Citi Research

Equities

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Machinery

North America

Checking-in on U.S. Construction

Improving Fundamentals and Building Business Confidence

- **Update on U.S. Construction** – As a follow-up to our August, 2013 non-res outlook, we outline some of the key trends underlying our positive sector view.
- **Lead Indicators Pointing Upwards** – Market fundamentals for commercial building, such as occupancies, property prices and asking rents, continue to point upwards. At the same time, financing conditions remain supportive for contractors and developers, due in part to intensifying competition that is leading some banks to not just lower rates on C&I/CRE loans, but also ease on terms and covenants.
- **Uncertainty Easing…** – Economic policy uncertainty hovered at 30-year highs for much of 2011-2013, hardly making for a conducive backdrop for investment in long-lead time assets like buildings. Encouragingly, declines in (fiscal) policy uncertainty, thanks in part to the Murray-Ryan agreement, should ease some of the headwinds on investment spending just as accelerator incentives from faster growth pick-up.
- **…Which Argues for Mix Shift from Renovation to New Build** – Anecdotal evidence (and checks with crane rental companies) suggests this is beginning to lead to a gradual pick-up in project activity. Keep in mind any increase in starts is coming from historically low levels (annualized starts currently 1% of existing stock).
- **Consensus Favorite End Market** – Citi's European Steel team (link) recently outlined a bullish case for European construction spending, where a long malaise has led it to fall off investors' radar. Not so much in the U.S., as investors have long been anticipating a recovery. Still, while no cycle is the same, our work suggests non-resi exposed stocks typically work (on a relative basis) through at least the first half of the upcycle. A 16% increase is required to get spending to 50% of prior cycle
- **Eyes on the Highway** – Public construction spending appears to be headed for its 6th year of declines, though improving fiscal conditions of most states, and greater acceptance of alternative financing, contribute to a stable outlook. The solvency of the Hwy Trust Fund remains a key variable to watch. Our D.C. contacts see a short-term fix, rather than a broader funding reform, as the most likely near-term outcome.
- **Housing's Role** – Given its close historical (leading) relationship with non-res spending, recent soft U.S. housing figures bear watching. While Citi's Housing team recently trimmed its starts outlook, forecasting 1.4MM starts in 2016, the revised number still represents ~14% CAGR vs. '13 levels. Importantly, community count (i.e. number of new subdivisions) is expected to see double digit growth this year, with new construction shifting towards under-developed lots (positive for equipment)
- **Stocks to Benefit** – Buy-rated names that potentially benefit include: U.S. Machinery/Diversified Industrial: ETN and URI; U.S. Multi-Industrials: TYC, WCC, EMR; European Industrials: Wolseley, Volvo, ABB and Philips.

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Contents

U.S. Non-Res Construction Market Outlook

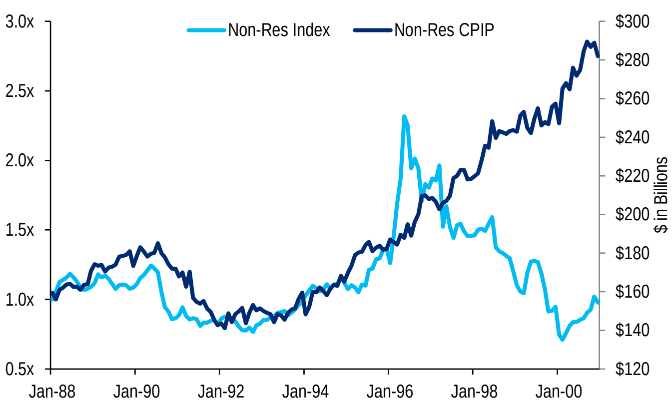
After a series of fits-and-starts in 2013, we sense the recovery in nonresidential construction is starting to build in the U.S. While weather-related disruptions may have slowed the momentum somewhat, our checks across a wide range of end markets and contacts (from crane rental companies to commercial lenders) point to accelerating activity, which we think can be sustained for several years given the solid fundamental backdrop and low level of supply.

A Well-Liked Sector, But Still Room for Outperformance

As one of a few end markets within U.S. industrials that is closer to trough than peak, with a positive, growing cyclical tailwind, and is without major secular headwinds, it is little surprise that non-res construction is often viewed as a "consensus" favorite end market. The question then becomes – is all the "good news" already discounted in the stocks? Based on our belief that we are still in the early innings of the cycle, combined with our analysis of past cycles, we would argue that there is still room for outperformance still ahead for levered names.

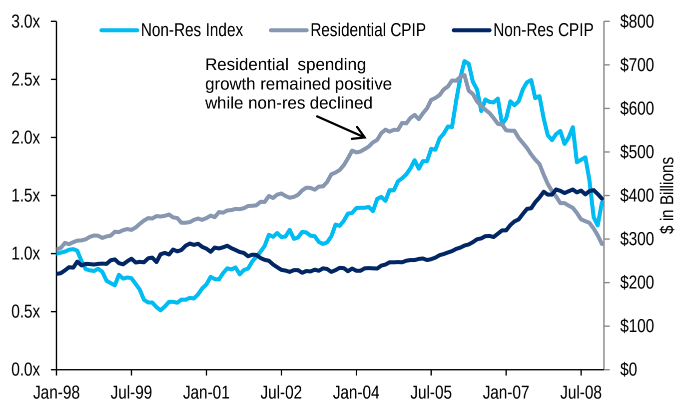
Given this favorable spending outlook, we have analyzed the prior two non-residential construction spending cycles to determine at what cycle stage stocks with meaningful exposure to non-residential construction stop outperforming the broader market (as measured by S&P 500). While we admit that these exercises have their limitations, our analysis suggests that outperformance typically extends through at least the first half of the construction spending up-cycle. During the non-residential construction spending upswing that started in February 1992 and lasted for 105 months, stocks with meaningful non-residential construction exposure outperformed the S&P 500 index for the first 53 months of the upswing. During the 60 month upswing that started in January 2003, a basket of largely non-resi exposed stocks outperformed the broader market for the first 40 months. We do acknowledge that prior cycles were influenced by other variables. For example, during the last construction cycle non-residential construction spending had an identifiable cycle, but residential construction spending only experienced a minor correction before rocketing higher. In addition, some companies in our non-resi index benefitted from the extraordinary growth in EMs during this period.

Figure 1. Non-Res Index vs Non-Residential Construction Put in Place (1988 – 2000)



Source: Company Reports, FactSet, Haver Analytics and Citi Research Estimates
Non-Res Index includes: APOG, AXE, CAT, HNI, HUB, JLG, MLHR, OSK, TEX, TILE, UTX, and WSO.

Figure 2. Non-Res Index vs. Non-Residential Construction Put In Place (1998 – 2008)

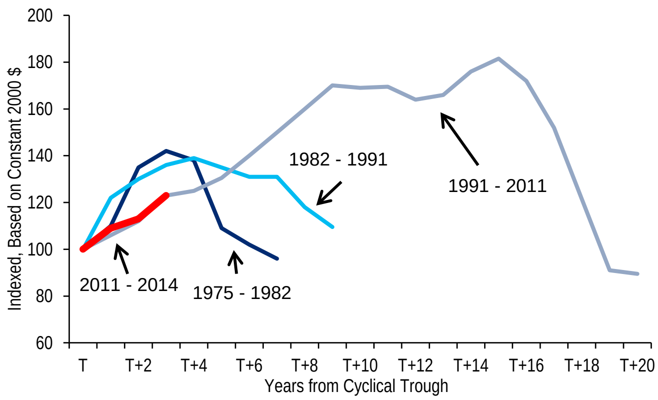


Source: Company Reports, FactSet, Haver Analytics and Citi Research Estimates
Non-Res Index includes: APOG, AXE, BGC, CAT, EME, HNI, HUB, JLG, MLHR, NCS, OSK, TEX, TILE, URI, UTX, WCC, WSO

As for which historic cycle is most like the current expansion, it is hard to say. At this point there appears to be a lot of room for expansion in both residential and non-residential construction, as the drop from the recession was so significant, and the

construction sector has had a very delayed rebound relative to other areas of expansion. To this point, as shown in Figure 4 below, non-res spending has only recovered a modest amount of ground from the prior peak. Perhaps it is unrealistic to think the market reaches the prior peak level, but even to return to half this level would require ~16% growth from current levels.

Figure 3. Total Construction Activity by Cycle

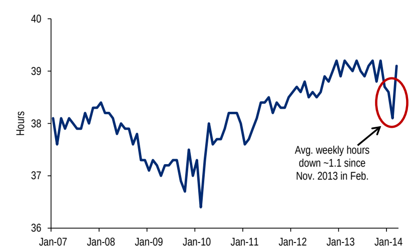


Source: McGraw Hill Construction and Citi Research
Note: Cyclical Trough [T] = 100

Figure 4. Total Construction Activity Remains Well Below Prior Peak

Source: Census Bureau and Citi Research

Figure 5. Average Weekly Hours of Construction Workers

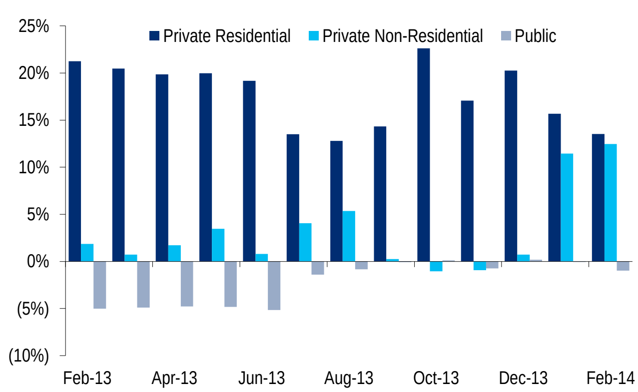


Source: Bureau of Labor Statistics

Activity Off to a Stronger Start in 2014, Despite Weather Challenges

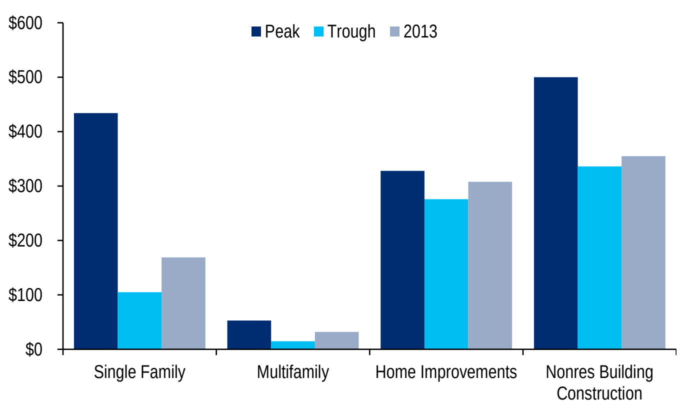
After a disappointing 2013, when overall spending on non-residential construction was essentially flat, the market is off to a solid start thus far in 2014. Total construction spending, as measured by Census data (which provides a fuller real-time picture than McGraw Hill, in our view, as it captures renovation activity) is up ~9% through the first two months of the year, and anecdotal reports, including last week's Beige Book, suggest that momentum has built in subsequent months. This is even more noteworthy given well-discussed headwinds from inclement weather across much of the country, visible in the decline in the construction industry workweek, with the sharp 1.2 hour plunge rivaling the pull-back during the U.S. housing collapse. That said, some perspective is warranted, as the market has only recovered a small share of the decline post the 2008 peak, as shown below.

Figure 6. 12-Month Construction Spend (SAAR, Year/Year %)



Source: Census Bureau and Haver Analytics

Figure 7. Spending During the Most Recent Construction Cycle



Source: Reed Construction Data

This has been echoed by a variety of companies exposed to non-res construction activity, who have pointed to generally improving conditions in recent months.

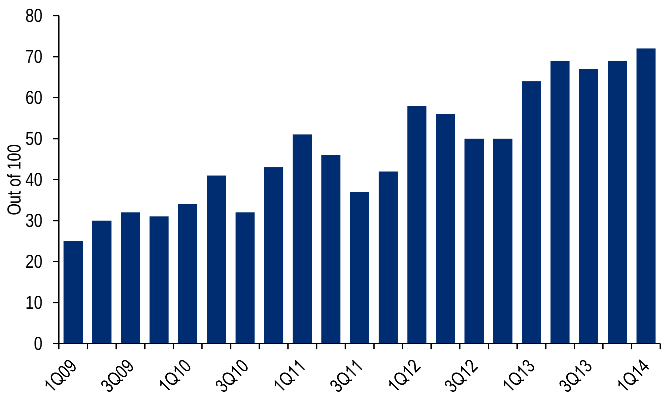
Figure 8. 2014 Highlights – What Was Heard on Non-Res

Company	Mkt Cap	Recent Company Commentary on U.S. Construction Spending	Date
Suntrust Banks	$20,878	"…the good news is that it's pretty broad based…We're starting to see some of that recovery in virtually all categories; multi-family, industrial, little less office, retail, clearly on the bottom of that food group in terms of recovery. So it's pretty broad based."	4/21/2014
United Technologies	$109,653	"There's really I would say two different stories in North American non-res. Clearly on the Otis side, we see very, very solid growth in the commercial construction side of the business… (referencing Carrier order decline)…But keep in mind I think a little different business there. That is primarily 80% a retrofit business and only about 20% relates to new building construction. So we are seeing traction on new buildings."	4/22/2014
Schneider	$51,362	"When we look now at North America, growth in the U.S. with still good investment in residential, good investment in datacenter, and a slight improvement in non-residential in the U.S….continued growth in the U.S. I mentioned good activity in oil and gas and data center. I mentioned the residential which continue to improve"	4/24/2014
Eaton	$35,402	"What's different about this year is in addition to industrial spending continuing to grow**, we're seeing more growth in commercial spending, so growth on offices, growth on retail**…**We're starting to see the beginning of new subdivisions**, so new areas around cities where, in addition to building the homes, you have to build retail, you have to build restaurants, you have to build things that people use when they move to a new subdivision...**We think government spending will actually improve this year for non-resi construction**"	3/20/2014
Kone	$21,958	"In North America, new equipment demand grew. This was a result of strong growth in the United States where the positive development of the new equipment market was driven by the residential and office segments…Excluding this impact (of a large modernization order last year), orders received in North America grew clearly. New equipment orders received grew, with strong growth in the United States"	4/22/2014
Tyco	$19,517	"For the total year we definitely saw a pickup happening in 2014, and I believe that's continuing…As we look at the markets that we're competing in, we'd say that the North America market, somwhere around 2.5% [growth] we're expecting this year. Europe continues to be - I think it's better, but it's relatively flat."	3/12/2014
Skanska	$9,202	"In the U.S., there is a good pipeline of projects both in the building side, we see a lot of projects in aviation, in healthcare, in hi-tech buildings also in the office market. And we see a long stream of projects also on the infrastructure side"	2/7/2014
United Rentals	$9,188	"And now, commercial construction appears to be in a broader recovery…**The reports in the field indicate more optimism** than we've seen in years, and our customers are upbeat about their own business prospects. So, in short, there's a widespread sense that things are back on track"	4/17/2014
Hubbell	$6,483	"The last couple years we were forecasting [non-res] to be better. Turned our not to be better last year, was flat but started to recover a bit at the end of the year, which was good news, because we're at least looking for the first sign of things turning up...**Being in a positive direction after a few years of decline it's very positive for us**...The new construction is what we really have been waiting for."	3/11/2014
HD Supply	$5,107	"The weather throughout our fourth quarter impacted our visibility into end market data and trends, but I'm encouraged by the recent green shoots of construction activity we're seeing in some of our large priority markets. The sentiment from our customers is improving as their backlogs seem to be building and projects are being released..….And then if you look at White Cap (distributor of tools and supplies to concrete / general contractors), we're seeing cranes in many, many cities now…They are doing much more non-res work than we saw six months ago. So we think we're encouraged about those projects. We're going to take a cautious outlook that we see it, but we think that that's a positive sign for the non-res market, because we are in those projects, and they are good projects"	3/25/2014
Steel Dynamics Corp	$4,139	"But we see non-residential construction certainly continue to turn up…The steady increase in the fabrication and wide-flange beam orders gives us confidence that the non-residential construction is definitely in recovery…Positive momentum continues for our fabrication business. First quarter orders were of the magnitude typically seen in the construction-intense summer months, rather than in the slow winter timefram. Our March backlog is meaningfully higher than last March last year."	4/17/2014
WESCO International	$3,805	"After a challenging start to the year with organic sales per workday down 1.5% in January, momentum improved and organic sales per work grew 3% across the balance of the quarter. Momentum further accelerated over the last several weeks, and our second quarter is off to a very good to start. April month-to-date sales per workday are up 6% versus prior year, driven by 9% sales growth in the U.S."	4/24/2014
Granite Construction	$1,506	"What we're seeing the drivers on the private side for us are on the power side, we're seeing it not only from the large power, but the smaller power as well. We're seeing solar fields still in the southern part of the country being built. We're seeing oil and gas refinery work is – we've got a lot of that going on. We're actually seeing some commercial work. Private commercial work takeoff now, which is really nice to see, and usually that really follows residential…"	2/27/2014

Source: Company Reports and Citi Research Note: Market capitalization data as of 4/24/14

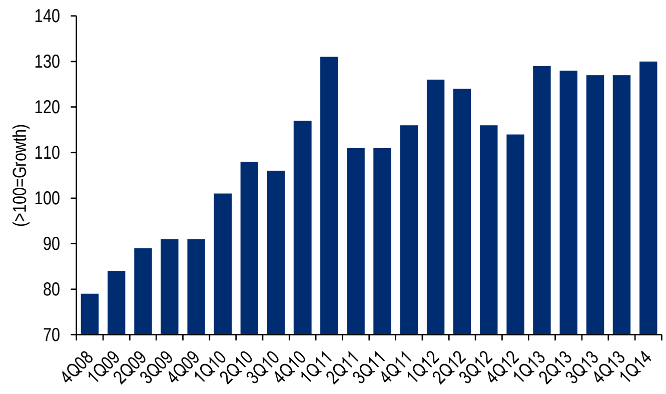
Improving sentiment among construction industry participants is evident in other surveys we track. ENR magazine's Confidence Survey, which measures sentiment amongst executives of large construction and design firms, reached 72 (on a scale to 100) in a survey conducted from February 13 to March 10 (when weather-related issues were likely highest for many of those East of the Rockies). This is the highest post-recession reading. Similarly, the 1Q14 Confindex survey, which polls CFOs of contractors on issues like backlogs, bank / bonding credit availability and line of credit status, improved for its fourth straight quarter. Importantly, respondents expressed optimistic views regarding future activity, evident in an 8 point jump in the "year ahead outlook" portion. This marks a reversal from trends in recent years, when optimism was highest in the fourth quarter, but lost steam in the first quarter.

Figure 9. ENR Construction Industry Confidence Index



Source: Engineering News-Record

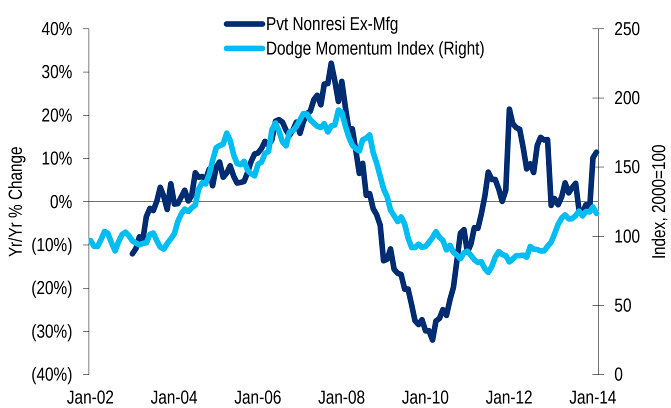
Figure 10. CFMA Confindex Survey



Source: Construction Financial Management Association. Note: 100 = "stable" market

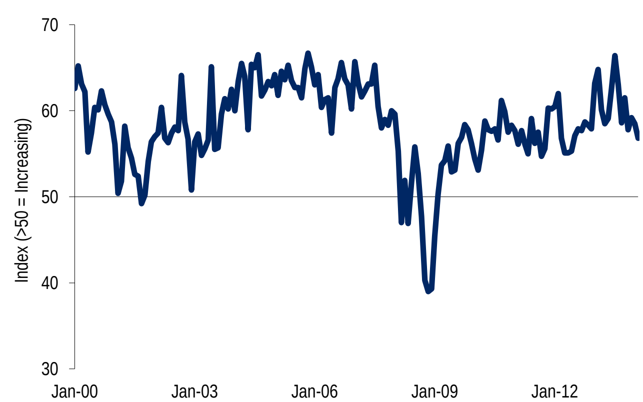
We are also seeing generally positive readings in most of the forward-looking indicators of construction spending that we monitor. The Dodge Momentum Index tracks projects that are in clearly defined stages of planning, and has proven to demonstrate a strong positive leading relationship (by roughly 12 months) with the Commerce Department's non-res put in place spending. From its low reading in mid-2011, the index (including both Commercial and Institutional markets) is up by 54%, and just off its 5-year high reached in January, 2014. The message from the AIA's new work inquiries index is less clear, though its predictive power has waned.

Figure 11. Dodge Momentum Index and Private Non-Residential Construction Ex-Manufacturing



Source: McGraw Hill, US Census Bureau and Citi Research

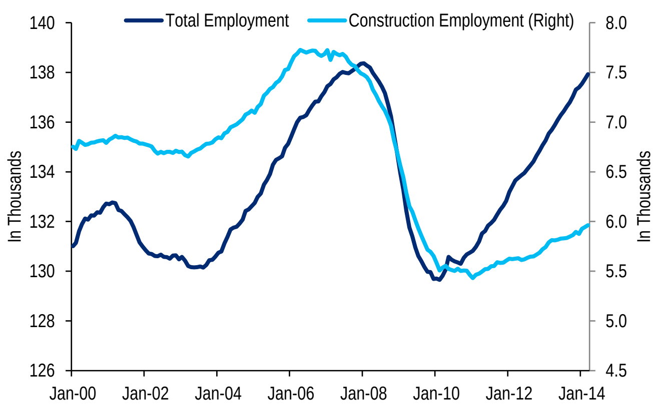
Figure 12. AIA New Work Inquiries Index



Source: AIA and Citi Research

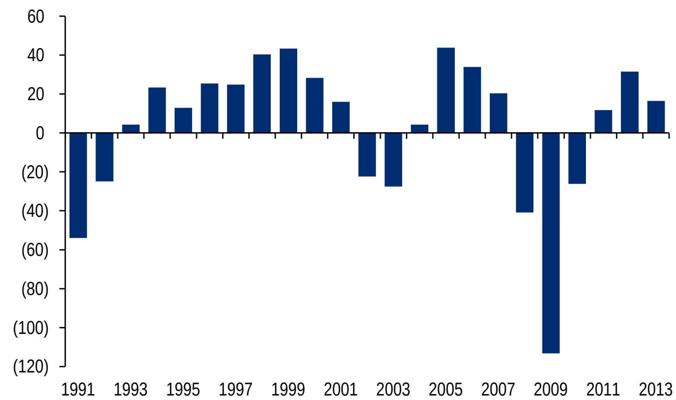
Trends in the construction labor market are also encouraging. Construction employers added 19,000 workers to payrolls in March, bringing industry employment to the highest level since June 2009, while the unemployment rate dropped to the lowest March level in seven years. Within the overall hiring data, a pick-up in the heavy and civil construction employment is an encouraging sign, as this category often foretells an improvement in underlying activity, given the early-cycle nature of many the jobs (i.e. site prep, road building, utility line installation).

Figure 13. Total and Construction Employment Trends



Source: BLS and Citi Research

Figure 14. Net Additions for Heavy and Civil Employment

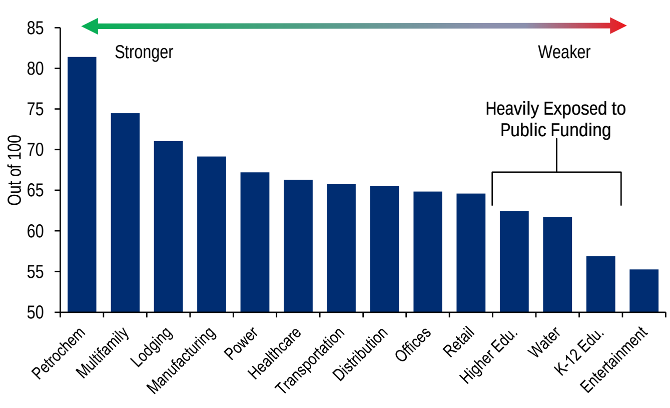


Source: BLS and Citi Research

There is not one real estate "market," trends vary by geography and region, which is important given how company exposure varies.

Of course, this is not to say that all markets and regions are recovering equally, or that the prospect for increased spending is consistent across subsectors. As we explain in greater detail below, investment in publicly-funded projects remains challenged, and certain subsectors within the private markets face secular headwinds. This is an important point to highlight, as the machinery or "electrical-intensity" of jobs can vary significantly. For example, the transportation component of public spending tends to be a "big dollar" category for equipment, with roughly 6-7% of the annual budget of highway contractors allocated to the purchase and leasing of new equipment, and on major repair outlays. Further, as we show below, industrial markets remain strong, but these buildings often tend to be rather basic (and low dollar per square foot). For example, included in this segment would be warehouses and parking garages, neither of which will use much security or HVAC.

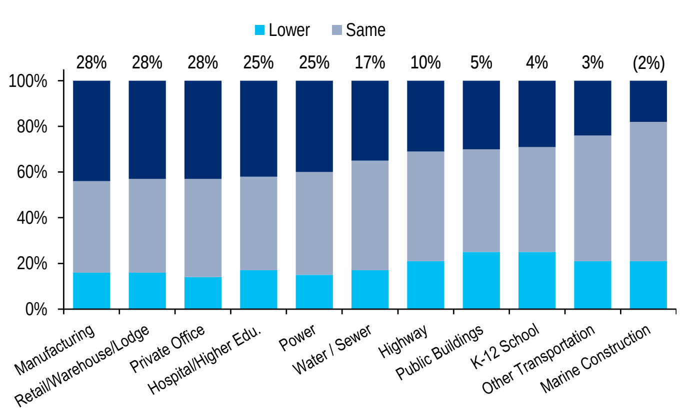
Figure 15. ENR CICI Measure by Subsector



Source: ENR and Citi Research

Note: Rating reflects direction of the market, not overall health

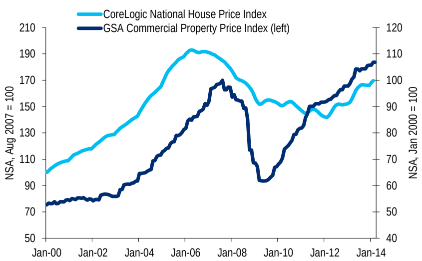
Figure 16. AGC Construction Outlook by Subsector



Source: AGC and Citi Research

Continued Improvement in Real Estate Market Fundamentals

Figure 17. Commercial Property and Housing Prices



Source: Corelogic and GSA

Market fundamentals for commercial building, such as occupancies, asking rents and property prices continue to show improvement. In fact, commercial property prices on a national basis have exceeded prior peaks. At the same time, the macro picture is gaining positive momentum, with credit conditions, hiring intentions and capital spending plans all suggesting that GDP will strengthen in coming months. In turn, we think upward pressure on supply expansion is building.

Thus far in the recovery, supply growth has been anemic, and increasingly dominated by one sector (multifamily). According to data compiled by Citi's U.S. REIT team (here), annualized construction starts for the key verticals they track in March equated to about 658 million square feet, or roughly 55% below the pre-recession peak. Converted to a percentage of existing stock, this equates to just 1%. While up from the historical low of 0.5% reached in March, 2010, it is well below the historical average for starts of roughly 2.1% of stock since 1970, and just under 2.5% since 1984. With a typical useful life of 100 years (i.e. 1% of buildings become "obsolete" each year), this effectively suggests existing stock is aging at about the same pace that new stock is being added.

Occupancy rates have historically been a strong lead indicator to starts activity.

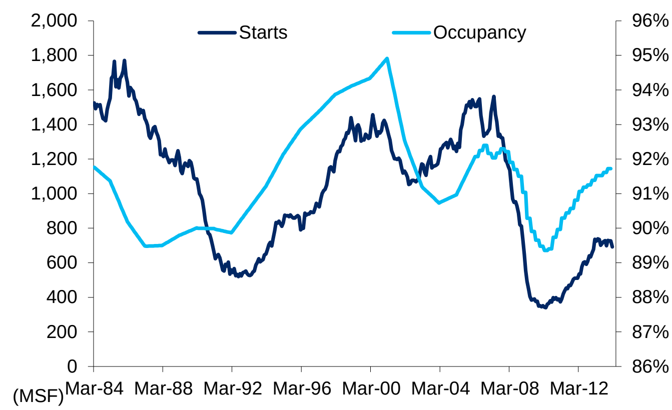
Taking this one step further, when aggregate industry occupancies have been around current levels (91.5%), the average starts as a percentage of existing stock has been 1.8% - nearly double current levels. Based on the Citi REIT team's forecast for further improvement in occupancy rates, we see increased odds of this translating in to a pick-up in new starts, as contractors look to develop lots to take advantage of attractive yields.

Figure 18. Current Construction Starts as % Stocks vs. Historical Avg

		Starts as % of Stock	
	Current Occupancy	Current	Implied Starts Given Current Occupancy Level
Retail	89.5%	0.7%	2.5%
Office	83.0%	0.7%	1.8%
Industrial	89.9%	1.0%	2.7%
Multifamily	95.7%	1.2%	1.4%
Aggregate	**91.5%**	**1.0%**	**1.8%**

Source: McGraw Hill and Citi Research.

Figure 19. Recovering Occupancy Historically Leads to Increased Starts

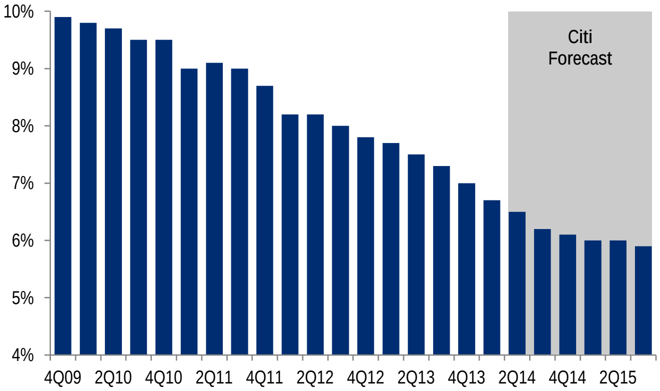


Source: CBRE, REIS and Citi Research

Job growth is occurring in many of the major "real estate hungry" sectors, including energy and technology.

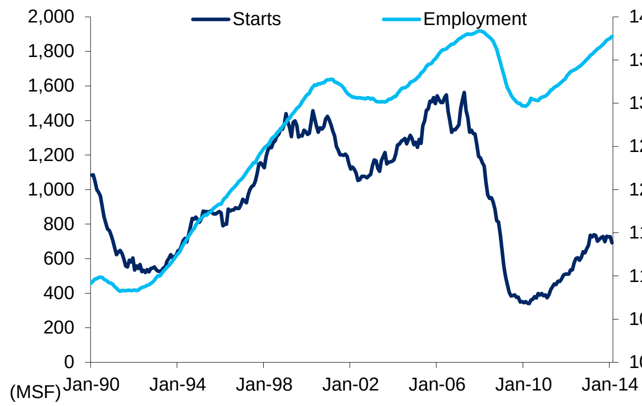
In addition to occupancy levels, employment trends also tend to have a (rather intuitive) positive correlation with starts over time. An increase in jobs tends to have a meaningful knock-on effect; office space fills up, retail spending increases, vacancy rates go down, state finances are bolstered as tax revenues go up, etc. Importantly, we are seeing solid job growth in the industries that tend to drive commercial real estate investment, like energy, professional business services, and technology. While unemployment is still relatively high today, Citi economists project continued, gradual declines in the jobless rate in coming years. We also point out that the absolute level of employment in March, thanks to population growth and recent job creation, is less than 2% below the January, 2008 high.

Figure 20. Historical and Projected U.S. Unemployment Rate



Source: BLS, Haver Analytics, and Citi Research

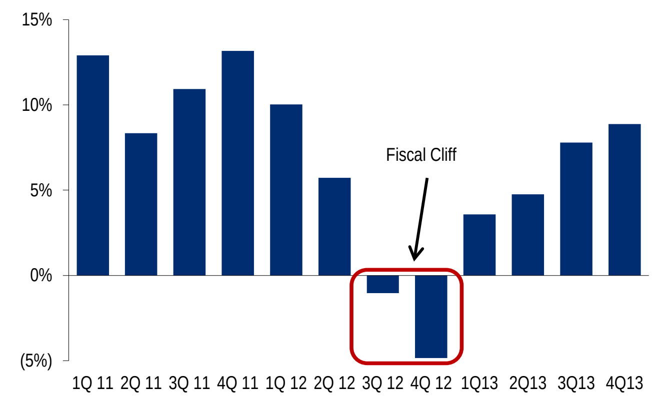
Figure 21. Recovering Employment Historically Leads to Higher Starts



Source: CBRE, Haver and Citi Research

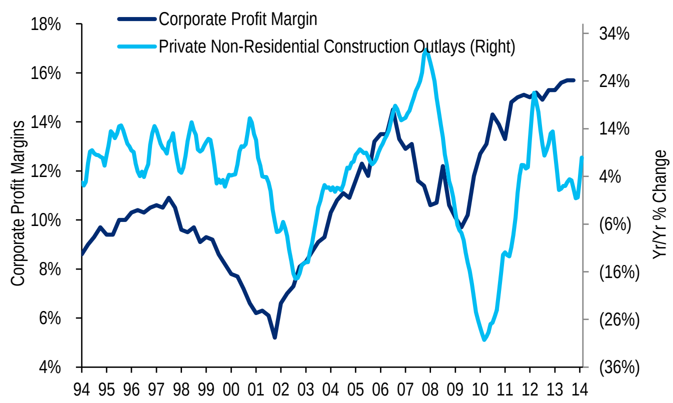
A healthy outlook for overall U.S. corporate profitability (Citi recently lifted its S&P earnings forecast to $118, implying ~7% year/year growth) is another important ingredient for non-residential construction. Historically, corporate profitability has led construction spending by roughly one year. This trend, however, was largely interrupted starting in the second half of 2012 as companies hit the "pause" button on spending decisions in advance of Fiscal Cliff discussions. As discussed in greater detail below, we think an easing in (fiscal) policy uncertainty, just as the accelerator incentives from faster GDP growth are picking-up, can give way for a recoupling of the traditional relationship between profits and investment.

Figure 22. Core Capital Goods Orders (Year/Year Growth)



Source: Census Bureau and Haver Analytics

Figure 23. Corporate Profit Margins vs. Non-Residential Construction Spending



Source: BEA, Census Bureau, and Haver Analytics

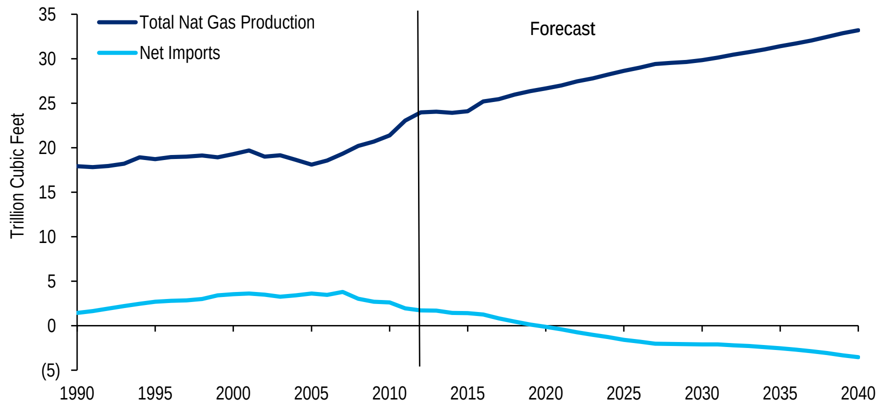
Energy Independence and Manufacturing Renaissance

Our recent visit to the Marcellus Shale highlighted some of the knock-on effects from the shale boom in North America, discussed **here.**

We often find that a discussion of "non-res" elicits comments about over-built office space, and/or the "death of the shopping mall." While office and retail are obviously important verticals, we have pointed out in past reports that private non-res spans a very broad range. Manufacturing and power, for example, have grown in importance in recent years, going from about 30% of private spending through the past cycle, to 40% of investment in the most recent month (February). Rapid growth in domestic oil and gas production and related infrastructure, and rising domestic manufacturing competitiveness, are two secular drivers that we think should support continued strength for these sectors. In addition, there should continue to be a heavy level of

investment spending around many of the ports tied to the widening of the Panama Canal. These represent catalysts for construction activity that were hardly apparent in recent cycles.

Figure 24. Projected US Natural Gas Production and Net Imports



Source: EIA and Citi Research

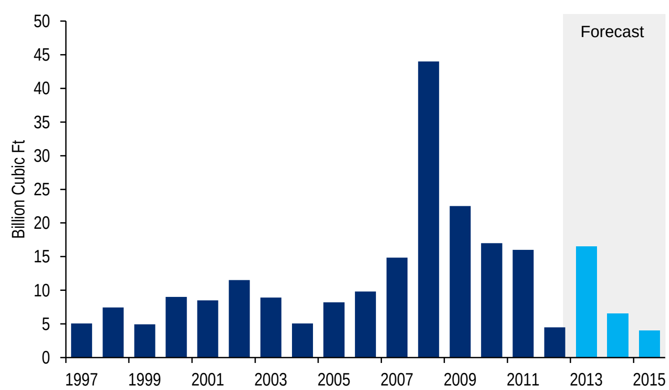
Shale-related investment extends well beyond just the rig site, as each new well brings along a host of projects. New access roads for the well, site prep, pipeline installation and storage pond production, among other projects, translate into significant non-res construction activity, both in the short-term and over the life of the well as rebuilding, repaving and site management continues to drive spending. (We highlighted many of these factors on the back of our recent visit to the Marcellus Shale, which was hosted by a major CAT dealer).

Figure 25. Nat Gas and Liquids Capital Spend ($ in Billions, 2010 terms)

	2011		Avg. Annual
($ in Bn)	**2020**	**2035**	**Spend**
Gas Transmission Mainline	$46.2	$97.7	$3.9
Laterals to/from Power Plants, Gas Storage and Processing Plants	14.0	29.8	1.2
Gathering Line	16.3	41.7	1.7
Gas Pipeline Compression	5.6	9.1	0.3
Gas Storage Fields	3.6	4.8	0.2
Gas Processing Capacity	12.4	22.1	0.9
Sub-Total of Gas Capital Requirements	$98.1	$205.2	$8.2
Oil Transmission	19.6	31.4	1.3
NGL Transmission	12.3	14.5	0.6
Total Gas and Liquids Capital Expenditure	$130.0	$251.1	$10.0

Source: Interstate Natural Gas Association of America

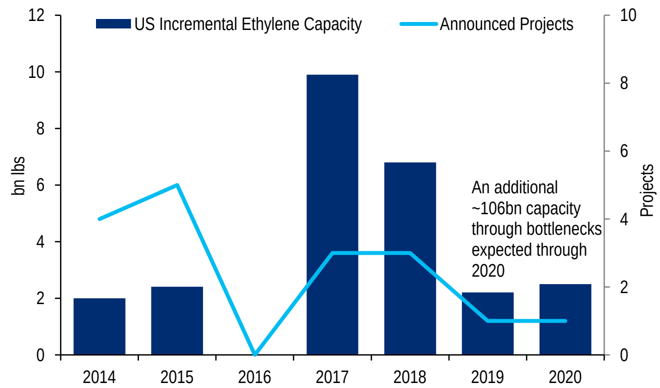
Figure 26. US Natural Gas Pipeline Capacity Additions



Source: EIA and Citi Research

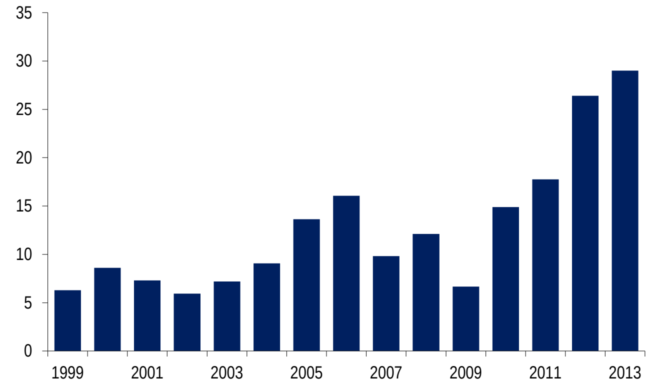
Even more powerful is the significant downstream (including petrochemical and refining industries) investment that is triggered by the availability of low-cost domestic energy sources. There are currently nine new ethylene cracker projects on the drawing board in the US to be completed by 2020, with chemical companies looking to take advantage of low-cost feedstocks (with ethane being priced off natural gas). In fact, in recent days, Enterprise Product Partners announced plans to construct what is likely to be the world's largest ethane export facility. Even with this plan, Citi still believes there will be excess ethane in the U.S. until 2020.

Figure 27. US Announced Ethylene Cracker Projects 2013-2020



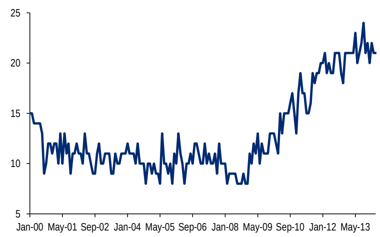
Source: Company Reports and Citi Research

Figure 28. Annual US Ethylene Margins



Source: IHS and Citi Research

Figure 29. NFIB: % Reporting Gov't Regulations as Most Important Problem



Source: NFIB and Citi Research

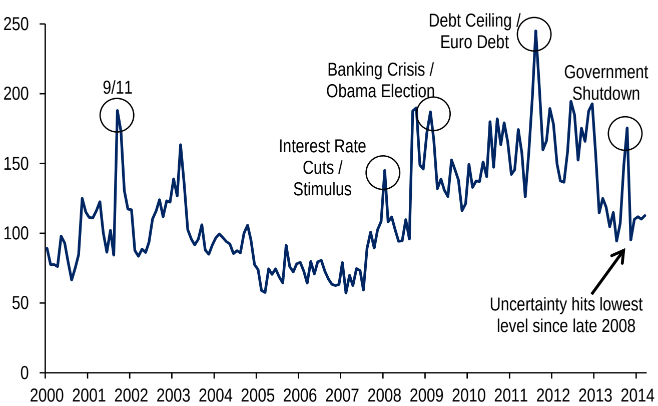
The undiscounted projected 10-year amount of tax code provisions scheduled to expire never exceeded $250BB before 2002….but ranged from $3 to $5 TRILLION dollars in the years 2009 to 2012.

Some Easing in Uncertainty Gives Way to More Positive Outlook

Despite the fact that the U.S. economy is nearly five years in to its current recovery, certain key measures of economic activity have remained relatively lackluster. Growth has benefited from better consumption and housing demand, but investment spending (and construction starts) as a share of GDP has remained well below pre-recession levels, despite highly stimulative financial conditions. While there are no doubt other forces at play weighing on construction spend, we point to work from Citi's Economics team (link) citing increased levels of uncertainty stemming from the numerous monetary, fiscal, and regulatory policies enacted after the 2008 crisis as being a major contributor to the weak spending patterns. *Positively, though, we are seeing more signs that this is beginning to improve.*

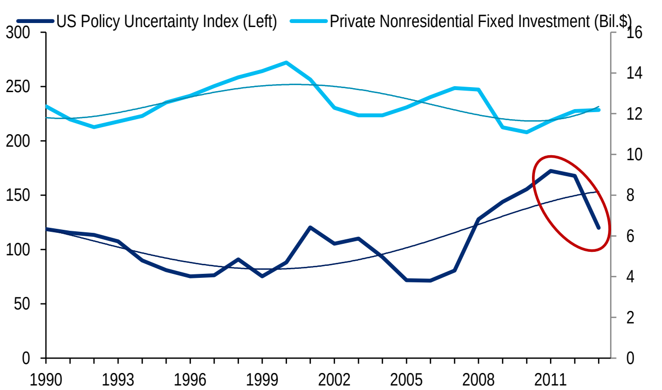
The economic policy uncertainty index is a helpful tool that was constructed to provide a time series proxy for policy uncertainty, and is derived from three (differently-weighted) components: 1) newspaper accounts of economic uncertainty; 2) the number of federal tax code provisions set to expire in the next three years; and 3) dispersions among economists' forecasts for key variables. The index suggests that since 2008, economic policy uncertainty has averaged about twice the level of the previous 20-plus years, with the Fiscal Cliff marking the second highest degree of policy uncertainty, exceeded only by the combination of the debt ceiling dispute and the European debt crisis in 2011.

Figure 30. Policy Uncertainty Index – United States



Source: Haver and Uncertainty data collected by Scott Baker, Nicholas Bloom and Steven J. Davis at www.PolicyUncertainty.com

Figure 31. U.S. Private Non-res Fixed Investment and Policy Uncertainty

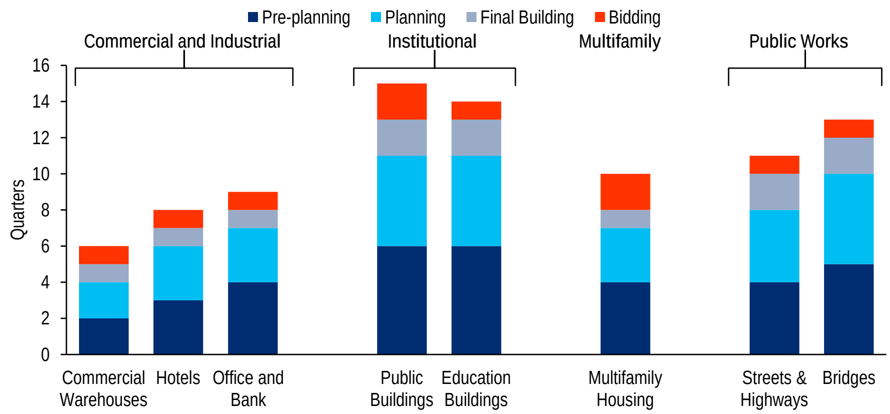


Source: Haver and Uncertainty data collected by Scott Baker, Nicholas Bloom and Steven J. Davis at www.PolicyUncertainty.com

Budget deficit, potential tax hikes, debt ceiling raise, Affordable Health Care act…hardly make for an accommodating investment backdrop.

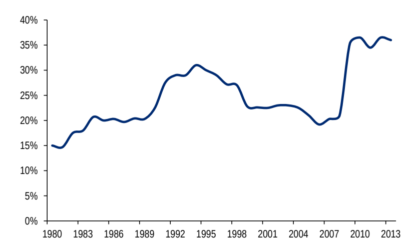
Decision makers typically respond differently in terms of capital deployment in times of uncertainty. For example, investment in structures and buildings typically constitute a lengthy implementation process (with the median pre-planning phase for most institutional businesses extending well beyond a year) and depreciate slowly, whereas things like light equipment and software can be purchased on more of a "spot" basis and depreciate more rapidly. As such, it is not a surprise that investment in a long lead-time asset like a building would be "harder hit" during periods of elevated uncertainty. This is borne out in the chart above, which shows a clear inverse relationship between fixed asset investment and policy uncertainty.

Figure 32. Median Number of Quarters to Start, by Project Type and Planning Stage



Source: Dodge and Citi Research

Figure 33. Renovation % of Non-Res

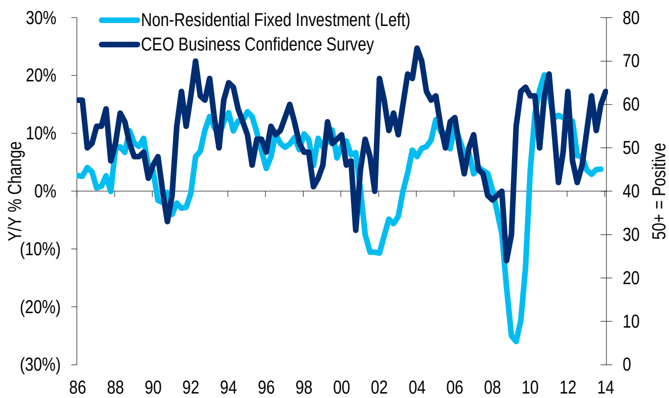


Source: McGraw Hill and Citi Research

The elevated levels of economic uncertainty that persisted for much of the past few years have also contributed to a shift in the composition of construction spending, with greater spending being directed toward remodeling as opposed to new construction. In effect, more operators have chosen to "spruce-up" or optimize their existing space versus investing in new brick and mortar capacity. After running at less than 20% of total construction spend during the 2000's upcycle, building alterations (think systems upgrades, "green renovations," etc.) have hovered at/above 25% for the past five years. While not uncommon for renovation's share to grow in the downturn, the fact that it has remained at such high levels (nearly five years in to an economic recovery) is noteworthy in our opinion.

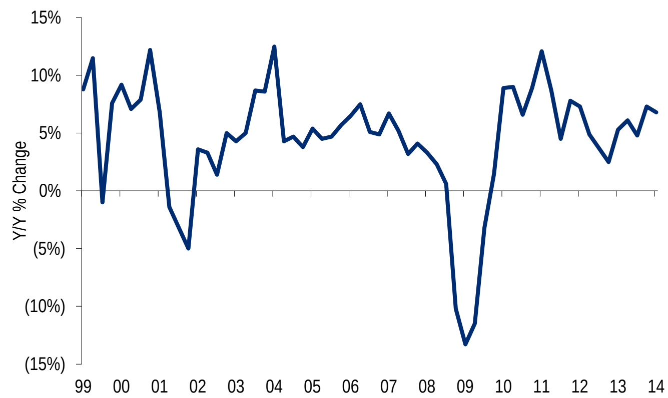
Importantly, signs are emerging of an improvement in overall sentiment and business confidence, commensurate with the sharp decline in the policy index (near a 5-year low) seen in Figure 30 above. We think there are two important factors contributing to the easing in (fiscal) policy-related fears. Unlike the last two or three rounds of federal budget negotiations that ended in eleventh hour squabbling and culminated in a government shutdown late last year, the two major parties cooperated to reach an agreement (Ryan-Murray) on the most recent debt ceiling increase and the budget discussion. This removes a potential stumbling block, and should provide business leaders a bit more clarity to make investment decisions.

Figure 34. CEO Business Confidence vs. Non-Res Fixed Investment



Source: Conference Board and Haver Analytics

Figure 35. CFO Outlook Survey: % Expecting Capital Spending Growth in Next 12 Months



Source: Duke/CFO and Haver Analytics

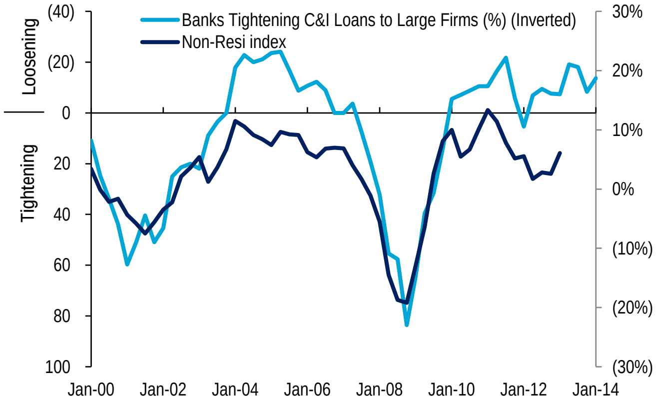
Now that some of the (fiscal) policy uncertainty has eased, the headwinds on investment spending are being reduced just as the accelerator incentives from faster GDP growth are picking up. (The upside surprise in the recent release of March durable goods provides affirmation of this). This is consistent with the overall positive tone of our recent industry checks, with the following quote from an industrial real estate contact being a good example:

"The sales side has picked up dramatically in the last nine months. A year ago, there was so much business uncertainty. Nobody wanted to commit capital long-term for anything. That could be inventory or equipment, and it definitely applied to buildings. Everybody was saying, "When do I quit falling off this cliff?"

Lending Conditions Show Continued Gradual Improvement

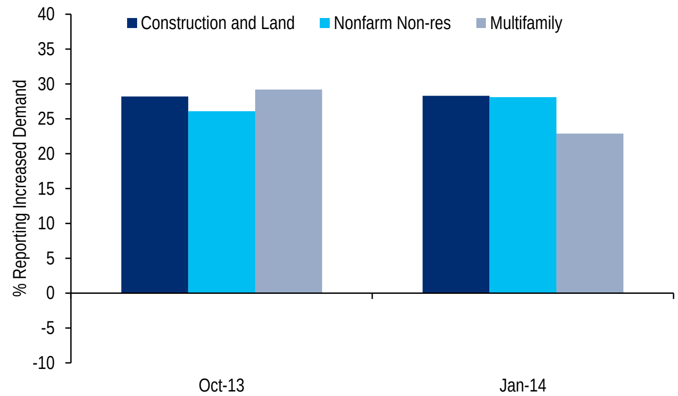
Tight credit conditions had been one of the major factors contributing to the low level of capacity growth in this post-recession recovery. However, as the U.S. economy and market fundamentals continue to improve, the breadth of investors' and lenders' interest in the commercial real estate markets is growing. Combined with the low level of interest rates, it is contributing to a more accommodative financing backdrop. The January Senior Loan Officer Survey (the next survey is due out in a few weeks) provides evidence of this, with positive trends in both the percentage of banks reporting a net easing in lending standards (historically a good lead indicator of not just construction activity, but also GDP, industrial production, etc, per Citi's Strategist Tobias Levkovich) as well as the number of banks reporting an increase in CRE loan demand.

Figure 36. Banks Tightening C&I Loans to Large Firms (%) vs. Nonresi Fixed Structures



Source: Fed Loan Survey, Census Bureau, Haver Analytics and Citi Research
Note: Non-residential fixed structures include Industrial and Transportation Equip Investment ex-IT. Lagged three quarters.

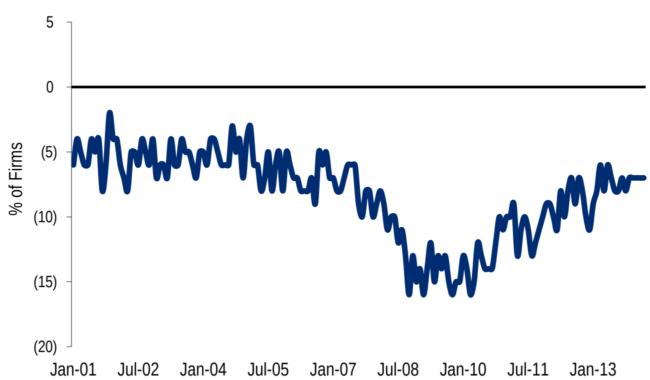
Figure 37. Banks Reporting Increased Demand for CRE Loans



Source: Fed Loan Survey and Citi Research
Note: Industrial production is lagged three quarters.

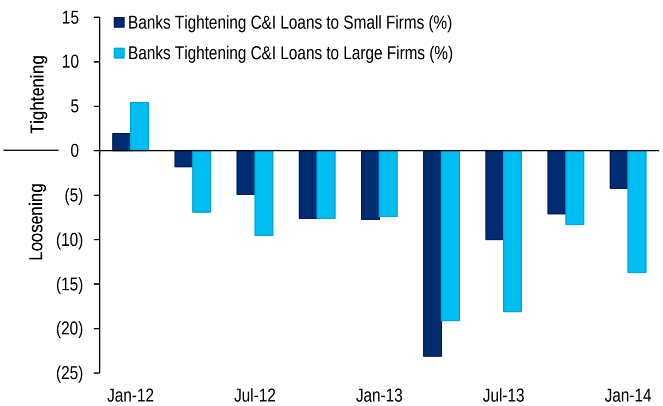
Consistent with trends we have observed in the U.S. truck market arena, small firms (generally speaking) seem to be facing more of a challenge in accessing C&I loans relative to larger entities, perhaps the result of a tighter regulatory environment. Smaller firms have generally seen a more gradual improvement in credit access, and our checks suggest that it's still challenging for weaker borrowers, as well as those in rural markets and smaller MSAs, to get financing.

Figure 38. % of NFIB Firms Expecting Credit Conditions to Ease



Source: Fed Loan Survey and Haver Analytics

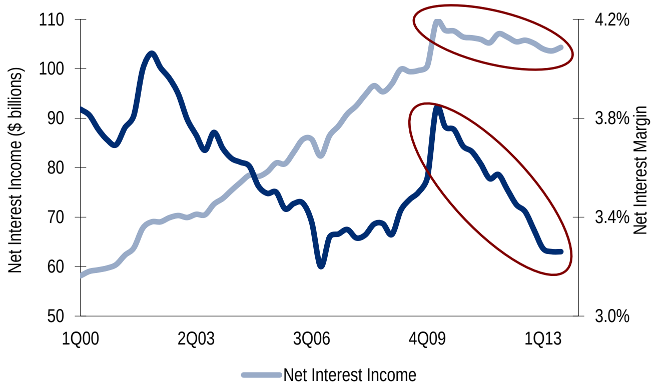
Figure 39. Large Firms Report More Easing in Credit Conditions



Source: Fed Loan Survey and Haver Analytics

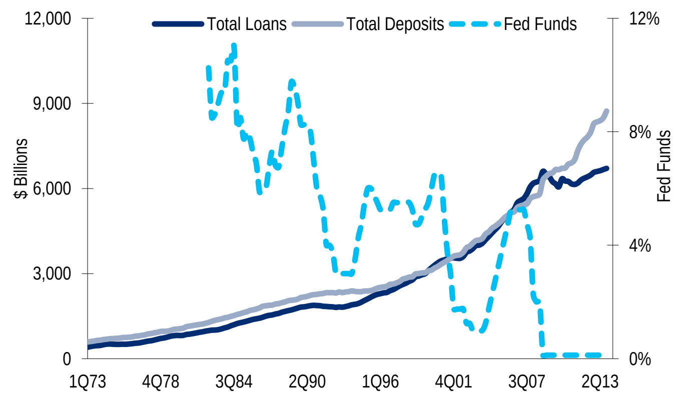
Given the competitive nature of lending, banks are effectively price takers. This competition is magnified by the excess capacity that has been building since the beginning of 2012, evidenced by the current low levels of loans to deposits (Figure 41). This puts increased pressure on banks to lend money to increase profitability. At the same time, the recent low rate environment has resulted in downward pressures on net interest income (Figure 40), such that banks that want to protect net interest income (volume of loans and securities multiplied by price) have no choice but to increase volume by growing loans at a faster rate.

Figure 40. Increased Capacity Available for Loans



Source: Fed and Citi Research

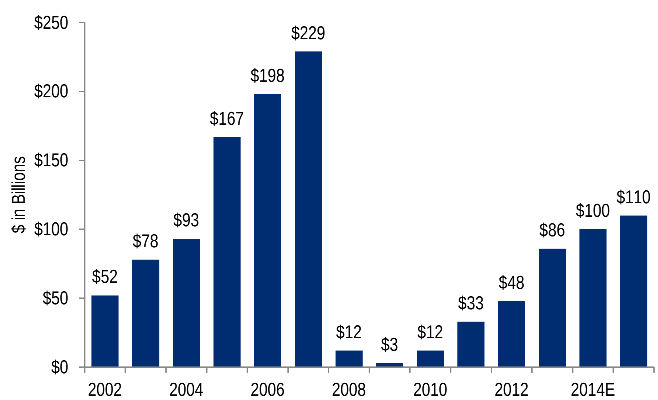
Figure 41. Increasing Volume to Maintain Interest Income



Source: FDIC and Citi Research

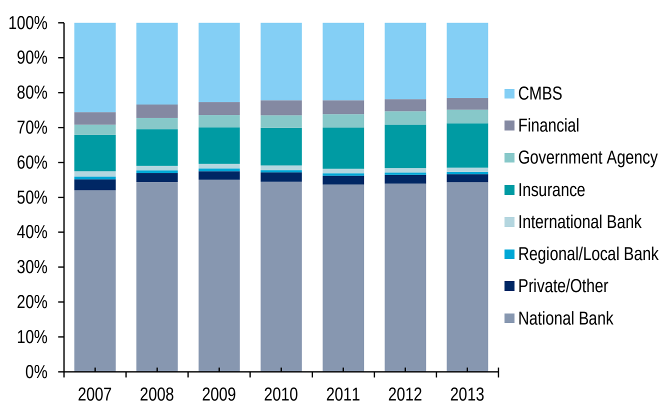
While banks seem to be showing an increased appetite to issue commercial real estate loans, they collectively comprise only a portion of the financing market. Other forms of competition, including insurance companies, mezzanine lenders and nonbank financial institutions, have also stepped up, resulting in an increase in the availability of debt capital. The CMBS market, though still well below its peak level, has also seen a steady comeback, with Citi's Securitization team forecasting total private CMBS issuance of about $100 billion in 2014. This marks a sharp swing from the 2009/2010 period, when the market was effectively closed, with just $8BB in issuance immediately post-crisis in 2009.

Figure 42. CMBS New Issuance 2002-2015E



Source: Company Reports and Citi Research

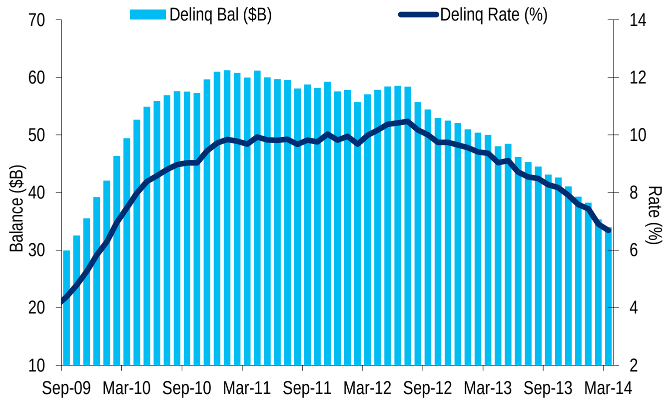
Figure 43. Commercial Mortgages Outstanding



Source: Federal Reserve Board of Governors

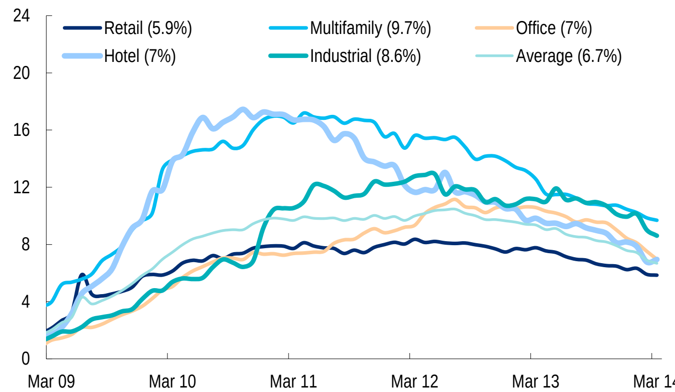
Consistent with other indicators of improving financial conditions, CMBS delinquency rates have continued to decline in 2014. During March, 2014 the CMBS delinquency rate sustained its tenth month of declines, and reached its lowest level since January, 2010 (Trepp). The decline in delinquency rates largely reflects the reduction in overall expected losses resulting from better than anticipated recoveries. To the extend delinquency rates continue to improve, we would expect more capital to be available for additional commercial real estate loans.

Figure 44. Delinquency Balance ($B) and Rate (%)



Source: Trepp and Citi Research

Figure 45. CMBS Fixed-Rate Delinquency Rate Percentage



Source: Trepp and Citi Research

As more banks turn to commercial lending due to headwinds in other areas, like mortgages, it is resulting in a more competitive lending environment (more competition is obviously good, if you're a lender), evidenced in spread compression.

- Overall, our pipelines continue to be healthy, giving us confidence on wholesale loan growth prospects in 2014. Competition, however, remains high, which may lead to ongoing pricing pressure for us in the industry…ROAs overall, I think are little bit lower than we would like them to be now. And that's a function of all of the liquidity and all of the competition that exits for that business – Suntrust

- We do see term loans roll off, some of which we would prefer would stay, but it's very competitive on the rate side and we're, as you'd probably know, a recourse lender and most of the life companies and CMBS lenders and conduits offer non-recourse loans. And then there are the GSEs and the agencies that are doing most of the multi-family. And that's very tough to compete with – Zions

As shown below, CRE spreads have compressed significantly, with the spread tightening ~35bps yr/yr. Citi's Banks team believes the intense competition among banks for mid-to-large C&I loans will continue, with banks also modifying terms and structures to win bids. CRE loans are also expected to continue compressing due to competition as banks continue to be more aggressive in coming months (here.)

Figure 46. CRE Spreads Have Narrowed

CRE	Rate	Spread Y/Y*	Construction Rate	Spread Y/Y*
Apartment	3.3%	(20) bps	4.3%	(41) bps
Sr Housing	4.1%	(42) bps	4.8%	(5) bps
Industrial	3.6%	(41) bps	4.8%	(5) bps
Office	3.6%	(36) bps	4.7%	(4) bps
Retail	3.5%	(35) bps	4.8%	(5) bps
Average	**3.6%**	**(35) bps**	**4.7%**	**(12) bps**
+Orig. fees (25bps)	**3.9%**		**4.9%**	

Source: Citi Research, Cushman and Wakefield and RealtyRates

Note: Y/Y change reflects the average spread compression within a category across a range of Terms and LTVs

Figure 47. C&I Spreads Have Compressed Across All Markets

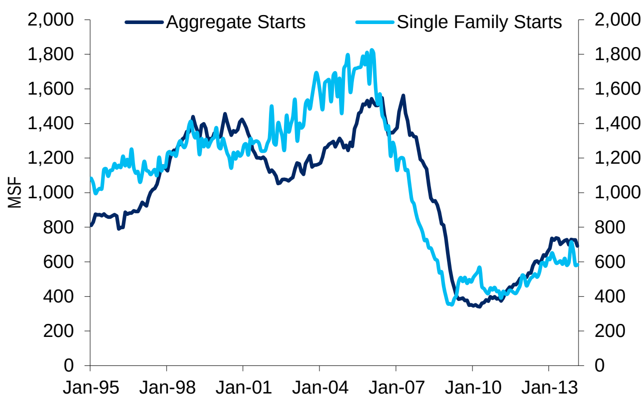
C&I Loans	Spread	Compression Y/Y
Small Business - Best	Prime + 160	15 bps
Small Business - Median	Prime+240 - 335	12 bps
Small Business - Weaker	Prime+490 - 590	10 bps
Middle Market Credit - Best	L+95 - 120	30 bps
Middle Market Credit - Median	L+195 - 250	27 bps
Middle Market Credit - Weaker	L+325 - 375	25 bps

Source: Citi Research and Automated Financial Systems

What Do Recent Soft Housing Industry Data Points Mean?

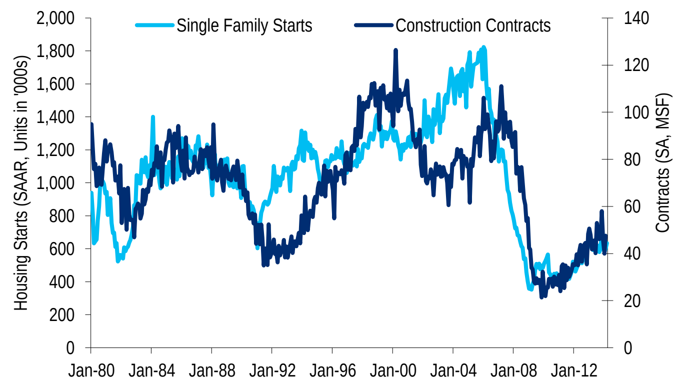
We monitor the health of the housing construction market not only because of the important role it plays in the broader economy, but also because it has historically led non-residential construction. This is clear in the charts below, as aggregate construction has historically trended alongside single family starts, with both experiencing large declines during the recent downturn. While both housing and commercial construction have continued to recover since 2010, they remain well below their pre-recession peaks. We believe an increase in single family housing projects will coincide with the improving economy, and should prompt new commercial development.

Figure 48. Aggregate Construction Starts vs. Single Family Starts



Source: CBRE, US Census Bureau and Citi Research

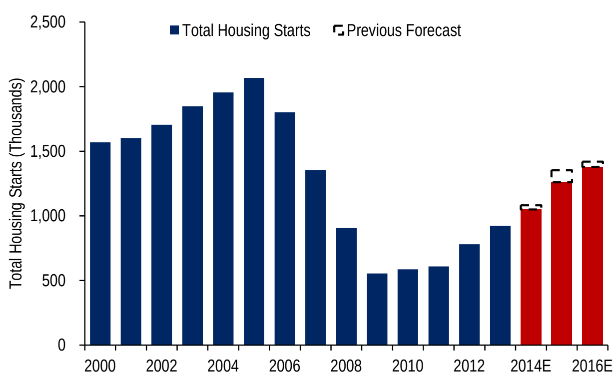
Figure 49. Housing Starts vs. Construction Contracts (1980-2014)



Source: US Census Bureau and Citi Research

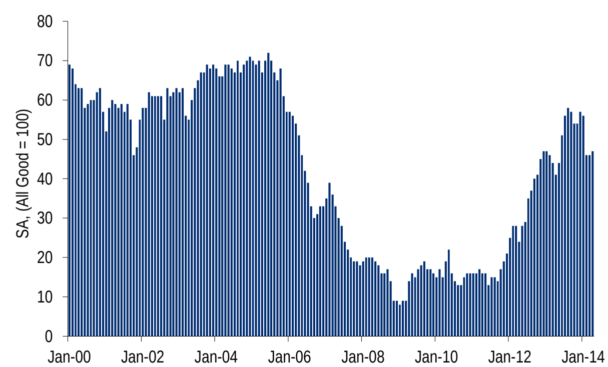
That said, we do acknowledge that recent data points have been somewhat weak, with both new and existing home sales figures coming-in below expectations this week, and homebuilder sentiment measures pointing to a less optimistic near-term outlook. Driven by a combination of price, lending, and competitive headwinds, Citi's homebuilding Analyst, Will Randow, recently cut his housing starts forecast by ~0.1MM units annually (here). Citi now expects annual starts of 1.1MM units in 2014, 1.3M in 2015, and 1.4MM in 2016. That said, this would still represent a significant improvement from current levels – equivalent to a ~14% CAGR through 2016 - though not quite back to the heady days of the mid/late 2000's.

Figure 50. Housing Starts (Single Unit + Multifamily): Hist. & Projected



Source: Census and Citi Research

Figure 51. NAHB Housing Market Index (Composite)

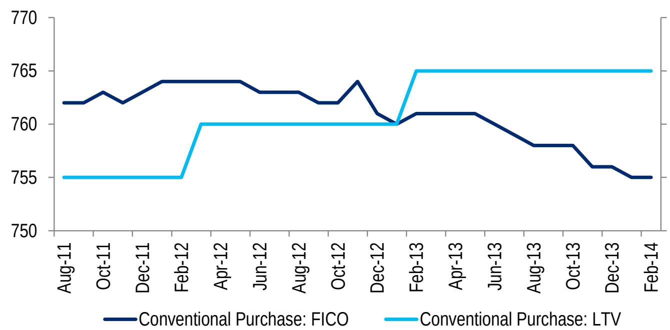


Source: NAHB and Haver Analytics

The reduced housing outlook is largely driven by more selective purchasing by buyers as a result of four primary factors:

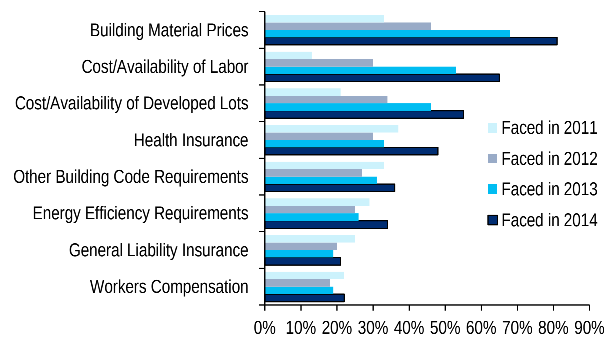
- **Affordability** – Rapid home price appreciation since 2011 lows and higher interest rates on 15/30 year mortgage rates have made pricing less favorable
- **Competition from Existing Homes** – Existing home inventories are up ~10% Y/Y so far in April. Homebuilders compete directly with existing home sales
- **Tighter Mortgage Lending Conditions** – Lower mortgage credit availability limits potential homebuyers and is not expected to ease in 2014 (more here)
- **Builder Specific Issues** – An assortment of builder specific issues could hold back new home sales including labor and lot availability, and rising input costs

Figure 52. Conforming purchase mortgage credit score (avgs) are tracking around ~760, vs 710-730 pre-crisis.



Source: Citi Research, Ellie Mae Originations Insight Report

Figure 53.NAHB's estimates for important issues facing builders in 1Q



Source: Citi Research, NAHB

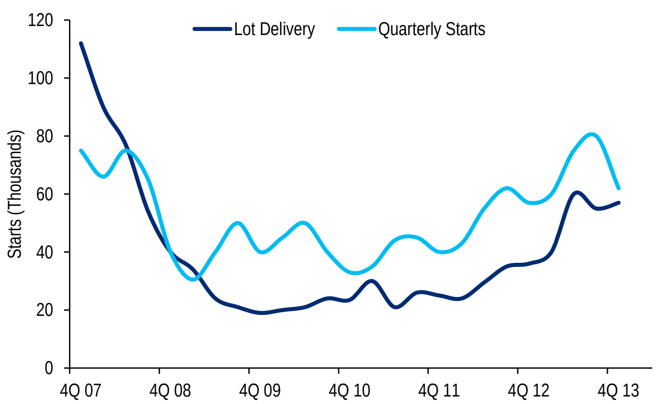
While total new housing units are expected to be lower than initially expected this year, the total community count, which measures total number of residential subdivisions, is still projected to see robust double-digit growth. Essentially, while the volume of new houses started in a single subdivision is expected be down, the number of new subdivisions is still expected to grow in 2014. *Keep in mind that community growth is an important driver for both the non-res market, as development of new communities is often followed by a build-out of stores, schools, lodging and infrastructure, but also the equipment category (given the use of higher horsepower machines)*. Recent commentary from HD Supply (covered by Deane Dray) further corroborates the positive outlook for community count growth:

- “If you look at our Waterworks business, at the peak, our Waterworks business was about a 60% residential business which would be the new land development. And so what we're seeing is we believe the markets are now in just about equilibrium for the lots that were previously overdeveloped, if you will. So the last two years, while the residential market has been up, we have not been enjoying putting pipes out to those markets, because of the fact that they were already facilitized. We believe the markets are in equilibrium now. And now we're seeing many locations where the residential construction activity is turning net new dirt and that is a good sign for Waterworks business to be able to be additive relative to their current position in residential, so that's very good news for us.”

In addition, Metrostudy, an industry consultant, ranks available lots on a grade-scale with "A" and "B" lots representing the most developed and in demand locations for buyers, and "C" lots representing under-developed and emerging lots (lots below "C" are considered 'dead' lots). While "A" and "B" lots generally have well-developed infrastructure, "C" lots typically require development from the 'ground up,' which requires significantly more large construction equipment.

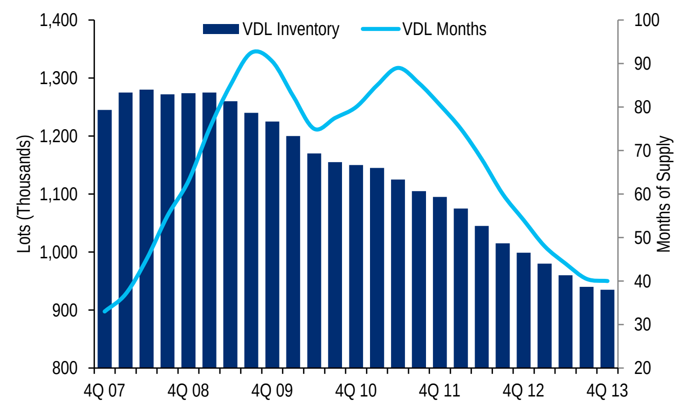
Metrostudy recently noted that the lot market is tightening up following a multi-year period of delivery trailing demand (the market is currently at a ~40 month supply, slightly above the 24-36 month average.) The tight market is especially prevalent in top-tier lots, with "A" and "B" lots at 11 and 26 months of inventory, respectively. With a strong increase in lot deliveries projected this year, builders are expected to shift towards widely available "C" locations in 2015, to the benefit of companies exposed to the earlier cycles of non-res development.

Figure 54. Lot Delivery Has Trailed Starts



Source: Metrostudy

Figure 55. Vacant Lot Inventory Has Declined



Source: Metrostudy

Public Spending Expected to Remain Soft in 2014

Public construction takes time to ramp, for example the Federal-Aid Highway Program typically spends around 25% of its resources in the first year and the rest is spent over the next several years (CBO).

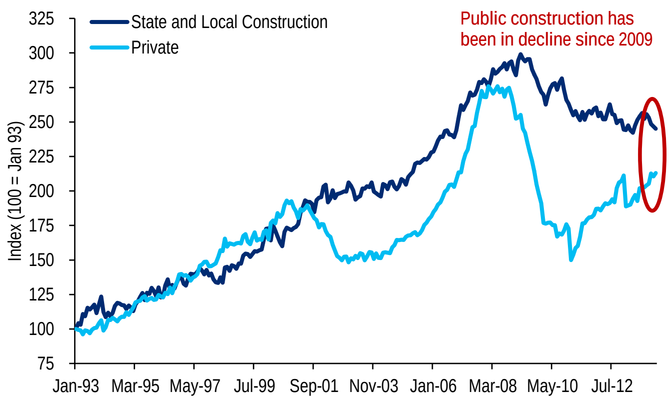
Despite the positive undertones of the private non-res construction market, public investment has been slower to recover. Public construction starts have been in a six year decline, and we expect growth to remain muted in 2014, and potentially beyond. We believe the lag in public spending is partly due to the natural lag time between economic recovery and tax revenue, and more cycle-specific issues, including the solvency of the Highway Trust Fund.

Looking back at past economic cycles, we believe this lagged (i.e. public / private) relationship is largely typical, and driven by the influence of legislation and the time it takes to plan and start a publicly funded project. In Figure 57, we illustrate the relative recovery of public versus state and local construction put-in-place from trough through the cycle. At the outset of an economic downturn, government construction projects are often supported through stimulus spending, as illustrated in fiscal 2009 when the government spent a record-setting $68.9 billion on highway improvement projects (included $27.5 billion from the stimulus bill). Along with the additional spending support, we believe there is delayed response as projects that already received approval and funding continue irrespective of macro conditions.

This elevated spending helps boost public construction despite slower economic growth, while the private markets are quicker to retrench. The relative nimbleness of private construction markets illustrated in the downturn also helps private

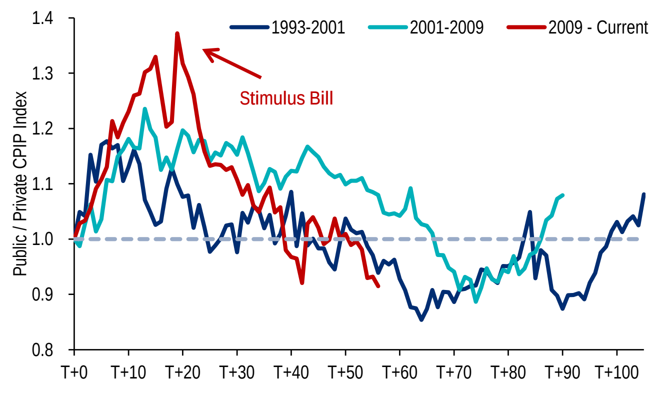
construction recover faster in an upturn. During the current cycle, the private markets started to show relative improvement in September 2012 (although spotty) and have been outperforming public construction consistently since Sept. 2013.

Figure 56. Public Construction Has Been in Decline Since 2009



Source: Census Bureau and Haver Analytics

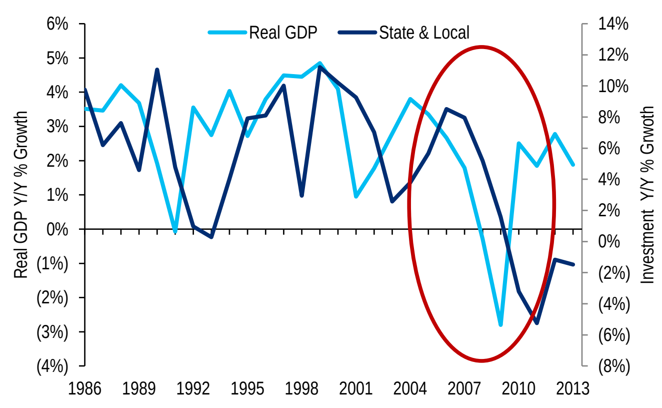
Figure 57. Public Has Been Historically Slower to Recover



Source: Census Bureau, Haver Analytics and Citi Research

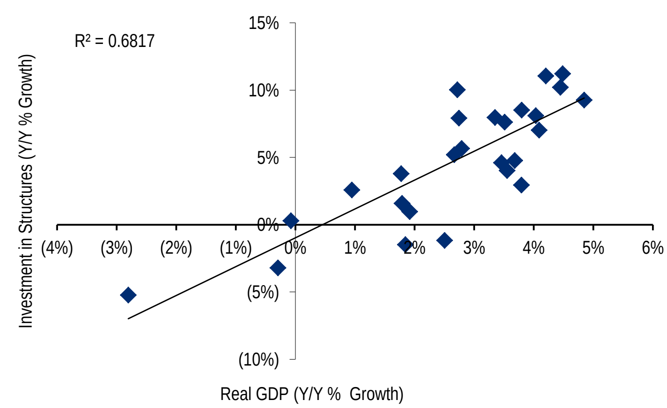
Part of the delay in public construction spending is due to the lag between economic recovery and the tax revenue collected. For example, it takes time for the government to reassess property values after a recession and collect taxes on the higher valuations. The ominous bureaucracy of getting government funded projects approved and funded is likely another reason public construction often lags the general economic recovery.

Figure 58. State and Local Structures Spending



Source: BEA

Figure 59. GDP Growth Drives State and Local Investment



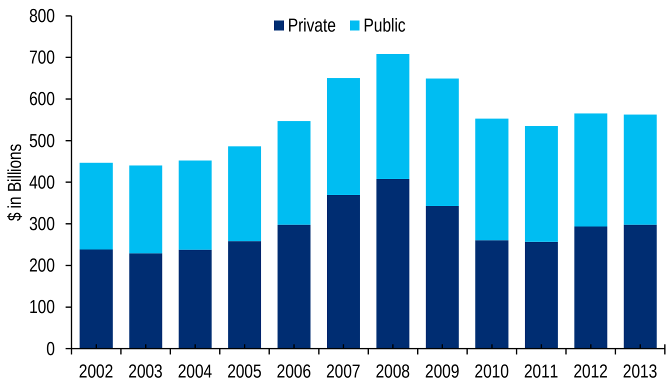
Source: BEA and Citi Research

Without a change in funding, highway spending would need to be cut by $47 billion to keep the Highway Trust Fund in balance in FY15.

Highway construction has been one of the largest areas of public construction, with spending representing over 30% of the construction put-in-place in 2013. A majority of this funding comes from the Highway Trust Fund, which the Congressional Budget Authority (CBO) expects to face a funding shortfall before September 2014. In order to avoid insolvency during fiscal 2015, the CBO estimates that Congress will need to transfer an additional $14 billion or reducing spending from about $51 billion projected under current law to around $4 billion. The HTF is *not allowed* to run a negative balance, and payment delays for state construction projects might occur if the shortfall is not resolved.

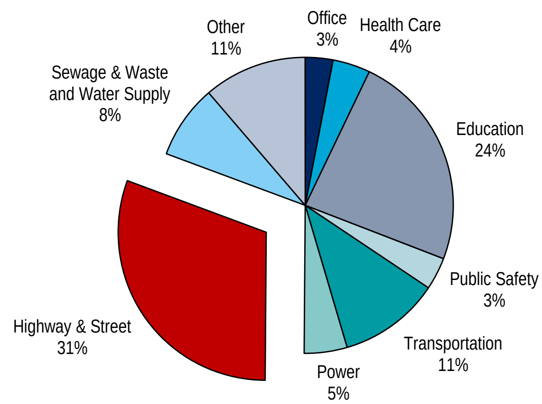
Recent congress testimony from the Vermont Agency of Transportation highlighted the dependence of state's on this federal funding, stating that just the prospect of a slowdown in federal reimbursements for current projects is causing some state departments of transportations to delay future capital projects and if the HTF issue is not resolved soon, those delays could become cancellations.

Figure 60. Public Spending is Almost Half of Non-Res Construction



Source: U.S. Census

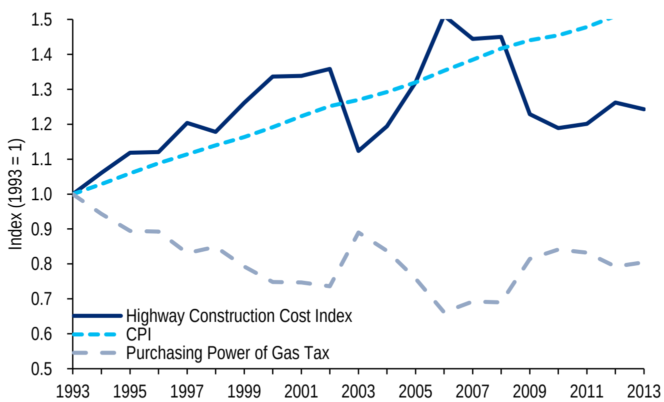
Figure 61. Highway/ Street Was 31% of Public Construction Put-in-Place



Source: U.S. Census

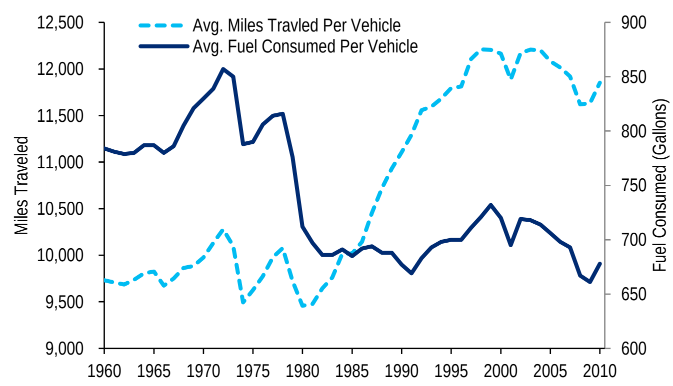
The Federal-Aid Highway Program, funded by the Highway Trust Account (HTF), is the primary source of federal highway spending and is used to help cover 80% of qualified state project costs. The HTF finances over $50 billion annually for highway, bridge and transportation projects. The fund was originally designed to be self-funded through gas taxes, but the amount of tax revenue has been declining in recent years along with stagnant fuel charges, lower gasoline consumption and higher fuel efficiency.

Figure 62. Purchasing Power of Gas Tax Has Declined



Source: Department of Transportation

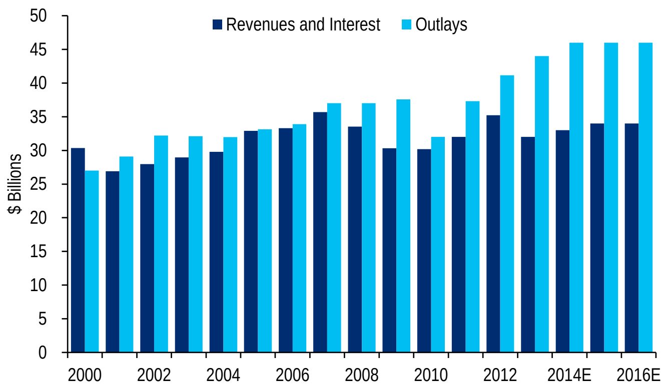
Figure 63. Vehicles Are Consuming Less Fuel



Source: Department of Transportation and Census Bureau

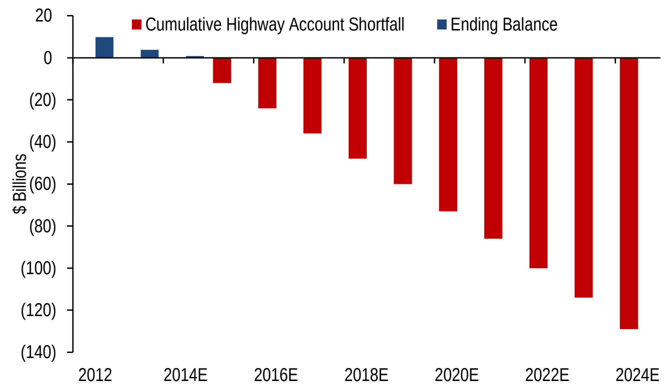
As a result, the HTF has relied on transfers of over $50 billion from the general fund since 2008 to help support public spending on transportation projects. These transfers include the most recent 2012 surface transportation act (MAP-21) that provided three years of transfers from the general fund including $12.6 billion in FY 2014.

Figure 64. Highway Spending Has Exceeded Revenue Since 2000



Source: Department of Transportation and CBO

Figure 65. Highway Account Expected Shortfall Starting in 2014



Source: Department of Transportation and CBO

With the HTF estimated to run out of money and MAP-21 expiring in October 2014, there seems to be an *agreement* in Congress that funding highway construction is important and needs to be fixed, but *how to fund it* seems to remain a point of contention. With limited time on the Congressional schedule, we expect a short term fix before the August recess rather than a larger reform. The new Finance Committee Chairman Ron Wyden is expected to hold hearings to highway funding proposals in the coming weeks. We highlight a few of the key proposals below:

- President Obama's proposal uses corporate tax reform to generate $150 billion infusion into the HTF. The proposal represents a $302 billion, four-year transportation infrastructure legislation package that would increase highway construction funding by 22% a year along with increases in mass transportation.

While Congress seems to agree the Highway Trust Fund needs fixing, funding the resolution is likely to be the big hurdle.

- The House budget that was introduced by Budget Committee Chairman Paul Ryan was passed on April 10th. The proposals requires transfers to the HTF to be offset by other areas of the federal budget, otherwise the HTF will be limited to the revenue from the federal gas tax.

- The Environment and Public Works Committee in the Senate announced an agreement on a bill outline to reauthorize the federal highway program on April 11th. Key points of the bill included the need for a longer term than two years and to keep current funding levels plus inflation adjustments. While the announcement was positive, the finance committee is the key hurdle since it has to figure out how to pay for the bill.

While the federal plans have opted to stay far away from raising the actual tax on gas, six states have opted to raise state level gasoline taxes. Faced with potentially reduced federal funding and an increasing need to maintain highways (especially after the long winter), many states are getting creative with funding. We have highlighted some of the key funding initiatives below.

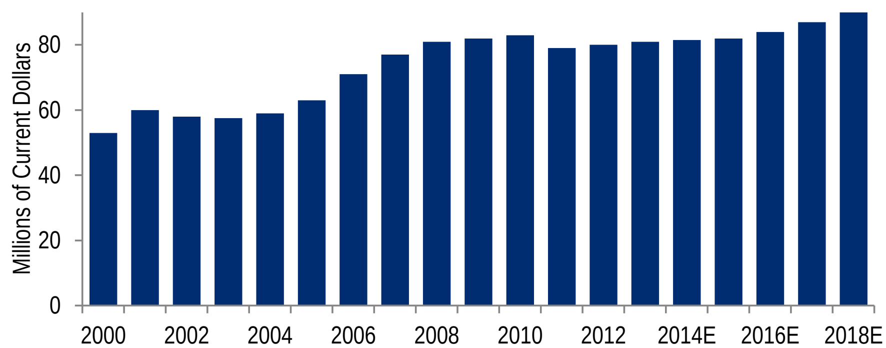
- Raise Taxes Directly – Wyoming almost doubled its gas tax in 2013 and expects the increase to raise more than $70 million in highway funds. Other states, including Delaware, are hoping to increase the state's gas tax in 2014.

- Change the Tax – Virginia introduced a new tax scheme in 2013 that replaced the per-gallon at the gas pump tax with a wholesale tax of 3.5% on gasoline and 6% on diesel, allowing tax revenues to increase with inflation. Maryland adjusted its state tax for inflation and added a wholesale gasoline percentage tax.

- Tax Oil Distributors – Pennsylvania eliminated the state gas tax and replaced it by raising the taxes on oil distributors as part of a plan to raise $7 billion over five years for repairing roads.

Highway spending is expected to be close to flat in 2014. In the 2014 Associated General Contractors of America (AGC) Construction Outlook Survey, 49% of participants believed the 2014 dollar volume of highway projects will be in-line with 2013 levels, while 31% of the participants of indicated expectations for a higher available dollar volume. Slightly more pessimistic, the AGC forecasts highway and street construction to be flat to down 5% in 2014. In-line with this estimate, FMI's construction put-in-place forecast indicates real spending highway and street to be roughly flat in 2014.

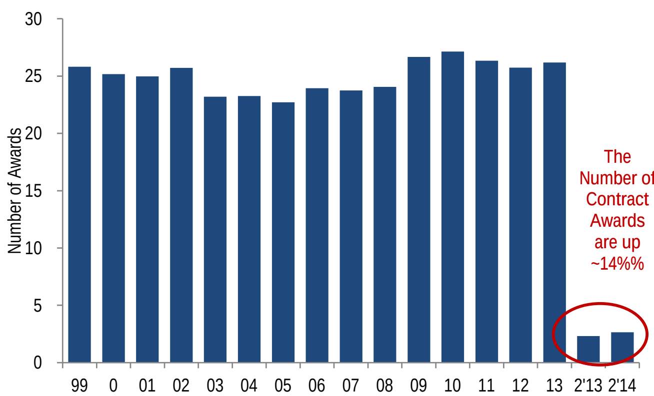
Figure 66. FMI's Highway and Street Construction Put-in-Place Forecast



Source: FMI

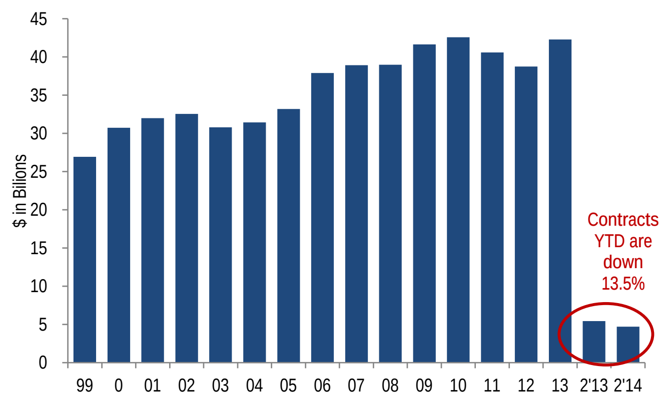
Highway construction spending encompasses a range of projects with various levels of equipment intensity, including: new road construction, pavement rehabilitation, resurfacing existing highways, bridge construction/reconstruction, landscaping, etc. In the first two months of 2014 there was an increase in the number of smaller projects, suggesting an increase in the number of "equipment light" projects (consistent with the harsh winter weather impacts on roads).

Figure 67. The Number of Highway Contracts is Up YTD…



Source: ARTBA

Figure 68. …But the Value of Contract Awards is Down



Source: ARTBA

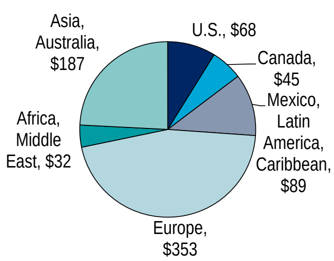
Figure 69 illustrates the relative equipment intensity of various highway projects. Somewhat intuitively larger projects, including new highways and bridges, tend to be the most equipment intensive.

Figure 69. New Highway Construction and Bridge Work Are the Most Equipment Intensive

Type of Highway Project	Description	Avg. Machinery Hours
Contruct/ Reconstruct Bridge	Any new construction or major work on a bridge	10,831
Construct Freeway / Extra Lane	New roadway construction, reconstruction or a large and complex project	9,448
Pavement Rehabilitation / Widening	Widening or changing the elevation of a road	6,004
Resurface Existing Highway	Installing asphalt concrete overlay to existing road	4,019
Construct Beam Barrier	Construction or replacement of road barriers	2,302
Landscaping	Construction or maintenance of highway-side planting and irrigation projects	2,455

Source: University of California-Davis and California Department of Transportation

Figure 70. P3s from 1985-2011 ($ USD BB)



Source: PWF 2011

In addition to tackling the public infrastructure funding issue from a revenue perspective, federal and state governments have increasingly turned to alternative financing solutions. Public-private partnerships (P3s) are one alternative method of funding public infrastructure that taps into the available private funding market. Generally, these partnerships are financed by both public and private capital and the private company is responsible for building the project and collects revenue (such as a toll) for a period of time. P3s have historically been a larger source of funding outside of the U.S., representing $160 billion in infrastructure projects from 2008-2013. While other governments have embraced private investments, the U.S. has been slower to monetize on the private capital opportunities. P3s projects only account for around 1.5% of the approximate $4 trillion (in 2013 dollars) that was spent by federal and state governments on highway projects between 1989 and 2013. However, these partnerships have been slowly emerging to become a larger source of funding, with about half of the total $61 billion in public-private partnership projects occurring in the past five years.

According to the ARTBA, each dollar of federal funds can provide up to $10 in TIFIA lending availability, leveraging an estimated $30 to $50 billion in new transportation infrastructure investment, after consideration of the increased proportion of TIFIA dollars to total project costs and private investment.

Recently, a majority of public-private partnerships have used the Transportation Infrastructure Finance and Innovation Act (TIFIA) to help finance the projects. The TIFIA program was introduced in 1998 and provides federal loans for up to 35 years at low interest rates (usually at U.S. treasury interest rates, but riskier projects can be slightly higher) that can be used to finance up to a third of the project. TIFIA loans have a lower priority for repayment than private debt and also allow payments to be deferred for up to five years after a projects completion. So far, the program has lent $15.8 billion for 42 infrastructure projects, with around 80% of the loan volume going to freight systems, highways and ports.

Despite the recent increased interest in tapping private sources for public infrastructure projects, there has been limited success with these projects in the U.S. Infrastructure investments, such as toll roads, made before the financial crisis were funded with heavy amounts of debt to make the return on investment palatable to private investors and the deal price high enough for taxpayers to accept. American Roads, the operator of the Detroit Windsor Tunnel and four toll bridges in Alabama that was originally put together by Macquarie in 2006, filed for bankruptcy in July 2013 as declines in traffic resulted in lower than anticipated toll revenue. Additionally, other highway projects have also had funding issues as highlighted below.

Figure 71. Select U.S. P3 Highway Projects

U.S. Highway P3 Project	Commentary
Southbay Expressway	Disputes with contractor in construction due to inadequate contract provisions. Sponsors contributed significant additional equity to complete.
Las Vegas Monorail	The project significantly underperformed traffic and revenue. Debt default was inevitable; however, as a not-for-profit corporation with no long-term private or public equity, it lacked any institutional commitment to the asset once it was built leaving it "orphaned" with few incentives to work constructively with lenders for a satisfactory resolution.
Indiana Toll Road	Near zero interest rates caused the mark-to-market on the accreting swap (used to lower initial year debt service obligations) to spike well beyond expectations. The accreting liquidity facility increased rather than decreased the financial risk profile of the concession company.
Chicago Skyway	This financing has a similar risk profile to the Indiana Toll Road with accreting swaps, but without short-term bank loan maturities that exacerbated the ITR transaction's risks.It does face refinance risk and is unlikely to benefit meaningfully from the monoline guarantee in place.
SR 91 (Orange County)	The high increase in toll rates in the first few years of the Managed Lanes operation was received poorly by users and increased the call by elected officials for the county to buy it back and lower the tolls.
Southbay Expressway	Significant delays, but contractor JV completed project while disputes were ongoing. Inadequate contract left project company exposed to additional costs that were not allocated to either the contractor or the grantor.

Source: FitchRatings

Commercial Real Estate Prospects Vary by Sector

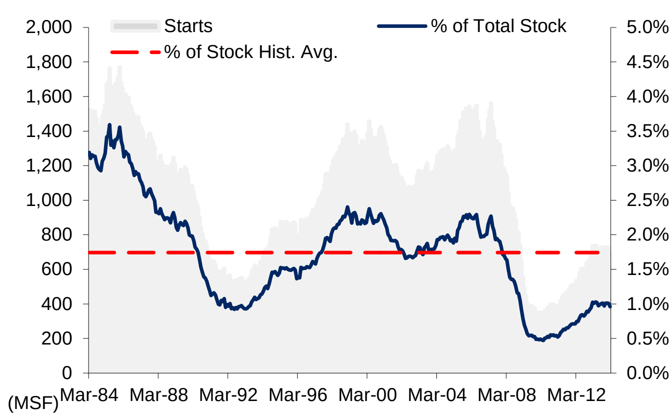
Figure 72. U.S. Construction Forecast

	Non-Residential	Commercial	Office	Retail/ Other Comm.	Hotel	Industrial Total	Institutional Total
2014							
Consensus	5.8%	10.3%	9.2%	10.5%	13.1%	7.8%	3.4%
McGraw-Hill	5.4%	15.9%	13.2%	17.7%	16.7%	6.1%	(2.0%)
IHS-Global Insight	9.2%	15.5%	15.1%	15.3%	17.0%	5.8%	7.3%
FMI	4.5%	4.8%	3.0%	4.9%	9.7%	6.5%	3.6%
Reed Construction	7.1%	9.3%	8.6%	8.6%	13.6%	9.9%	4.7%
Assoc. Builders & Contractors	5.0%	7.1%	7.3%	6.7%	8.3%	4.0%	3.9%
2015							
Consensus	8.0%	10.8%	10.8%	11.5%	9.2%	8.7%	6.3%
McGraw-Hill	11.2%	19.4%	18.9%	21.2%	14.2%	8.7%	5.4%
IHS-Global Insight	10.8%	14.9%	18.2%	13.2%	12.2%	8.9%	9.5%
FMI	5.9%	6.3%	4.8%	6.4%	9.6%	6.7%	5.1%
Reed Construction	8.3%	8.8%	5.9%	10.0%	12.2%	11.1%	7.1%
Assoc. Builders & Contractors	5.4%	5.6%	6.0%	5.4%	5.1%	5.7%	5.1%

Source: AIA and Citi Research
Note: The AIA Consensus Forecast is computed as an average of the forecasts provided by the panelists that submit forecasts for each of the included building categories.

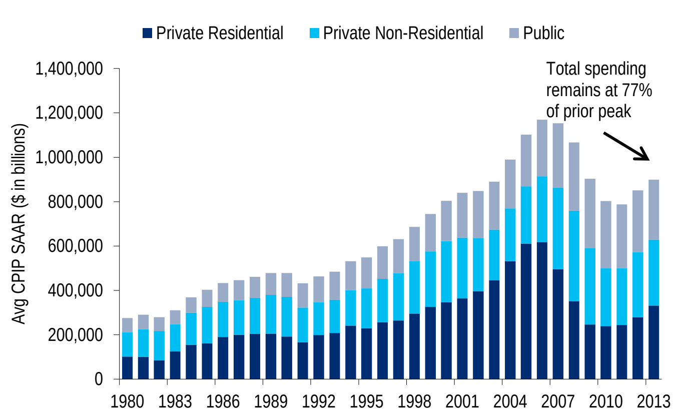
As outlined by Citi's REIT team (here), the outlook for commercial real estate remains positive, driven by a number of factors including: a strengthening economy, improving demand for space and increased capital availability. This was corroborated in April's Beige Book, which noted positive trends with nine districts reporting mild to moderate expansion in commercial construction. Of course, the recovery is not uniform across geography or end market. Currently, the multifamily and industrial sectors are seeing some of the strongest development on the back of strong market fundamentals and demographic trends. Conversely, the outlook for the retail and office segments is more mixed, as these segments face secular challenges from the proliferation of on-line shopping and the "densification" of office space. We discuss the segments in greater detail below.

Figure 73. Aggregate Starts and % of Total Stock



Source: McGraw Hill and Citi Research

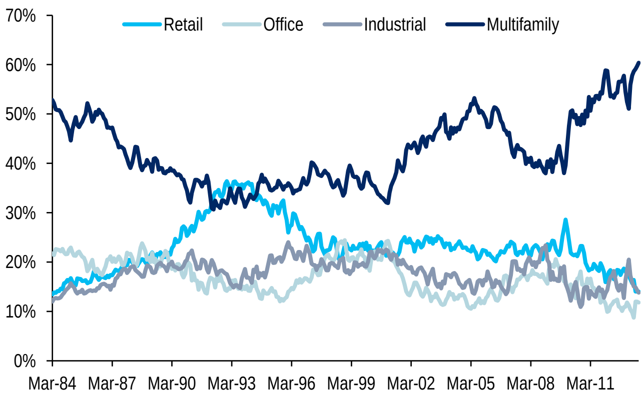
Figure 74. Total Construction Spending (1980 – 2013)



Source: Census Bureau and Haver Analytics

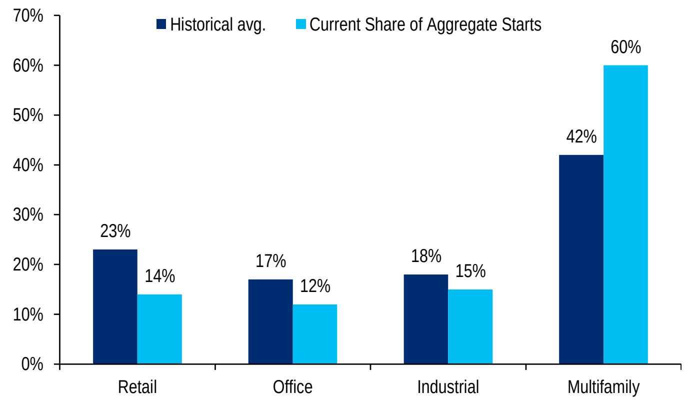
As shown in Figure 76, aggregate starts (i.e. retail, office, industrial and multifamily) have diverged significantly from their long-term average, recently being dominated by the multifamily sector (60% of total starts). In the short-term, multifamily shows the strongest potential for continued growth, while positive demographic trends could provide pick-up in the retail and office sectors over the longer term.

Figure 75. Property Sector's Share of Aggregate Starts Over Time



Source: CBRE and Citi Research

Figure 76. Sector Share of Total Starts (Sq. Ft.) – Feb. 2014



Source: McGraw Hill and Citi Research

While the outlook for commercial real estate looks positive, aggregate starts have continued to trend below their historical and post-recession averages. As shown below, starts as a % of stocks have fallen farther during the latest recession than ever, with previous low of 1.0% occurring in 1991. Starts remain below the 1991 post-recession level although we are years out of the recession. Notably, the normal obsolescence rate has been around 1% of stock annually, implying that existing stock has been aging faster than new additions.

Figure 77. Low Levels of New Supply Across All Sectors – Starts As a % of Stock

	Current As A	Historical Average	Post Recession Levels		Pre Recession Peak	Post Recession All Time Lows	
	% of Stock	% of Stock	1975*	1991	2007	% of Stock	Month
Retail	0.7%	2.2%	1.7%	1.7%	2.9%	0.4%	Feb-11
Office	0.7%	1.7%	1.4%	0.8%	2.0%	0.3%	Apr-10
Industrial	1.0%	2.3%	1.7%	1.5%	3.1%	0.3%	Mar-10
Multifamily	1.2%	1.4%	1.0%	0.7%	2.0%	0.4%	Sep-09
Aggregate	**1.0%**	**1.7%**	**1.3%**	**1.0%**	**2.3%**	**0.5%**	**Nov-09**
Lodging	2.0%	3.0%	3.9%	0.8%	3.9%	0.4%	Feb-10

*Not Seasonally Adjusted Data

Source: CBRE and Citi Research

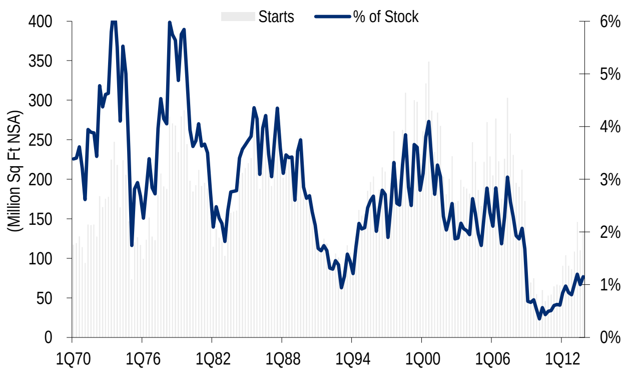
Industrial / Manufacturing

Many market forecasters expect the industrial sector to be a leader in CRE investment and development in 2014.

Changes in distribution resulting from expansion of e-commerce is expected to a catalyst for warehouse development, while other sub-sectors, such as data centers, are expected to see positive, pocketed growth. In addition, shortening of supply networks reflects positively on the industrial space, as manufacturing returns to the

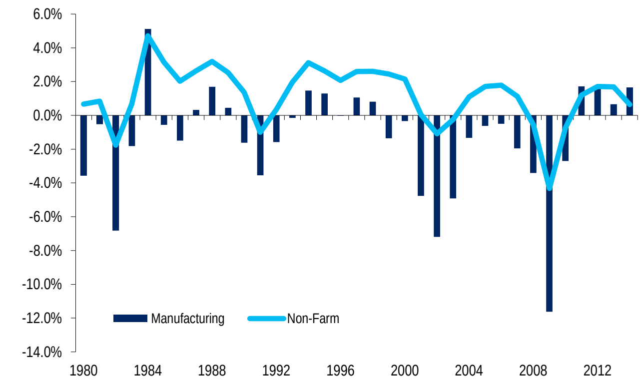
U.S. As labor costs in China continue to rise, “re-shoring” can be expected to continue, which could drive improvement in the manufacturing space. In addition, recent growth in manufacturing employment has continued to drive construction in the industrial / manufacturing space.

Figure 78. Industrial Starts Continue to Improve



Source: FW Dodge and Citi Research

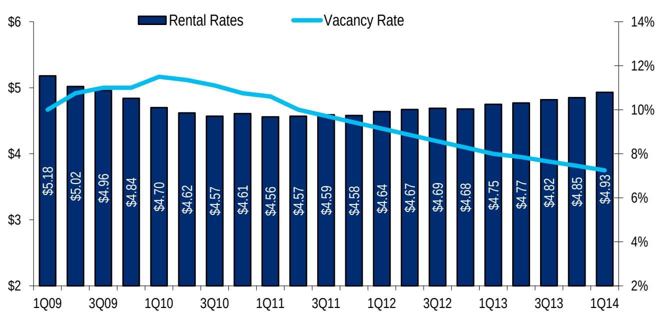
Figure 79. Annual % Change in Non-Farm Employment and Manufacturing Employment



Source: BLS and Haver Analytics

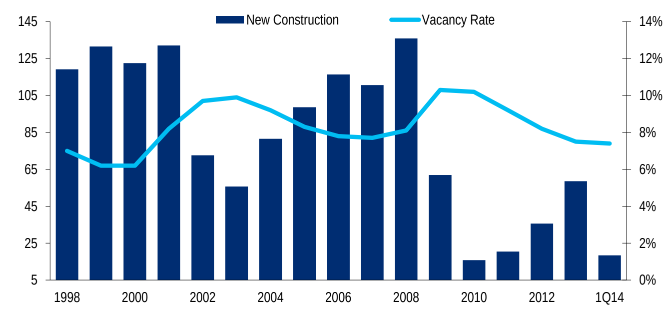
As shown below, warehouse vacancy rates have continued to decline since 2010, driven by big box warehouses serving e-commerce. As total warehouse net absorption remains strong, we expect to see new construction resulting from low vacancy and higher rents. However, we note that construction for big box warehouses tends to be less technical projects, to the detriment of more “late” stage exposed companies.

Figure 80. Warehouse Rental and Vacancy Rates (1Q09 – 1Q14)



Source: Cushman Wakefield and Citi Research

Figure 81. Industrial New Construction and Vacancy Rates



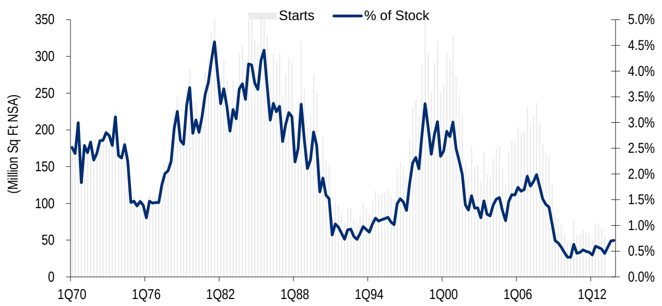
Source: Cushman Wakefield and Citi Research

Office

Development in the office sector (admin buildings, computer centers, banks, etc) has remained weak as low rents and a large supply of vacant space continues to impact construction. While some regional growth is expected in the short-term, particularly in areas with high-growth, energy-related and high-tech industries, new office development could remain low through 2014. However, as Cushman and Wakefield highlighted in a recent call, there are some positive read-throughs for office construction going forward, particularly in the CBD (central business district) segment. C&W noted a number of positive trends in 1Q14 including: stronger leasing activity, positive net absorption, and rent growth (albeit regional) on the back of stronger employment.

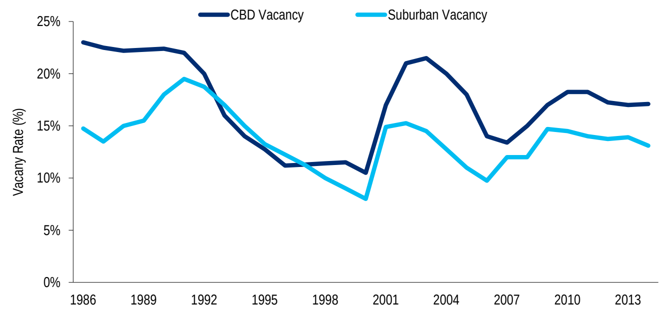
While CBD vacancy rates have been improving over the last year, dropping to 13% in 1Q14 (vs. ~14% in the second quarter of 2013), overall vacancy has remained high. Suburban vacancy rates, however, have remained around ~17% since mid-2013. If vacancy rates continue to idle, we are unlikely to see significant improvement in new office construction. However, as employment continues to improve, there could be acceleration in vacancy rates going forward, which should drive demand for new office projects. In February, office starts remained 12% below the 12-month high and 65% down from the pre-recessionary peak.

Figure 82. Office Starts Remain Pressured by Lower Demand



Source: FW Dodge and Citi Research

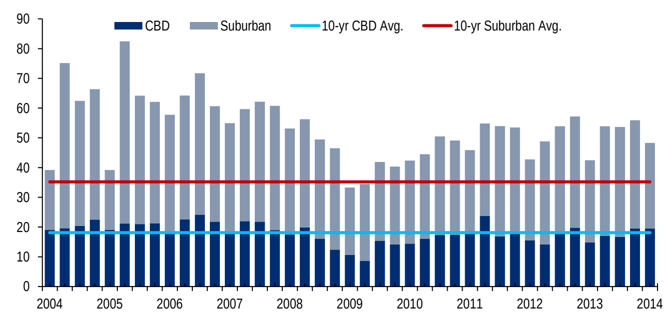
Figure 83. Cushman Wakefield Office Suburban vs. CBD Vacancy Rates (1986 – 1Q14)



Source: Cushman Wakefield and Citi Research

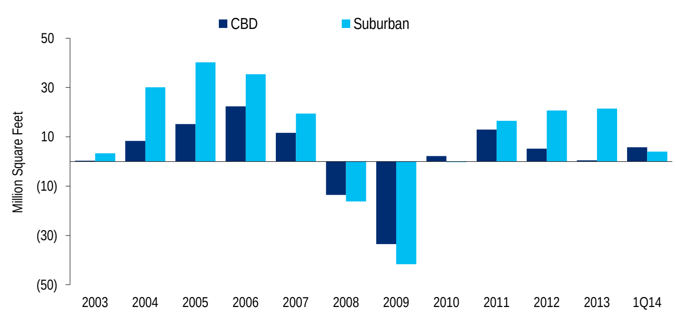
As shown in Figure 84, new CBD leasing activity continues to trend above the 10-year historical average, coming in at 19.5msf in 4Q13 and 1Q14 (vs. the long-term average 18.1). Suburban leasing activity remained lower than average in 1Q14, coming in at 28.8 (vs. an average of 35.2). Net absorption in the first quarter of 2014 has trended positively, with approximately ~10msf of absorption occurring so far in 2014 (note that 1Q is slower period compared to the rest of the year) with ~6msf of CBD space being absorbed. Overall, office sector construction is expected to be around ~20msf in 2014.

Figure 84. Office Sector Leasing Msf (1Q04 – 1Q14)



Source: Cushman Wakefield and Citi Research

Figure 85. Cushman Wakefield Office Absorption



Source: Cushman Wakefield and Citi Research

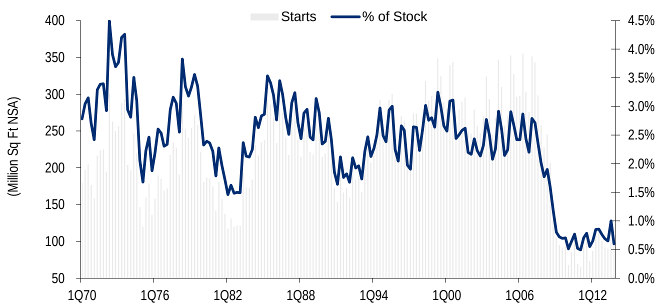
Retail

The retail construction segment has continued its pattern of slow growth in 2014 as high competition from internet retail has continued to pressure the space. As a percentage of total starts, retail has continued to trend below its historical average, currently at 14% of total starts (vs. an avg. of 23%). Some marginal development has been seen in strip centers and outlet malls have seen some ground-up growth,

however, a major pickup in new construction is still expected to be a few years away. Malls have recently largely focused on redevelopment projects to increase their restaurant, entertainment and existing shop space.

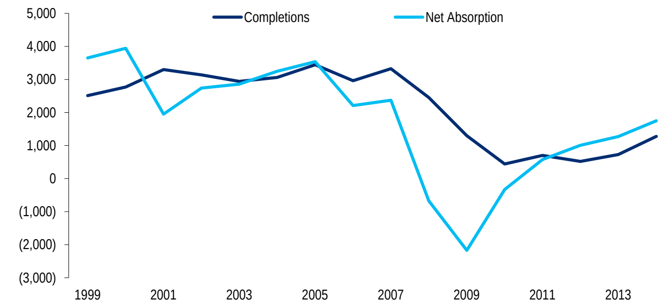
Despite growing competition from e-commerce, there are still some positive signs for the retail space. However, e-commerce competition will continue to be an upward battle for a number of brick and mortar stores going forward.

Figure 86. Retail Starts Have Remained Volatile



Source: FW Dodge and Citi Research

Figure 87. REIS Retail Construction Completions (Sq Feet) & Net Absorption (Sq Ft, 1999-2014E)



Source: REIS and Citi Research

*Data includes retail properties over 5,000 sq feet, some mixed used and misc. defined outlets excluded from competitive retail statistics)

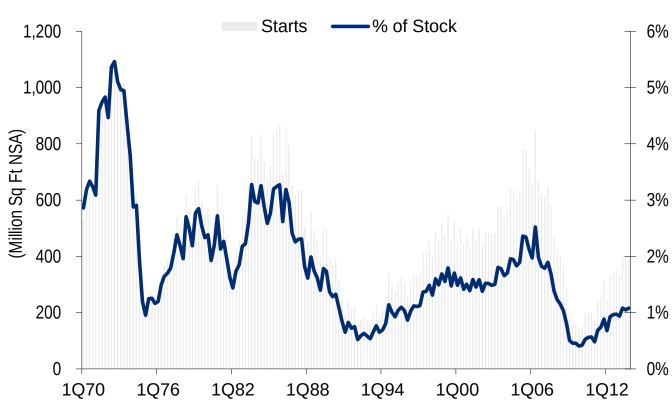
Multifamily

Multifamily continues to be one of the most active sectors

Multifamily has continued to be one of the strongest growth sectors, in terms of square footage, reaching a new high of 60% in February (well above historic contribution of 42%). The sector continues to benefit from a number of positive catalysts including high occupancy in existing assets (see Figure 89) continued growth in demand resulting from declining home ownership and positive demographic trends (i.e. younger buyers and increasing urbanization).

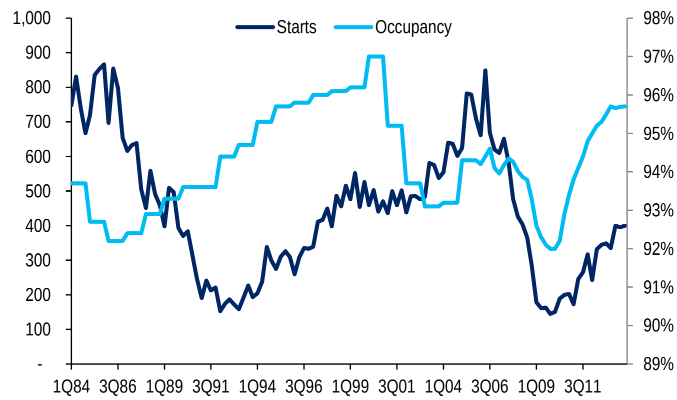
While some buyers have begun to pull back from the multifamily market on the back of higher interest rates and cap rate compression in top markets, demand for apartments have remained robust across all property levels. This demand, alongside broad economic recovery, has spurred construction activity in the multifamily sector. In 2014, over 100,000 new units are expected to be constructed and construction is expected to continue growing over the short-term.

Figure 88. Multifamily Housing Starts Continue to Trend Higher



Source: FW Dodge and Citi Research

Figure 89. Multifamily Starts (MSF) & Occupancy Rate (%)



Source: McGraw Hill and Citi Research

Lodging

After years of anemic growth following the recession, development in the lodging space appears to be rebounding, aided by favorable trends in revenue per available room (RevPAR) and continued low supply growth. While the new construction pipeline still remains ~50% below its pre-recession peak, guest room demand growth has continued to outpace supply since the recession. This combination has led to a significant increase in hotel rates as both RevPAR and average daily rates reached record highs in 2013 (at $68.69 and $110.35, respectively), based on data from Smith Travel.

Additionally, the average selling price per room in the lodging industry has continued its recovery since bottoming in 2009. As shown below, reported selling prices (which do not include all transactions) hit an all-time high of $132,955 in 2013, benefiting from improving profitability and lower cap rates. Improving selling prices should drive increased construction as building new hotels becomes more cost efficient than rebuilding existing supply. However, based on estimates from CIRE, significant construction could still be a few years out.

Figure 90. Construction Pipeline by Project Stage

Stage	2009		2010		2011		2012		2013	
	Projs	Rms	Projs	Rms	Projs	Rms	Projs	Rms	Projs	Rms
Under Construction	767	95,900	449	53,991	458	57,675	630	80,740	793	101,735
Start next 12 mths	1,484	158,696	1,036	112,459	883	97,604	858	99,059	1,156	141,140
Early Planning	1,312	175,864	1,637	206,363	1,412	179,433	1,269	161,405	1,071	140,083
Total Pipeline	3,563	430,460	3,122	372,813	2,753	334,712	2,757	341,204	3,020	382,958

Source: Lodging Econometrics

Figure 91. Average Selling Price per Room ($)

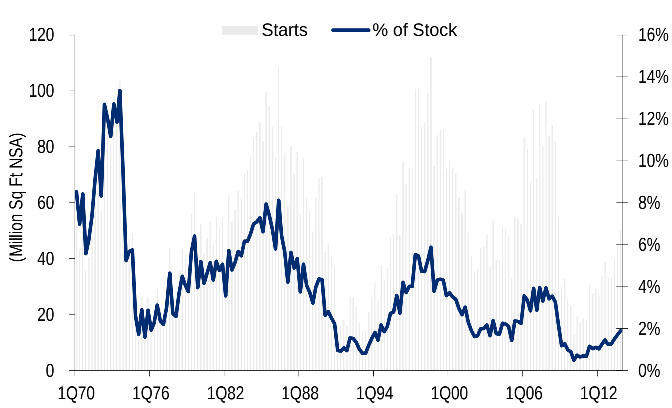
	2009	2010	2011	2012	2013
Transactions with a reported selling price	428	515	688	579	898
Average Selling Price / Room ($)	$57,188	$108,000	$104,193	$112,412	$132,955

*For transactions with a reported selling price

Source: Lodging Econometrics

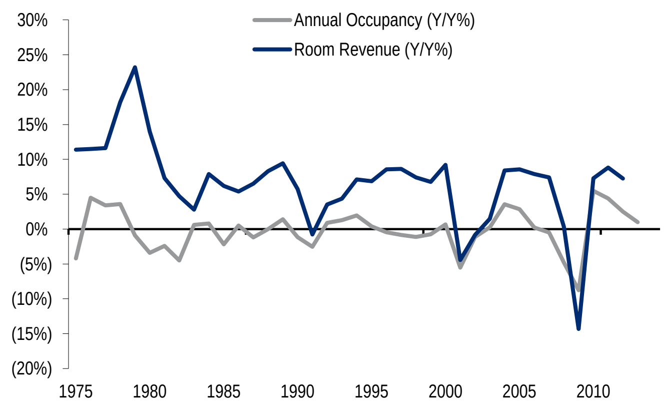
As shown in Figure 92, lodging starts as a percentage of total stocks have been trending upwards in recent years. Development still remains well below the historical average of ~4% (lodging starts were ~2% of stock in February), with annualized starts ~44% below prior peak. However, stronger underlying trends, including rising revenue per room and higher occupancy should lead to a pick-up in construction in coming years.

Figure 92. Lodging Starts Trend Upwards



Source: FW Dodge and Citi Research

Figure 93. Lodging: Revenue Growth (Y/Y%) & Occupancy (%)



Source: Smith Travel and Citi Research

Covered companies mentioned

ABB (ABBN.VX; SFr23.00; 1)

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Eaton Corp (ETN.N; US$74.96; 1)

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Volvo AB (VOLVb.ST; SKr103.40; 1)

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Wolseley PLC (WOS.L; £34.04; 1)

Appendix A-1

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