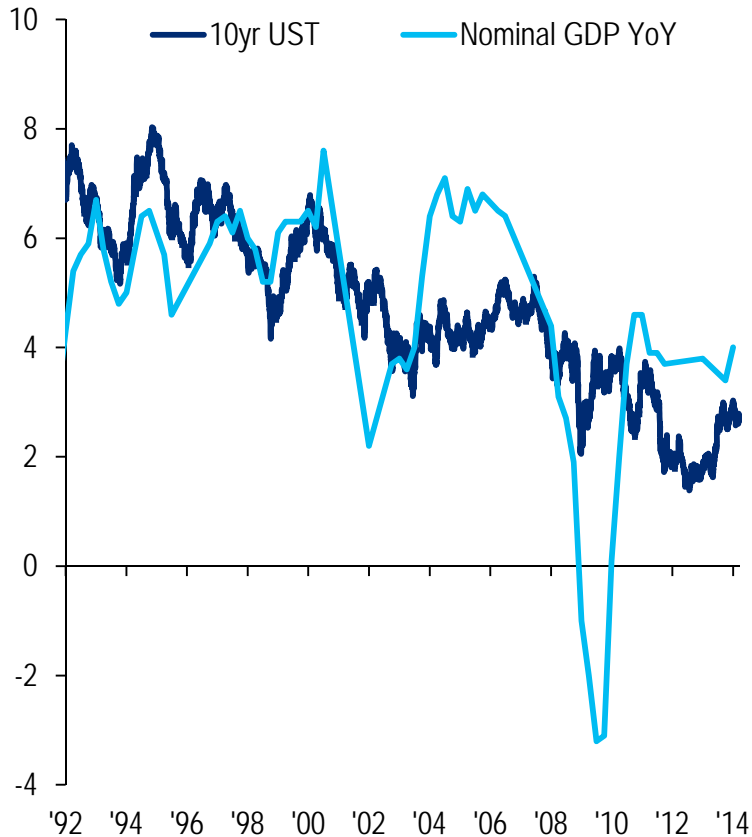


Source: Citi Research, Haver Analytics, Bureau of Economic Analysis

Inflation's the key

Where nominal goes, so has the 10y ...

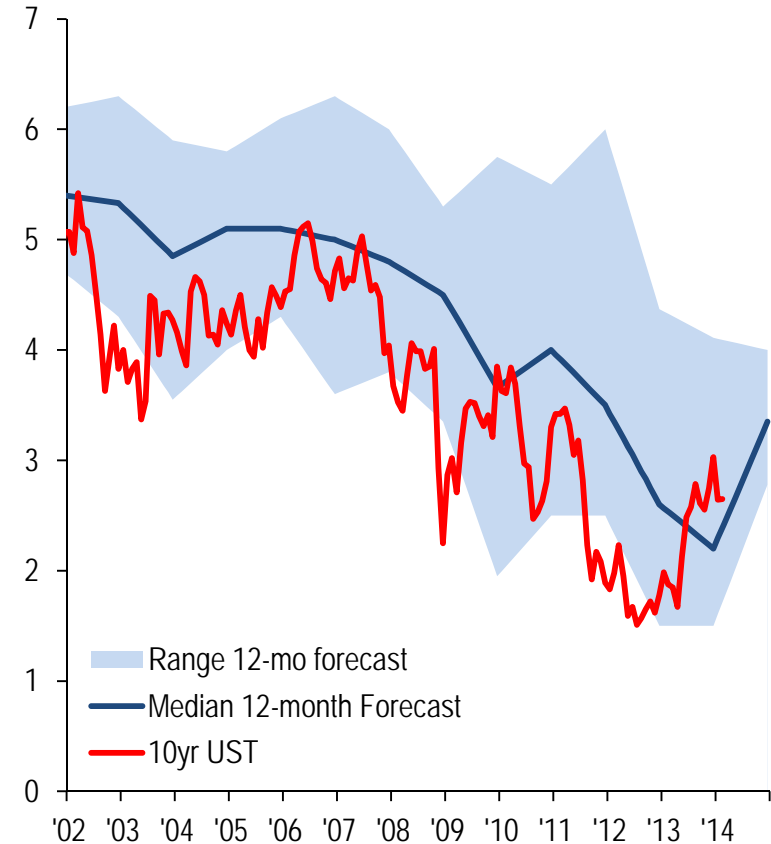
Nominal interest rates vs 10y Treasury yield (%)



Source: Citi Research, Bloomberg, Bureau of Economic Analysis

... so beware those forecasts

10y Treasury yield vs forecasts made 1y prior (%)



Source: Citi Research, Bloomberg

How real are current valuations?

Where will rates go?

Has too much money gone into credit?

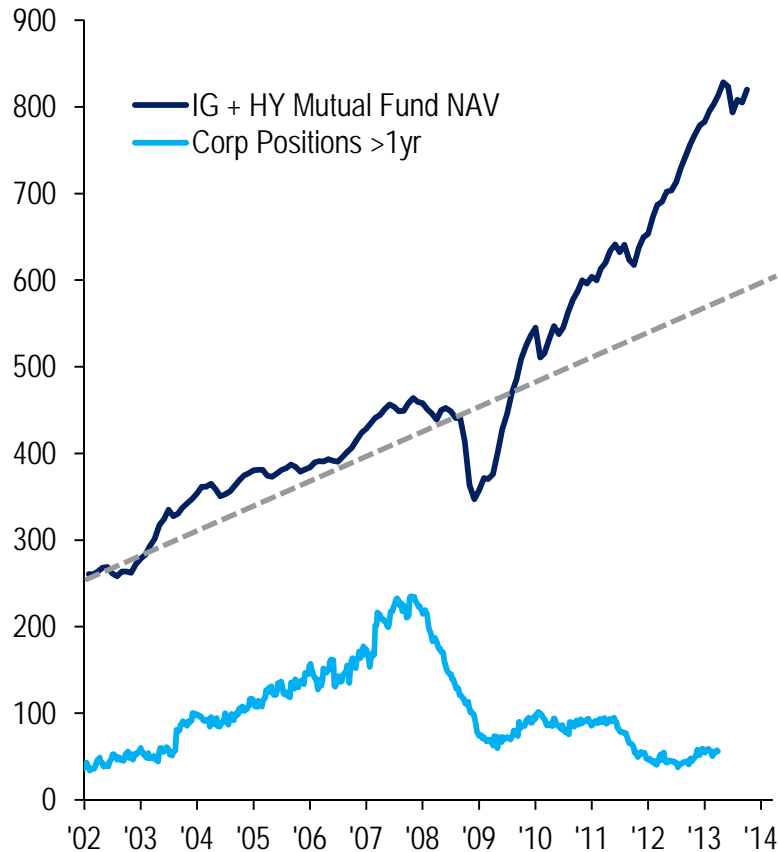
Does activism and M&A matter?

How do you make money anymore?

Tourists taking an extended vacation in bonds ...

Credit ...

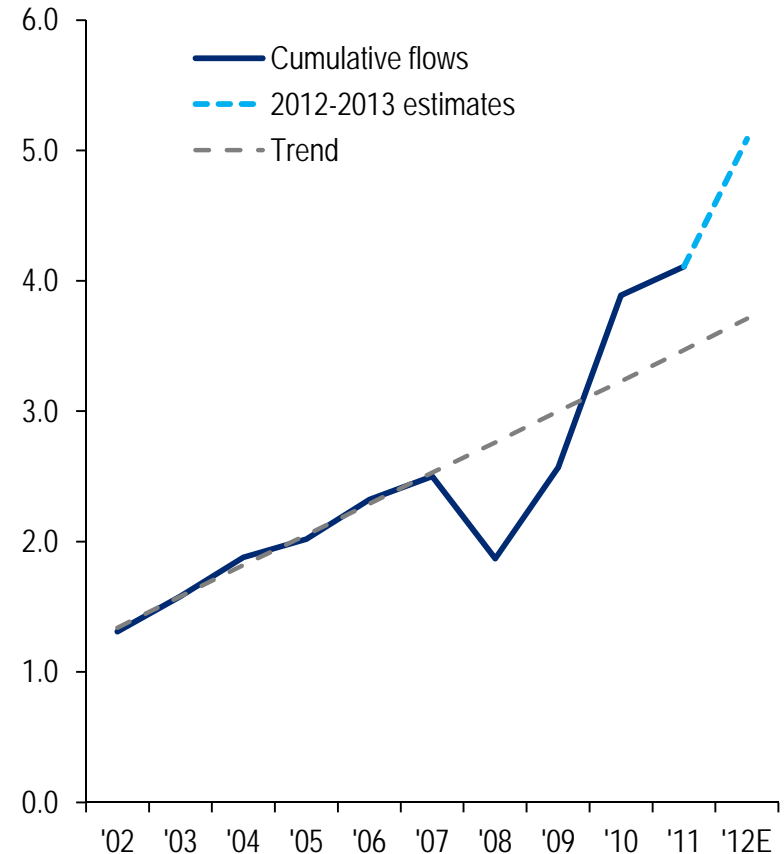
Mutual funds AUM vs dealer inventories (\$bn)



Source: Citi Research, ICI, Federal Reserve Bank of NY

... and emerging markets

Cum. flows from AE to EM vs long-term trend (% of AE GDP)

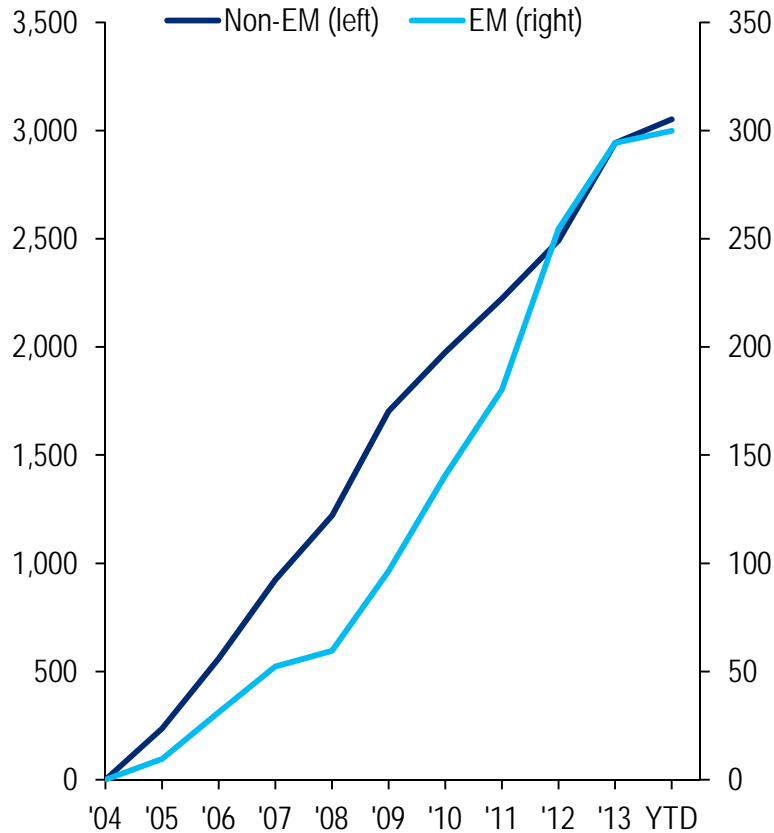


Source: Citi Research, IMF

... have largely been accommodated by the primary

Outstandings have doubled...

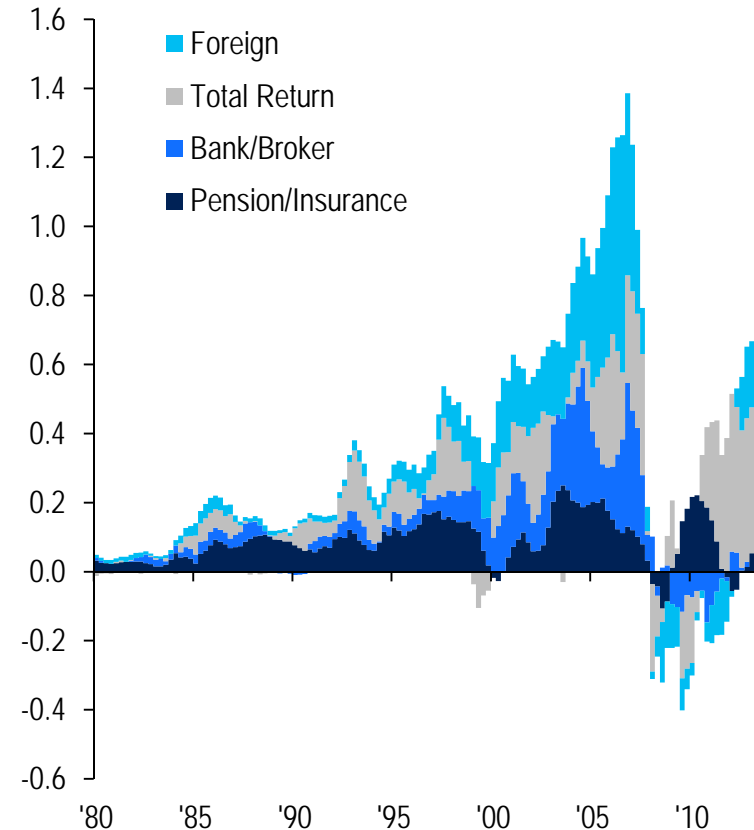
Cumulative EM and DM IG issuance (since Jan '04, \$bn)



Source: Citi Research, Dealogic

... on the back of total return buyers

Net annual purchases of US corporates by sector (\$tn)

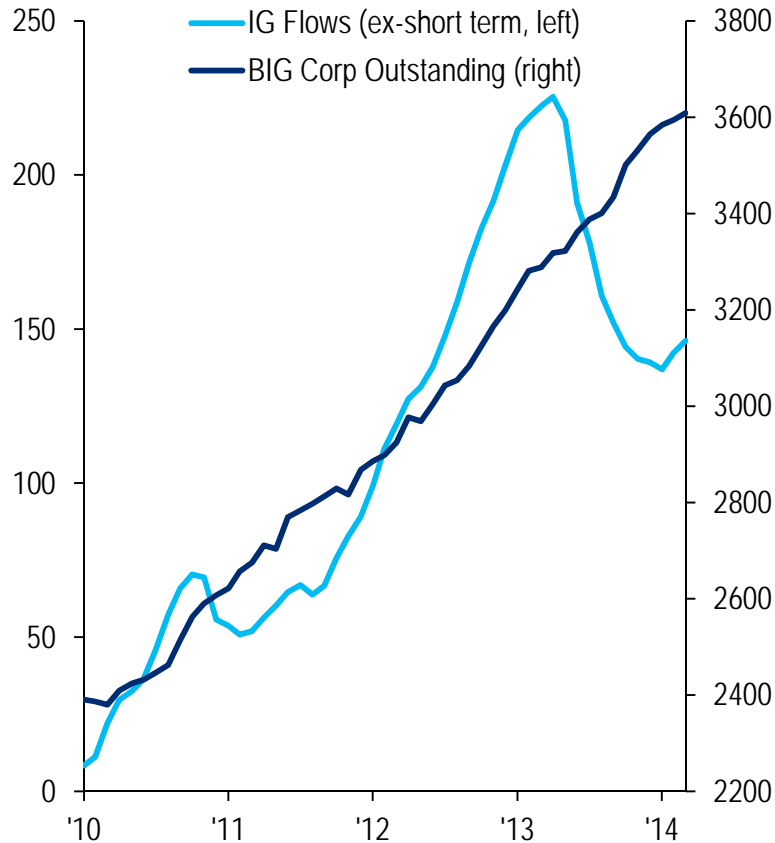


Source: Fed flow of funds, Citi Research

What happens when the tourists go home?

Perhaps nothing ...

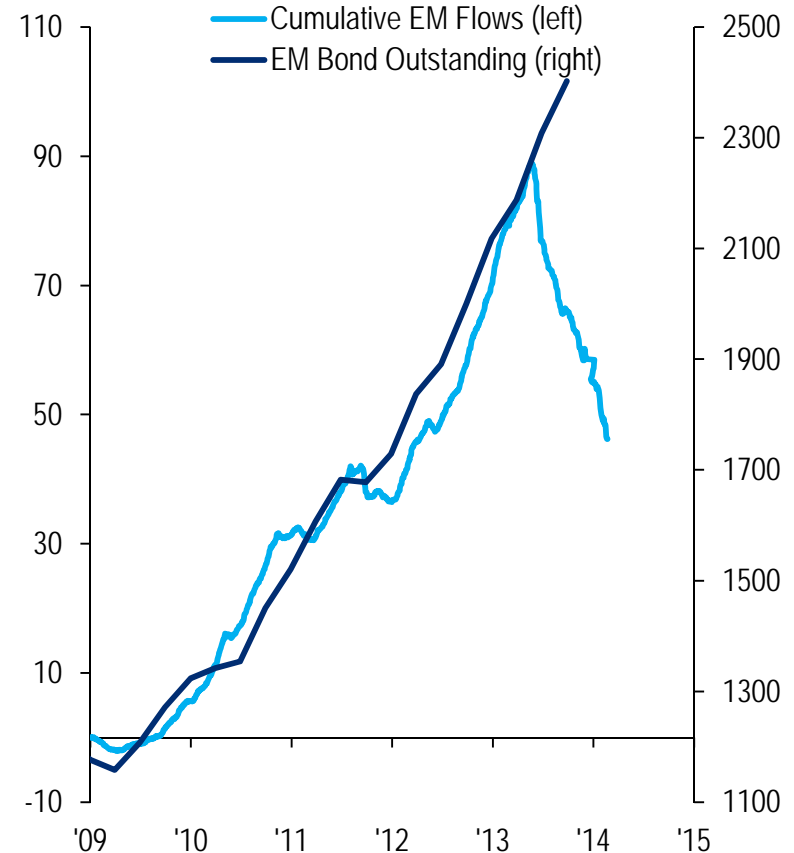
IG ex-short term fund flow vs outstanding (\$bn, since '09)



Source: Citi Research, EPFR

... provided the institutionals don't sell

EM fund flow (local & ext) vs outstandings (\$bn, since '09)

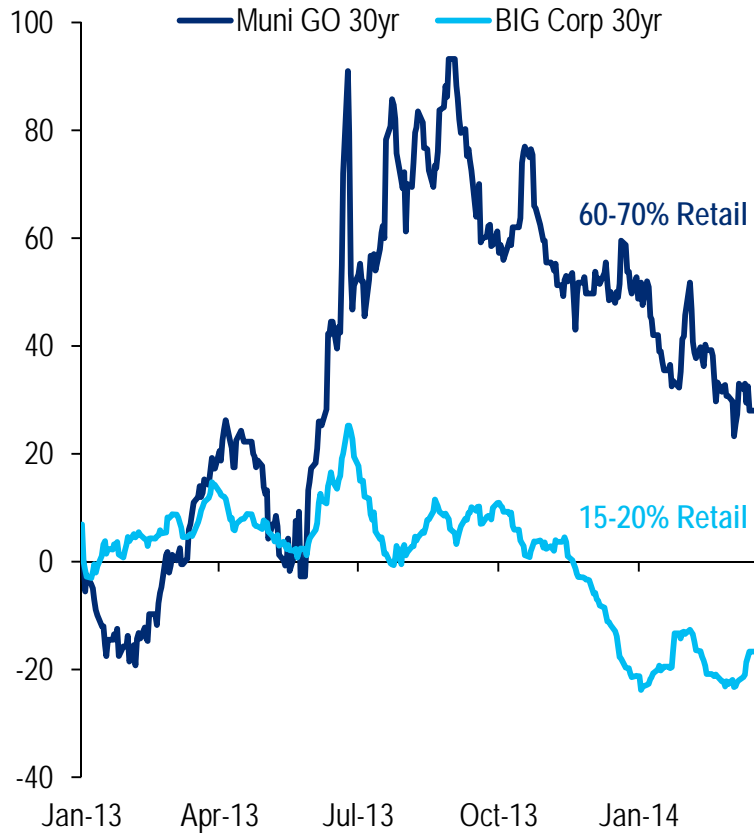


Source: Haver Analytics, EPFR, Citi Research

But remember, tourists like to travel

Tourist towns turn into ghost towns

Corporate vs Muni 30yr spread chg (bp, since Jan '13)

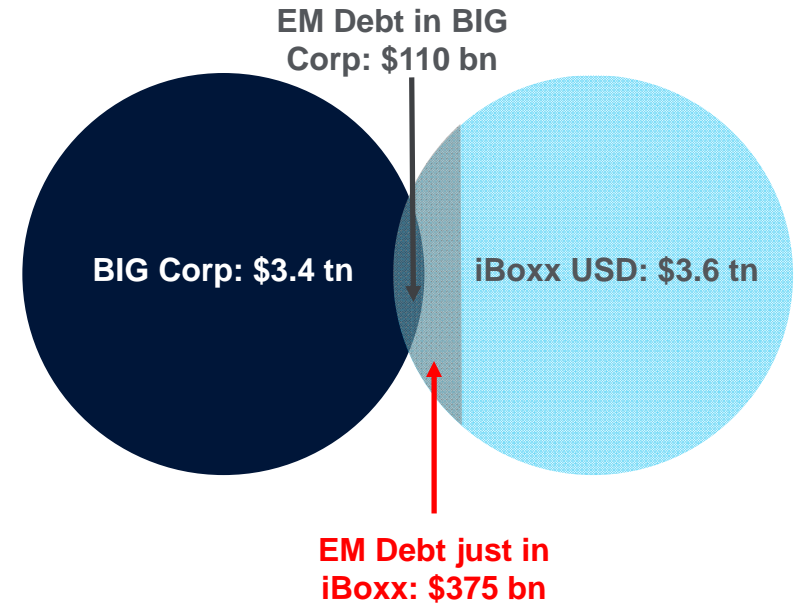


Source: Citi Research, Yieldbook

Note: BIG Corp spreads are OAS. Muni spreads are spread-to-benchmark.

And institutions tend to “sell what they can”

EM corporate debt in IG indices, Citi BIG Corp and \$iBoxx



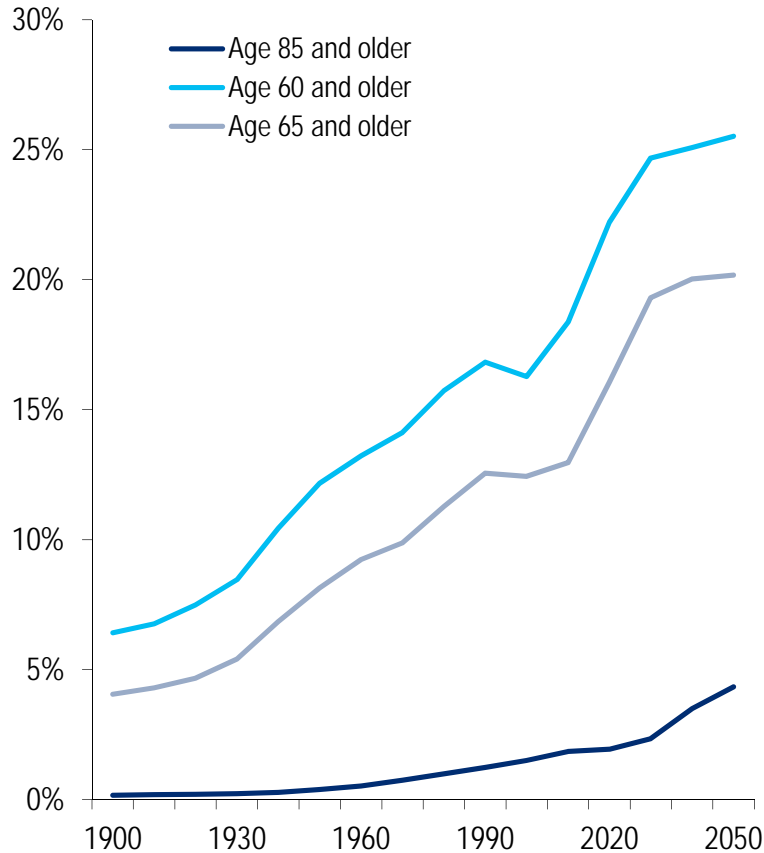
Source: Citi Research

As of 2013

Then again, maybe they're not tourists at all

Demographics help ...

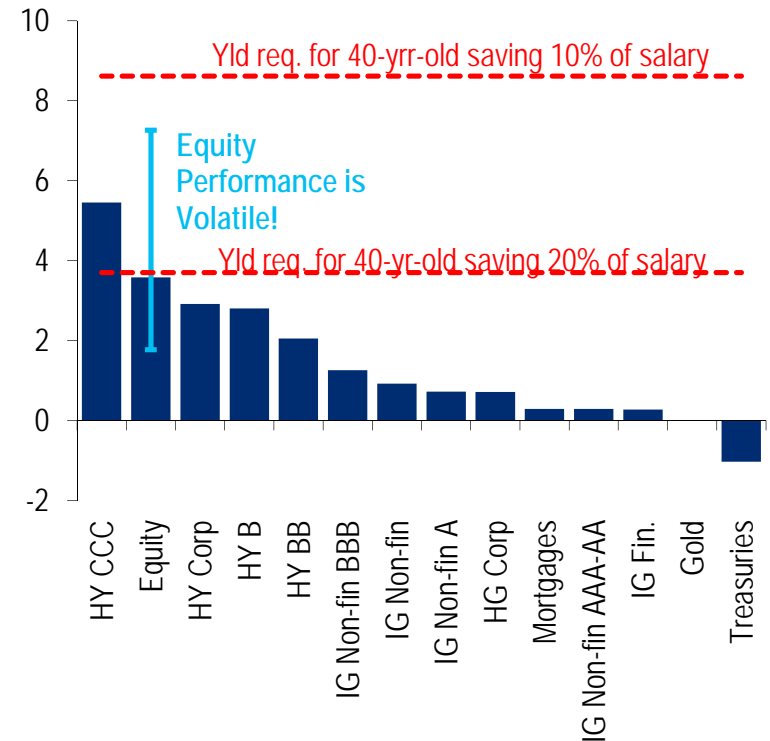
% of US population by age group



Source: Citi Research, US Administration on Aging, US Census

... although yields aren't very cooperative

Real return rates required to hit target vs salary saved (%)



Source: Citi Research, Bloomberg, Yieldbook

Note: *Real yields are calculated as the difference between the yield of each asset class (earnings yield in the case of equities) and 30-year treasury breakeven inflation rates. These rates are assumed to prevail until retirement. Equity performance volatility depicted in light blue is calculated from the minimum and maximum earnings yields in the past 5 years. Real yields required for given salary contributions (in red) are calculated for a 40 year old retiring at 65, and aiming to have 8x his annual salary upon retirement.

How real are current valuations?

Where will rates go?

Has too much money gone into credit?

Does activism and M&A even matter?

How do you make money anymore?

Buybacks not going away

Little incentive to stop releveraging ...

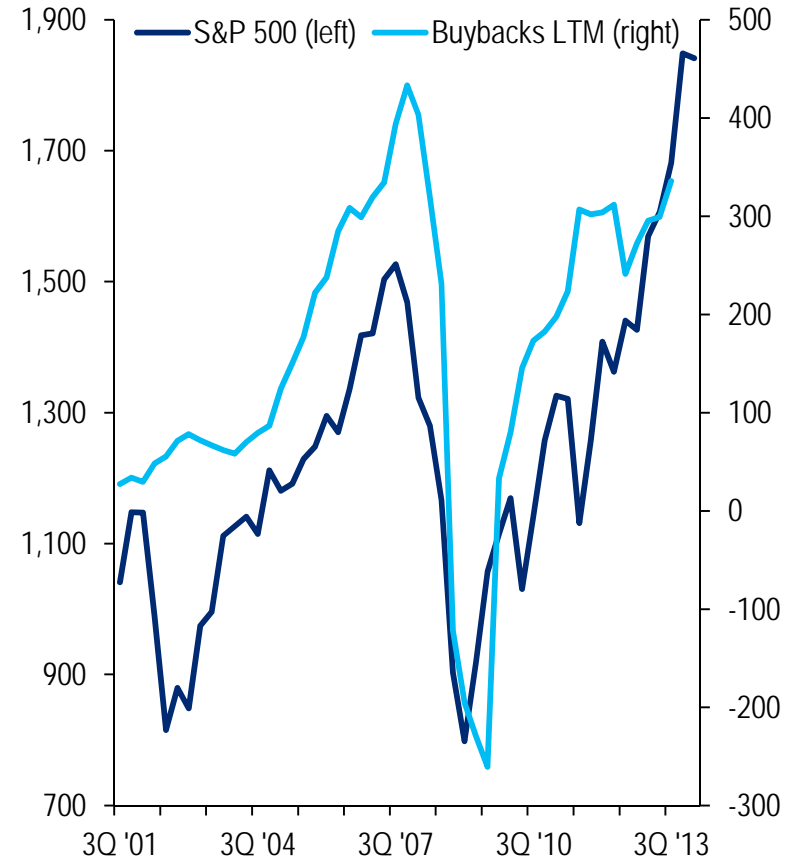
Earnings yield vs BBB corp bond yield (%)



Source: Citi Research, Bloomberg, Yieldbook

... and no historical precedent to do so

S&P 500 (left) vs net share buybacks (right, \$bn)



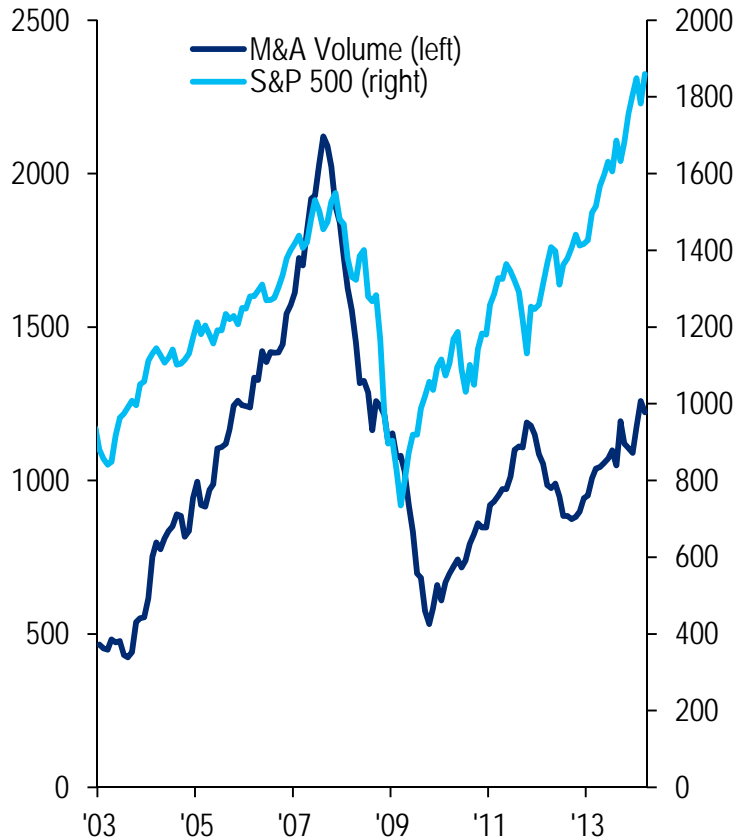
Source: Citi Research, Yieldbook, Bloomberg, Company Filings

*net share buybacks are defined as the net decrease in capital stock over a four-quarter period.

M&A likely to pick up

So far M&A has disappointed ...

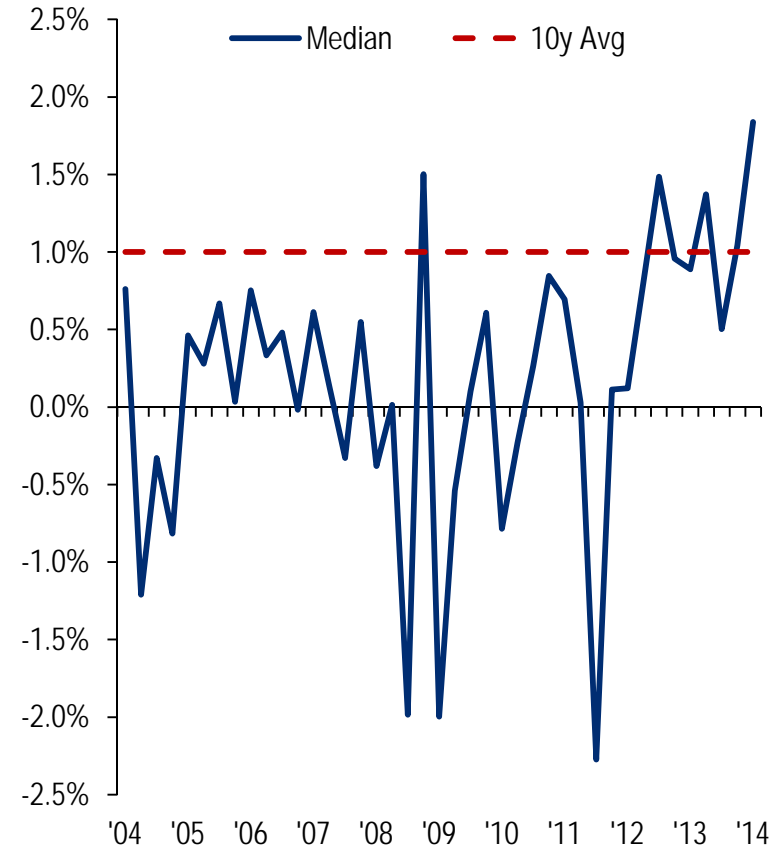
S&P 500 (left) vs 12-month avg deal vol (right, \$bn)



Source: Citi Research, Bloomberg

... but the environment is changing

Acquirer equity outperformance* on M&A announcement (%)



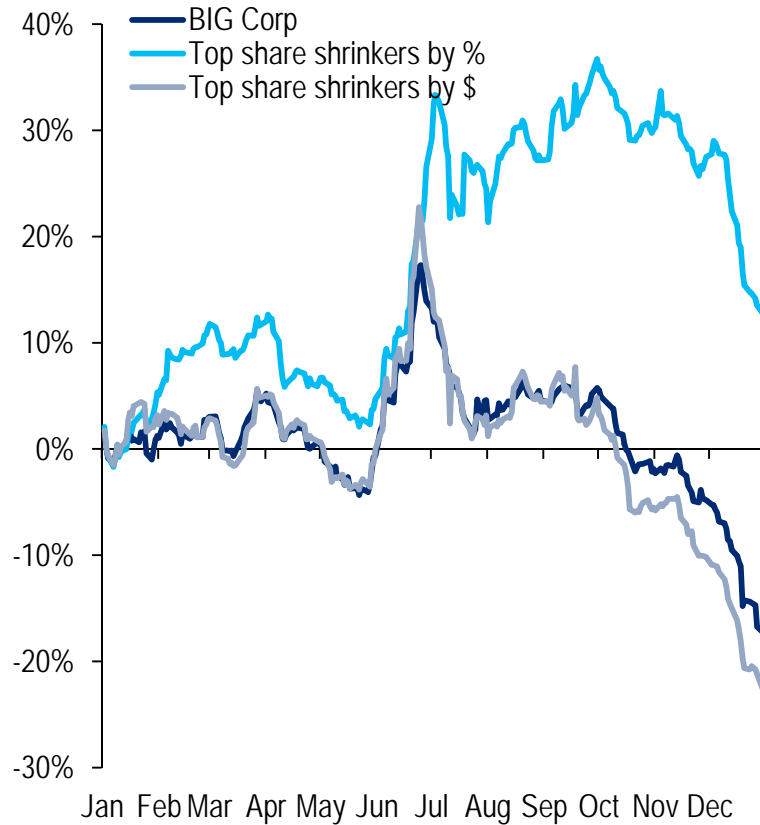
Source: Citi Research, Bloomberg, Yieldbook

*Equity outperformance is 2-day return of the acquirer versus S&P500 (the acquirer's return for the day of announcement and the following day, less the product of S&P500 returns over the same period and the acquirer's beta).

But there's been little impact to the market

Buybacks not causing consternation ...

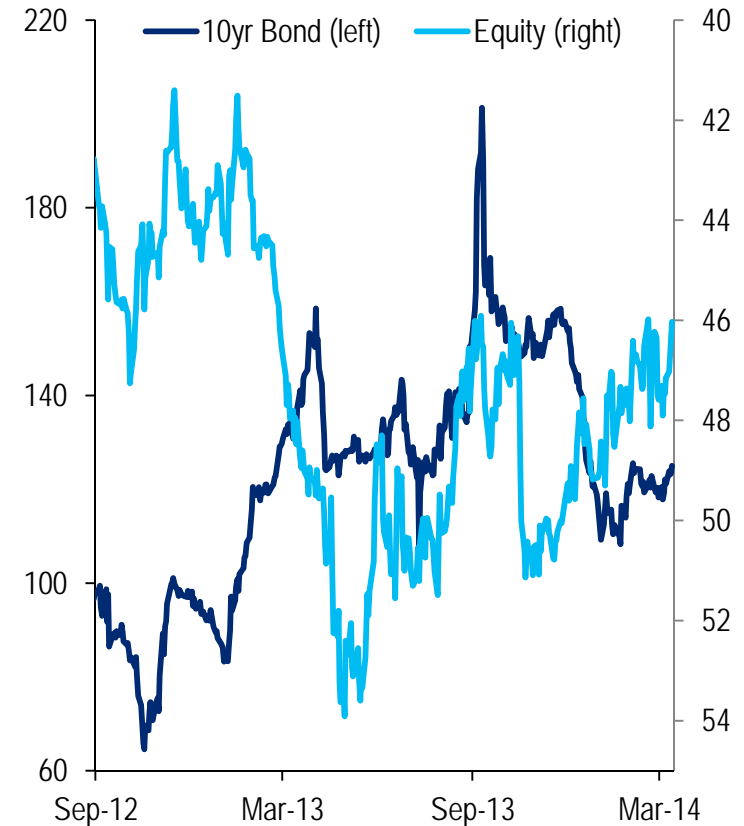
Performance of companies with large share buybacks (% chg)



Source: Citi Research

... and Verizon situations remain rare

Verizon 10y bond (bp) vs equity price (\$, inverted)

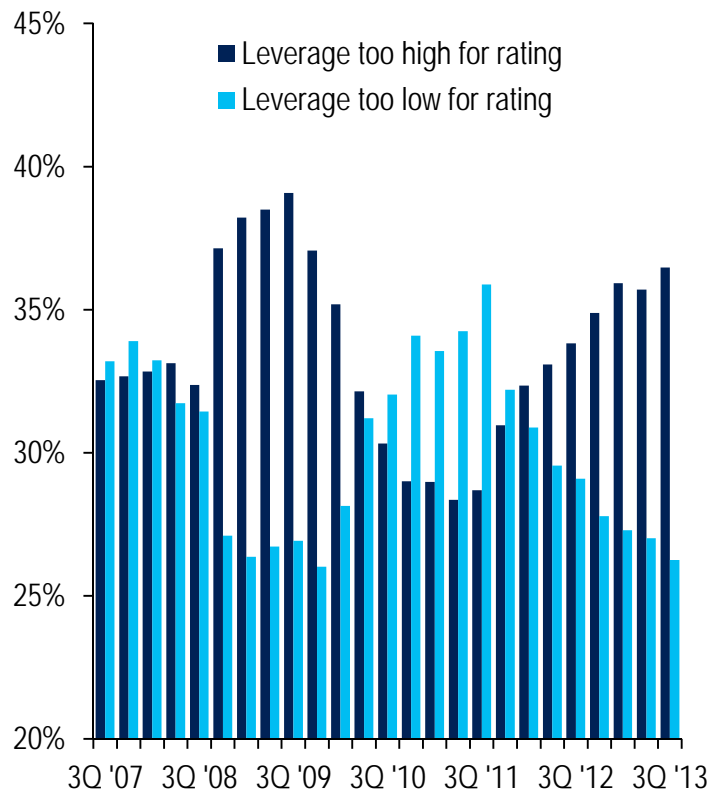


Source: Citi Research, Bloomberg, Yieldbook

Thanks to the magic of low yields ...

Leverage can rise ...

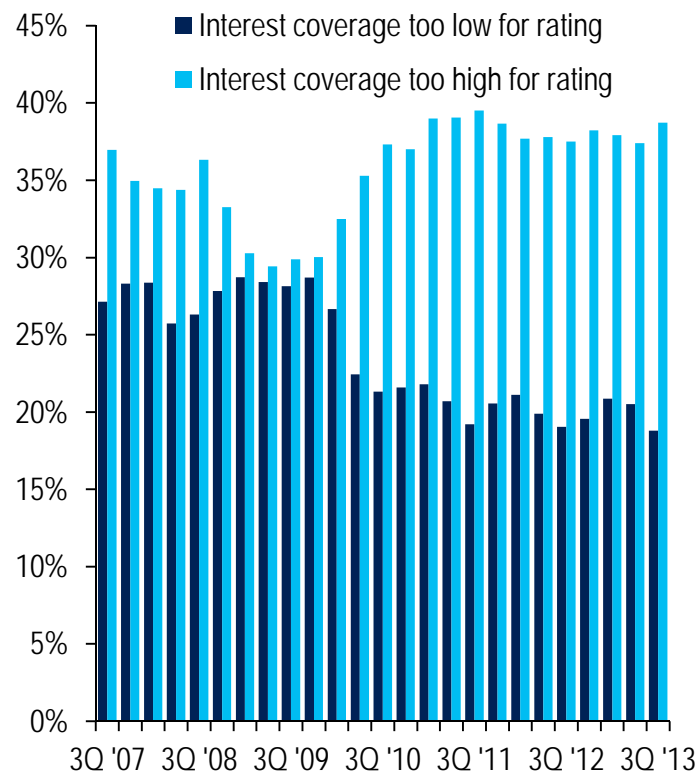
Number of companies where **leverage** exceeds rating and companies where it is below industry-rating guidelines



Source: Citi Research, Moody's

... while interest expense falls

Number of companies where **interest coverage** exceeds rating and companies where it is below industry-rating guidelines

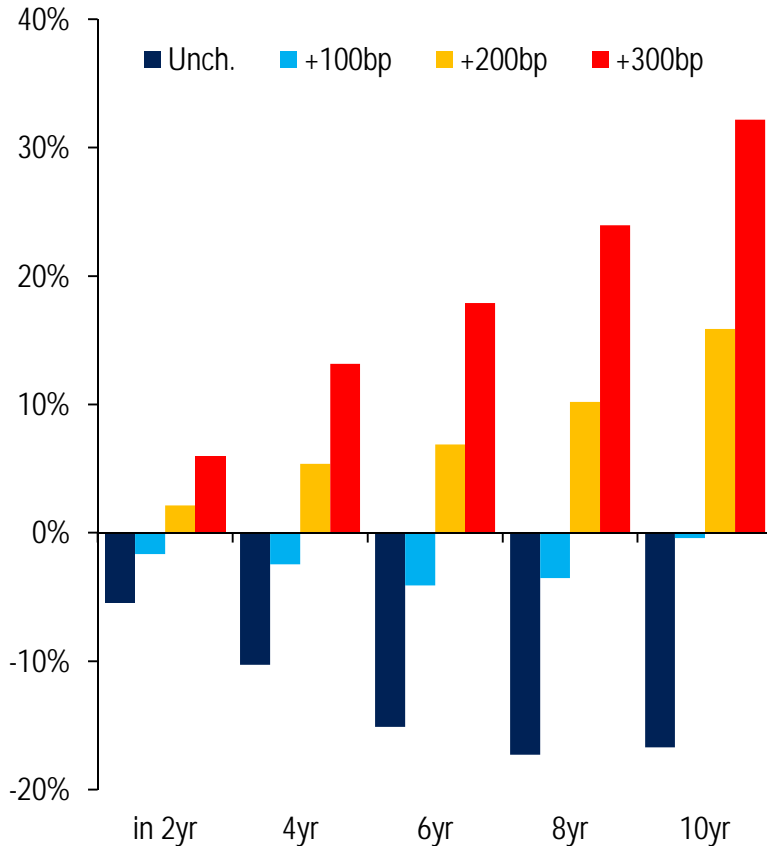


Source: Citi Research, Moody's

... to which the benefits can be lasting

It'll take time for higher rates to bite ...

Change in interest expense (%) in various rate scenarios

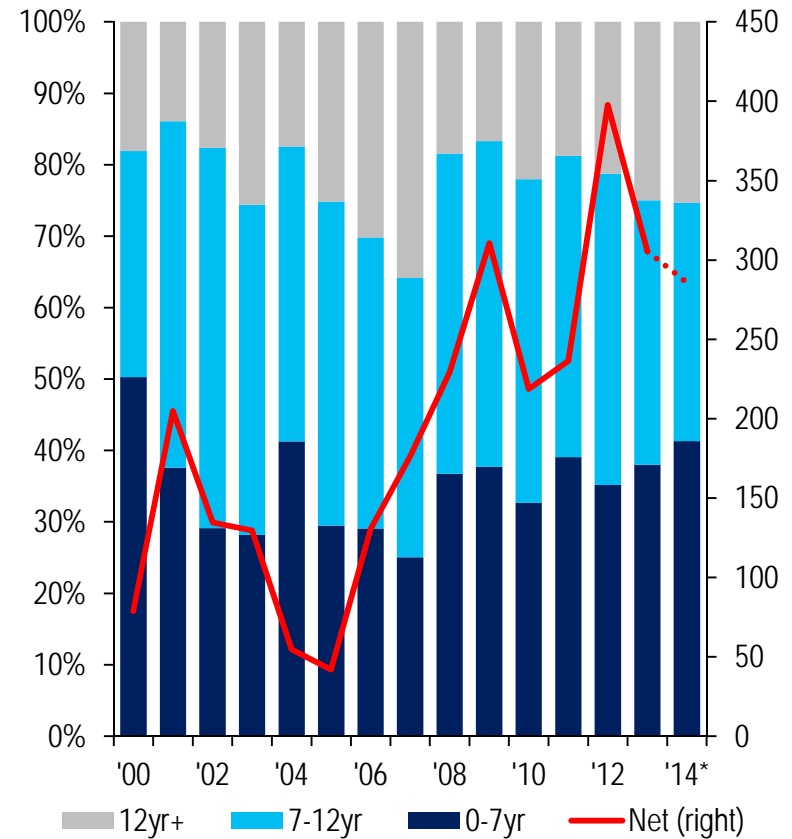


Source: Citi Research

Note: We assume parallel shifts in the yield curve only, and assume that issuers are not changing their debt levels (only adding debt that matures, and nothing more or less). The scenarios explore an instantaneous rate change from 3/17/14 levels (when 10yr treasuries yielded 2.7%).

... unless corporates keep on issuing short

Gross supply by tenor (% of total, left) vs net supply (\$bn, right)



Source: Citi Research

Note: Net supply for 2013 is the annualized year-to-date figure.

How real are current valuations?

Where will rates go?

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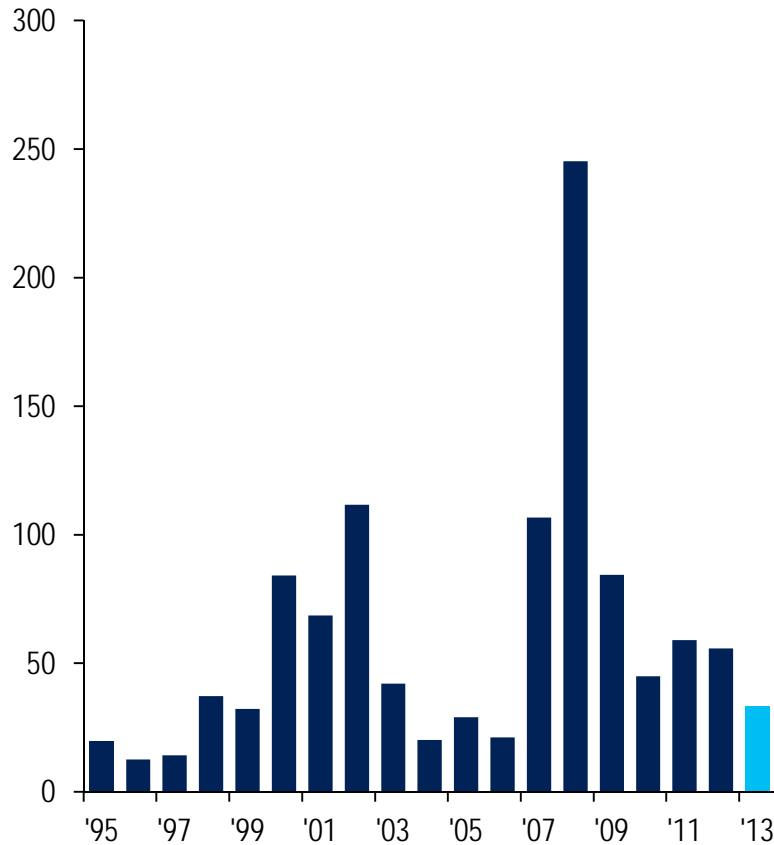
Does activism and M&A matter?

How do you make money anymore?

It's been *really* tough

2013 was an alpha disappointment ...

Dispersion of spread performance* (beta-adjusted, bp)

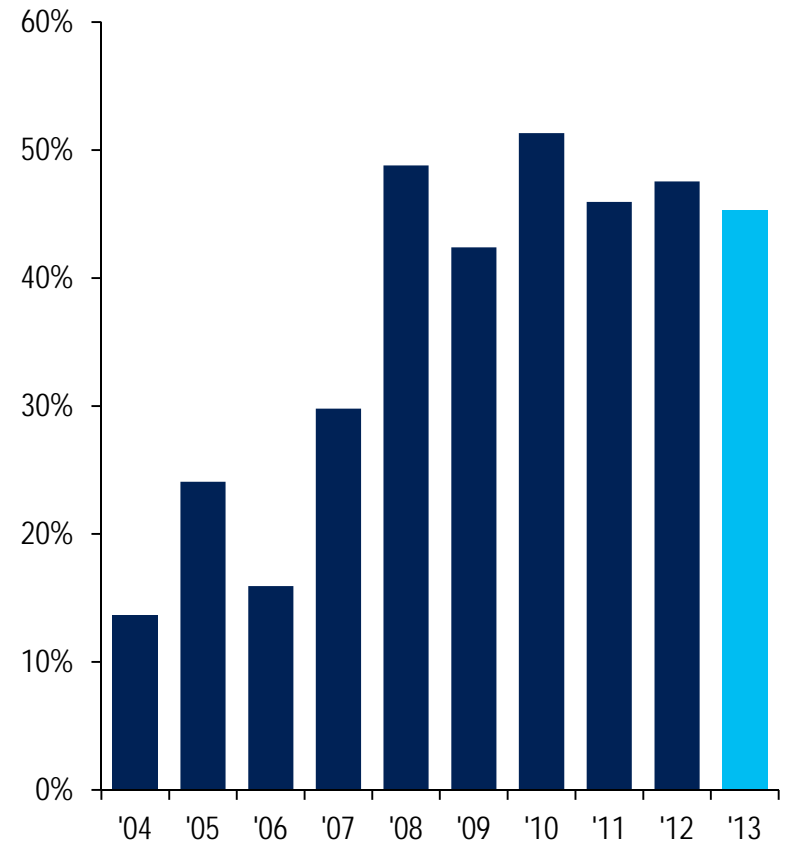


Source: Yieldbook, Citi Research

Note: We compute the beta-adjusted spread move for each bond in the BIG Corp index for every year. Taking the 75th percentile less the 25th percentile of the distribution gives us the dispersion of the alpha spread moves.

... as macro correlations still dominated

Average intra-correlation for IG CDS

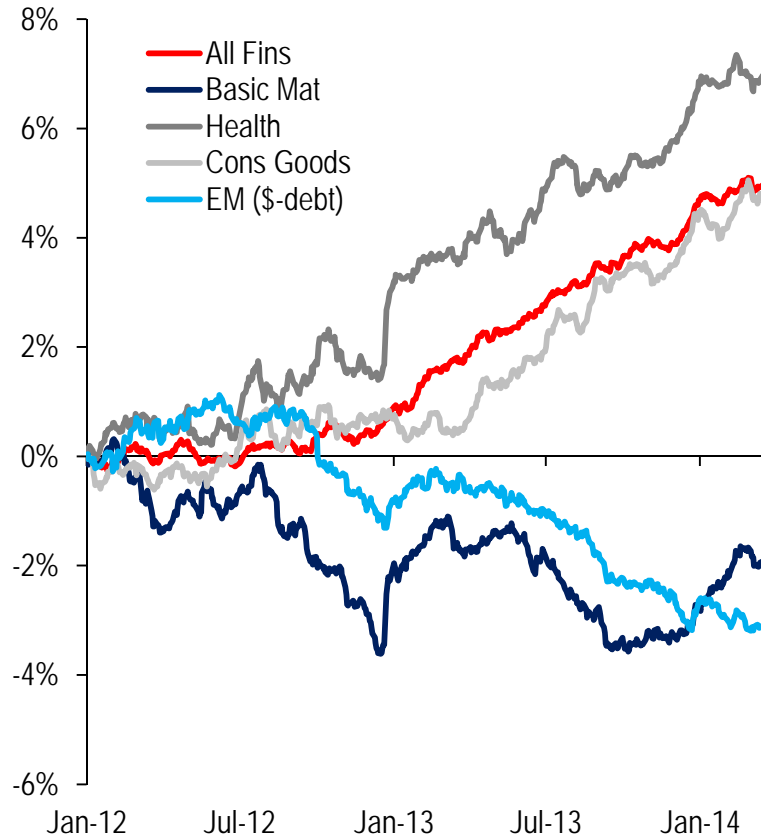


Source: Citi Research

Watch the crowd since everyone is doing the same thing

No surprises in sector selection ...

Cum. net buys by sector (% of TRACE eligible outstanding)

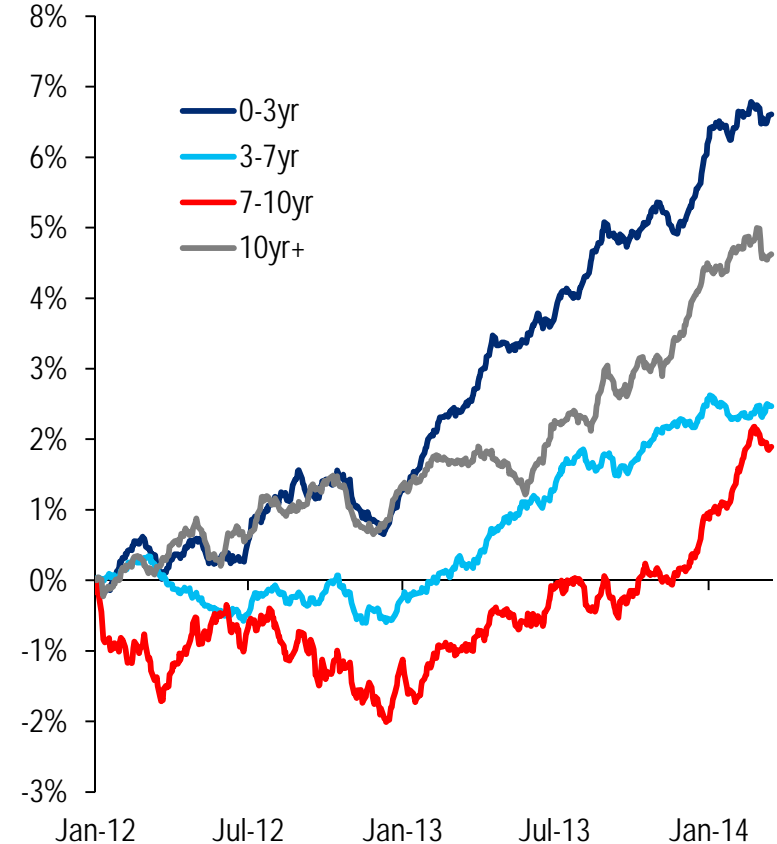


Source: Citi Research, TRACE

Note: calculated as the cumulative net client purchases (client purchases less sales in dollars), divided by TRACE eligible debt outstanding

... or on the curve

Cum. net buys by tenor (% of TRACE eligible outstanding)



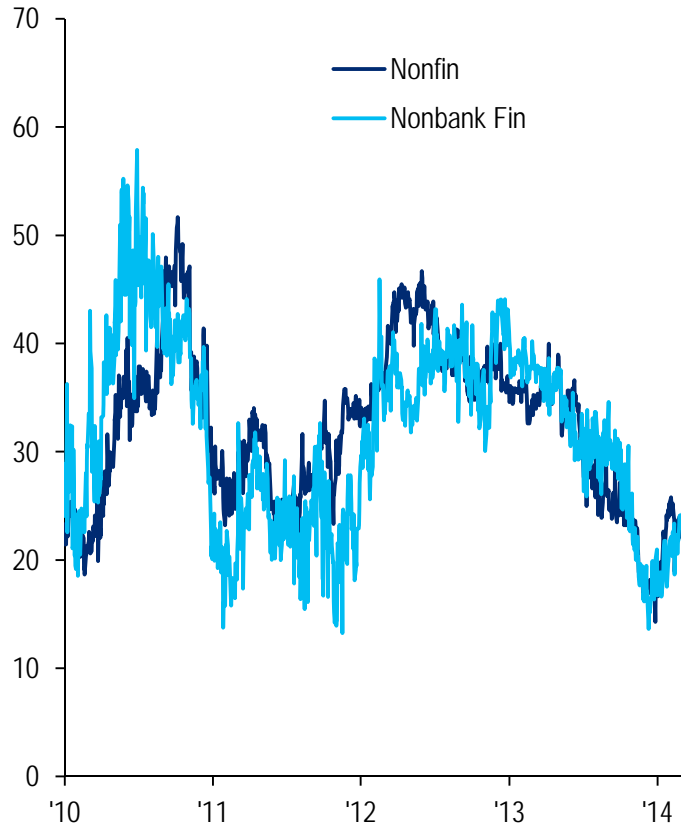
Source: Citi Research, TRACE

Note: calculated as the cumulative net client purchases (client purchases less sales in dollars), divided by TRACE eligible debt outstanding

Try to anticipate the next move

Curves will continue to flatten ...

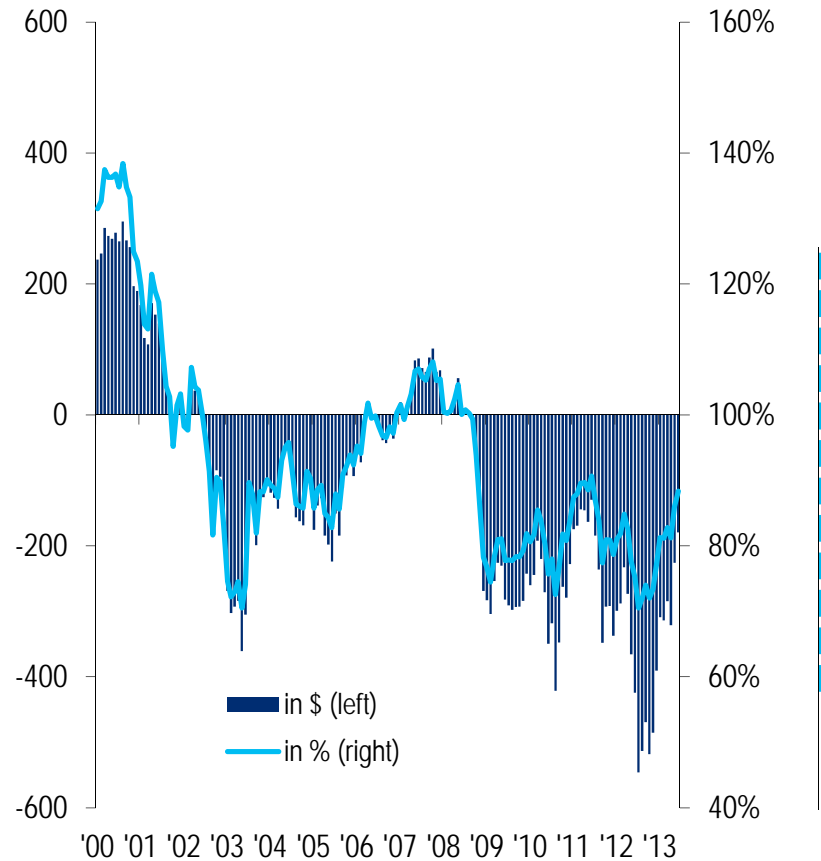
On-the-run 10s30s OAS (bp)



Source: Citi Research

... as rates rise because of LDI-buying

Surplus/deficit (\$, left) and funding ratio (%), right)

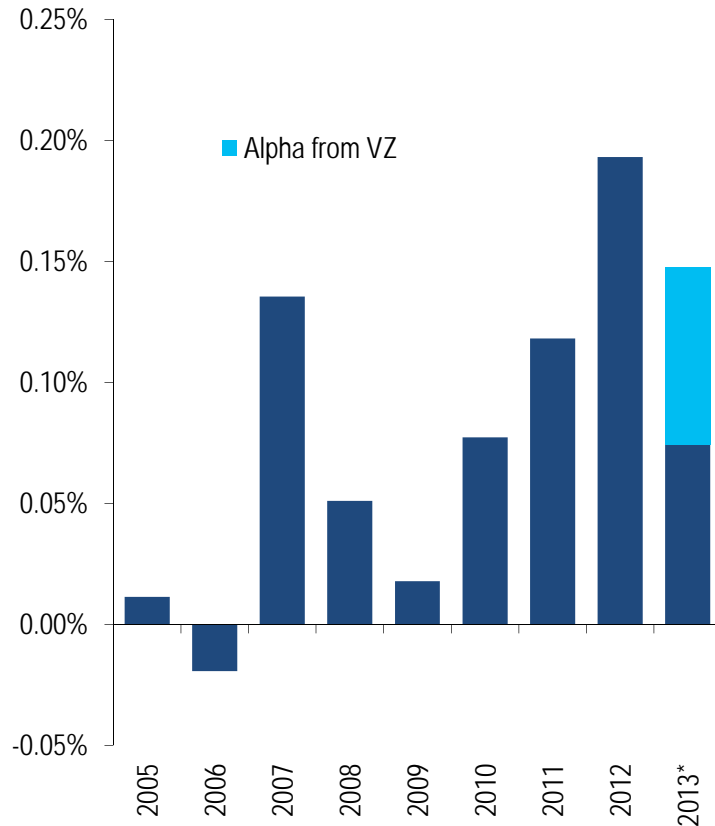


Source: Citi Research, Milliman

Keep syndicate on speed dial

Look to the calendar to drive alpha ...

New issue allocation alpha for IG (%)

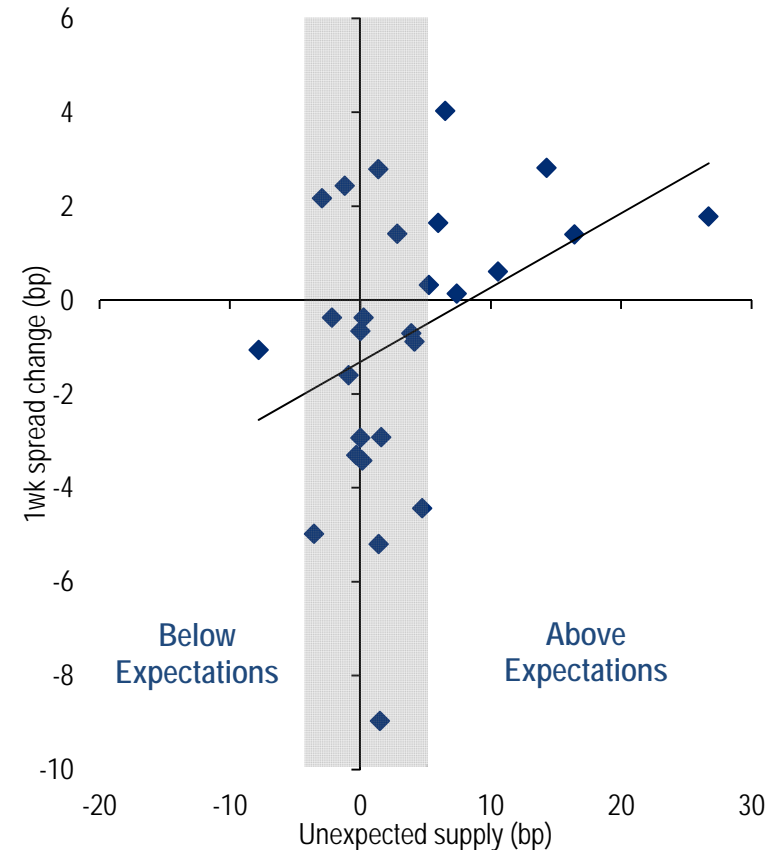


Source: Citi Research, Yieldbook

Note: New issue allocation alpha is calculated by looking at the performance of a portfolio that includes new issue allocations immediately but is otherwise identical to Citi's BIG Corp Index, which doesn't include a new issue until the 1st of the next month.

... directly and indirectly

BIG Corp OAS (bp) vs unexpected supply (\$bn)

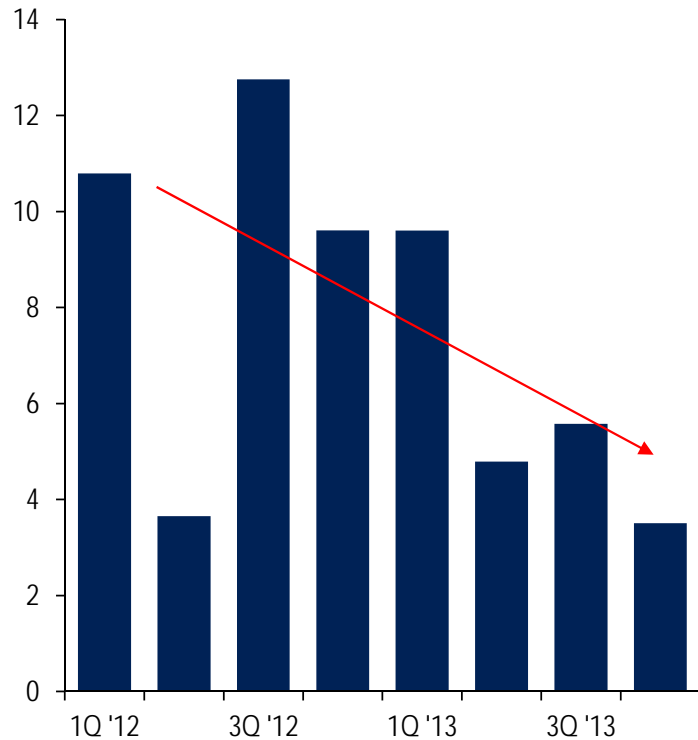


Source: Citi Research, Yieldbook

Maintain dry powder

The compensation for illiquidity is low ...

Spread compensation for liquidity (bp)

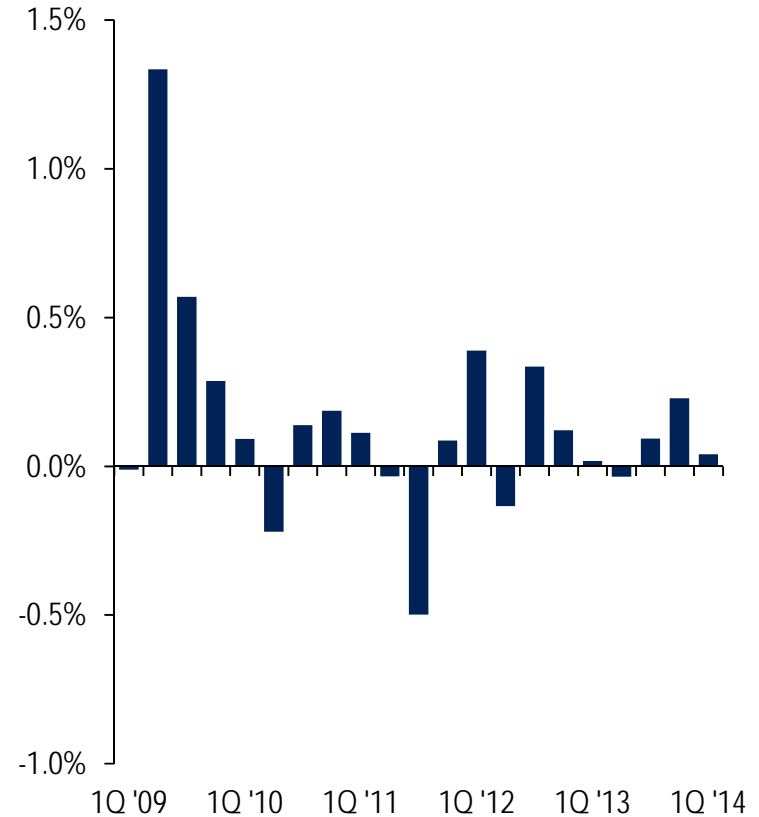


Source: Citi Research, Yieldbook

Note: spread compensation for liquidity is calculated as the OAS differential between two portfolios of TRACE eligible bonds, one with the most heavily traded bonds and the other with the least traded bonds. Both indices are controlled to have the same exposure to each credit, rating, and tenor.

... and staying liquid is relatively cheap

Excess return shortfall of portfolio with a 10% cash holding vs BIG Corp (%)

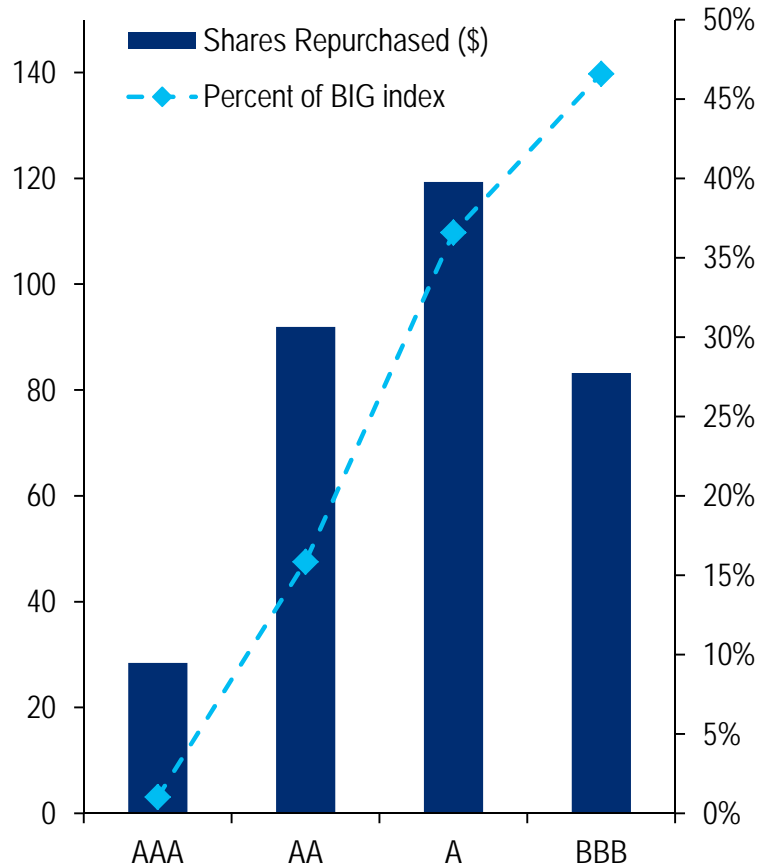


Source: Citi Research, Yieldbook

Beware old paradigms, particularly when it comes to “defensive”

Repurchases more likely with an “A” rating

12mo share buyback (\$bn, left) vs BIG Corp wgt (% , right)



Source: Citi Research, Dealogic, Bloomberg

Watch out for repeat offenders

Repeat offender candidates; be cautious of releveraging and issuance

Name	Sector	'13 Debt Change (\$)	Ratings	Q3 13 Leverage	'13 Equity Price Change
Apple Inc	Tech	16,960	/ AA+	0.3x	6.7%
Exxon Mobil	Energy	9,712	Aaa / AAA	0.4x	9.4%
Wal-Mart	Retail	7,686	Aa2 / AA	1.7x	16.4%
Chevron	Energy	6,389	Aa1 / AA	0.4x	13.4%
Oracle	Tech	4,351	A1 / A+	1.4x	4.5%
Philip Morris	Cons. Goods	3,961	A2 / A	1.9x	2.5%
IBM	Tech	2,911	Aa3 / AA-	1.5x	-7.9%
Procter & Gamble	Cons. Goods	1,354	Aa3 / AA-	1.9x	23.8%
Altria Group	Cons. Goods	998	Baa1 / BBB	1.8x	18.9%

Source: Citi Research, Bloomberg, Moody's, S&P

Note: equity performance is up to 11 Dec '13.

Appendix A-1

Analyst Certification

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