18 November 2013 | 19 pages

Strategy
North America

Small/Mid Cap Topics

What Are Valuations Telling Us?

Scott T Chronert
+1-415-951-1771
scott.t.chronert@citi.com

Louis L Odette, CFA
louis.l.odette@citi.com

- **What Are Valuations Telling Us?** — Isolating valuations as the lead variable influencing forward returns can be misleading. We argue that higher valuations alone do not constitute structural risk to small cap. The late '03 to mid '07 timeframe provides historical precedence as trailing PEs (ex-neg) remained near current levels even as the index appreciated 50% over that timeframe. Rather, implicit in higher valuations is an expectation for sales and earnings growth. In addition, higher valuations may be indicative of a complacency that increases the volatility which would come with an exogenous shock to the market.

- **Historical Perspective** — There have been four periods since the late '70s where trailing PEs for the R2000 have traded above 20x, which is similar to today's valuation. During three of those occurrences, the index traded higher. Further, in three instances a financial system "event" led to a broader market decline, thus alleviating the high valuation condition. Sector performance during previous periods of high valuation has varied.

- **Valuation Connections** — We identify three patterns: rising Px/Book tends to lead sales growth; Px/Sales trends inversely to inflation; and valuations are generally higher during periods of positive domestic equity fund flows. The general pattern is for valuations to fall headed into recessions, then rise in anticipation of recovery, with lagging earnings the common valuation driver. Importantly, RUT trailing EPS growth has now fallen to levels more typical of recessionary phases.

- **Macro Influences** — Correlations between R2000 performance and macro indicators, such as the ISM, have been higher since 2002 relative to the 30 year pattern. Further, the ISM tends to lead RUT earnings growth by 12-18 months. This suggests a reconnection with small cap's economically sensitive roots following the Tech Bubble's valuation disconnect. Similarly, the correlation between large and small cap has remained high vs. history over this time frame. Therefore, we expect economic growth drivers to be critical to sales and earnings trends and, thus, the valuation paradigm.

- **Screening for Laggards** — Considering the valuation backdrop, we maintain our view that small cap can work higher into year end, as a function of both momentum and seasonal drivers. We expect rotations within the index to continue and maintain a preference for laggards. On the heels of the Q3 reporting period, we look for two types of laggards, those which are showing signs of improvement relative to YTD underperformance, as well as YTD outperformers which have corrected around recent earnings results. Stocks from our SMID focus list making the screens include: AEIS, AXL, GT, GXP, and MDVN.

What Are Valuations Telling Us?

Isolating valuations as the lead variable influencing forward returns can often be misleading.

One of the “easier” calls among financial markets commentators these days is something along the lines that small cap has outperformed and valuations are stretched, therefore it must be time to sell, or rotate to cheaper asset classes. Our response is “not so fast!” In this note we take a closer look at the current valuation backdrop, as well as at historical comparisons.

The key takeaway is that isolating valuations as the lead variable influencing forward returns can often be misleading. Looking back at four previous periods when trailing PEs have been comparable to the current situation, we note that in three cases, an ensuing financial system shock ultimately led to lower a lower SMID market, while the fourth case corresponded to the final denouement of the Tech Bubble burst. Perhaps most notably, valuations remained near current levels for much of the ’04 through ’07 time frame, with the Russell 2000 advancing roughly 50% during that period.

Our conclusion is that higher valuations alone do not constitute structural risk to small cap. However, implicit in higher valuations may be a complacency that increases the volatility which would come with an exogenous shock in the markets. Similarly, implicit in higher valuations is an expectation for sales and earnings growth. We suspect that the recent SMID strength is, at some level, in anticipation of improving growth dynamics. Our thirty years in the equity market trenches have led to a general view that growth expectations lead, valuations follow.

Additionally, we note the following:

- Sector performance patterns during periods of high valuations have been mixed.
- An interesting connection between rising Px/Book and forward sales growth trends exists, and implies improving sales growth ahead.
- In turn, Px/Sales has a strong negative correlation to inflation, with the recent spike in Px/Sales perhaps implying lower inflation expectations are being discounted in the RUT.
- Px/Book has a solid positive correlation to domestic equity mutual fund flows. A similar trend exists for trailing PEs, with the simple takeaway being that small cap will trade at higher valuations during periods of structurally positive flows into equities.
- Macro connections point to a higher correlation between the RUT and ISM post the Tech Bubble. Related, ISM tends to lead RUT trailing earnings by 12-18 months.

We have argued that current valuations represent a “yellow flag” and that small cap has lost the “valuation tailwind” in place since the post Financial Crisis lows. However, we have not viewed valuations as a reason to turn more cautious on small cap. Rather, we emphasize that the trend in forward growth rates implies an increased burden on a positive inflection in growth from current levels to support the current valuation backdrop.

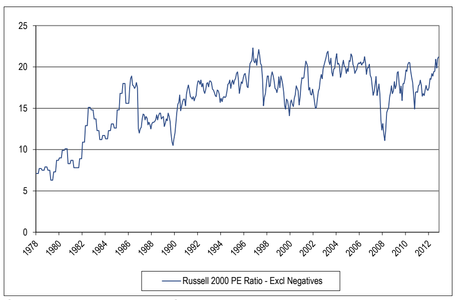
Historical Perspective

Several valuation indicators have moved toward the high end of their historical ranges, yet forward growth rates have moved toward the low end of their historical range.

Over the past several months, we have focused on the unfolding conundrum facing SMID investors regarding valuations vs. growth rates. Essentially, with this year's SMID appreciation, several valuation indicators have moved toward the high end of their historical ranges. Yet, concurrently, forward one year growth rates have moved toward the low end of their historical range (see Figure 1 and Figure 2).

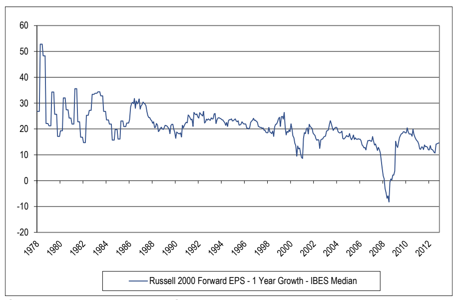
Simply, using the trailing ex-neg PE, the Russell 2000 trades at 21.2x, Since RUT index inception, the comparable average PE has been just under 16x. However, since 1990, the average trailing PE is closer to 18x. Currently, the RUT has a projected one year median growth rate of 14.6%, having just recently begun to tick higher from historical lows near +10%. For perspective, current 2014 bottom up R2000 earnings projections are running in the 17-19% range, implying a 2H14 earnings contribution bias. With 2013 ex-neg earnings likely to settle near +8%, the 31% YTD index return implies significant valuation expansion. Interestingly, looking at trailing earnings growth, we note that growth rates have fallen to levels more typical of recessionary conditions, thus adding to our emphasis on growth patterns from this juncture (see Figure 3).

Figure 1. Russell 2000 Trailing PE (ex-neg)



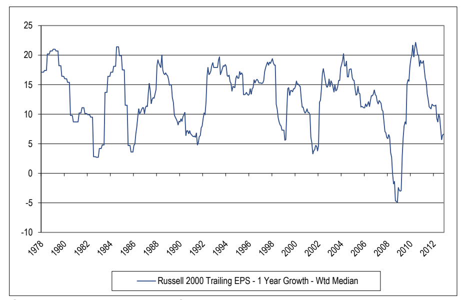
Source: Russell, FactSet

Figure 2. Russell 2000 Forward EPS Growth



Source: Russell, FactSet

Figure 3. Russell 2000 Trailing EPS Growth

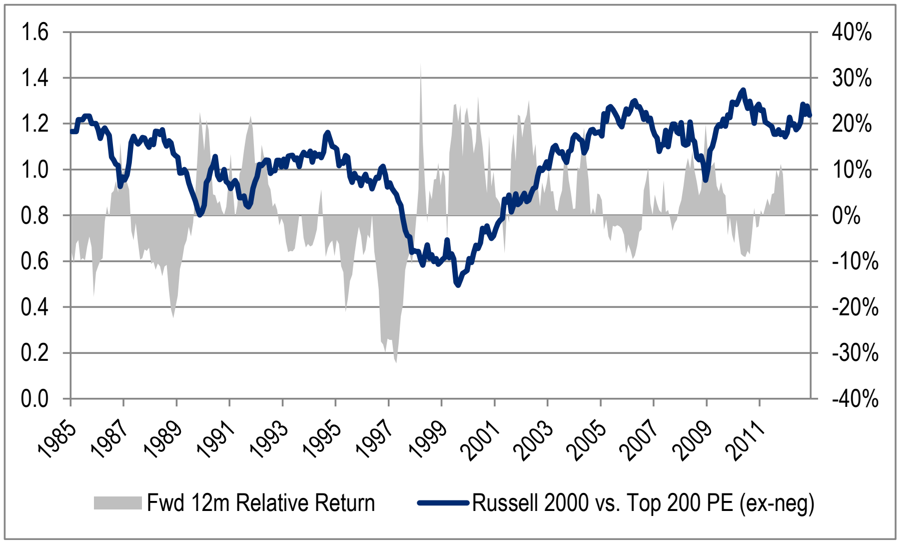


Source: Russell, FactSet

Further, and as mentioned above, given the strong YTD run in the SMID indexes, and the Russell 2000 in particular, the easy call is to either take profits, or rotate to more attractively valued areas of the broader market. To be sure, historical relative valuation/forward return patterns support this call (see Figure 4). However, for most SMID managers, the "absolute" call may be more relevant than the "relative" one. A deeper dive into periods of similar valuations since the Russell 2000 inception provides some interesting perspective.

For most SMID managers, the "absolute" call may be more relevant than the "relative" one.

Figure 4. Russell 2000 vs. Top 200 Relative PE (ex-neg) and Forward 12 Month Relative Return



Source: Russell, FactSet

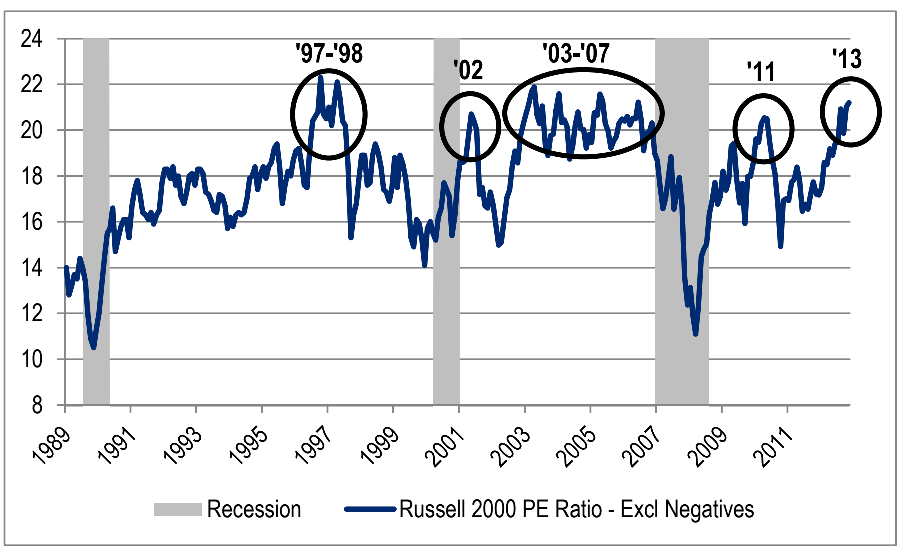
Specifically, we conclude the following:

- There have been four prior periods where trailing ex-neg multiples reached 20x. These include: 1997, 2002, 2004-2007, and 2011. During three of those periods, the index posted positive returns.
- In addition, for three of those periods, and as noted above, a broader exogenous event ultimately triggered a sell off from high valuation levels.

Below, we isolate each of these four periods where the RUT trailing PE (ex-neg) traded above 20x (see Figure 5).

During three of these periods, the Russell 2000 posted positive returns.

Figure 5. Periods Where Russell 2000 Trailing PE (ex-neg) Exceeded 20x

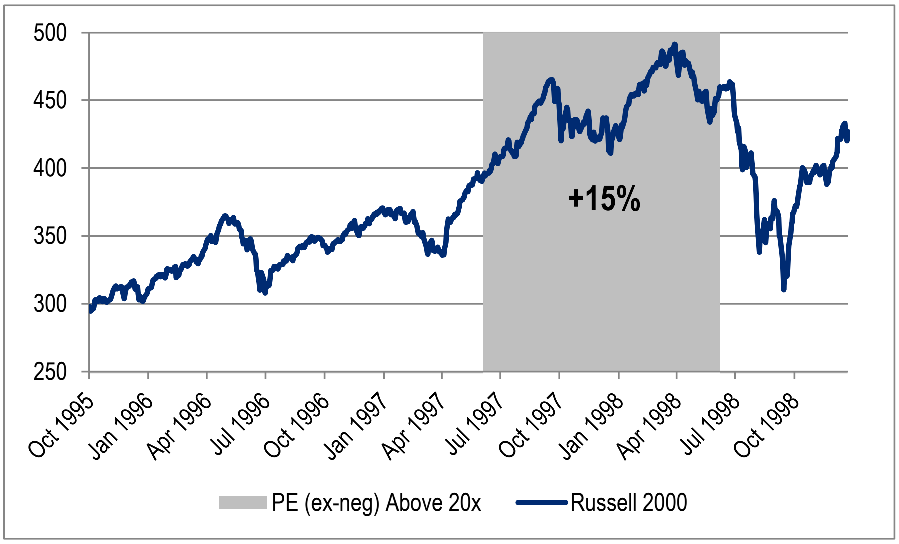


Source: Russell, FactSet, NBER

June 1997 - June 1998

The Russell 2000 was in the midst of a decade long move containing 460% appreciation from a 130 starting point in 1991 and culminating at just over 600, concurrent with the Tech Bubble peak in March 2000. Valuations had been gradually rising for most of the time frame leading up to the mid-‘97 trailing PE spike. During this timeframe, the RUT advanced approximately 16%, and was led by Utilities, Consumer Staples, Consumer Discretionary, and Financials. In this case, the small cap bull market ran into the Asian Financial Crisis, which began in mid-’97. But, it was the Long Term Capital Management debacle, with fears of systemic risk, in mid-‘98 that was most associated with the broader market decline (see Figure 6).

Figure 6. Russell 2000 Performance with PE (ex-neg) > 20x (Jun ’97 - Jun ’98)

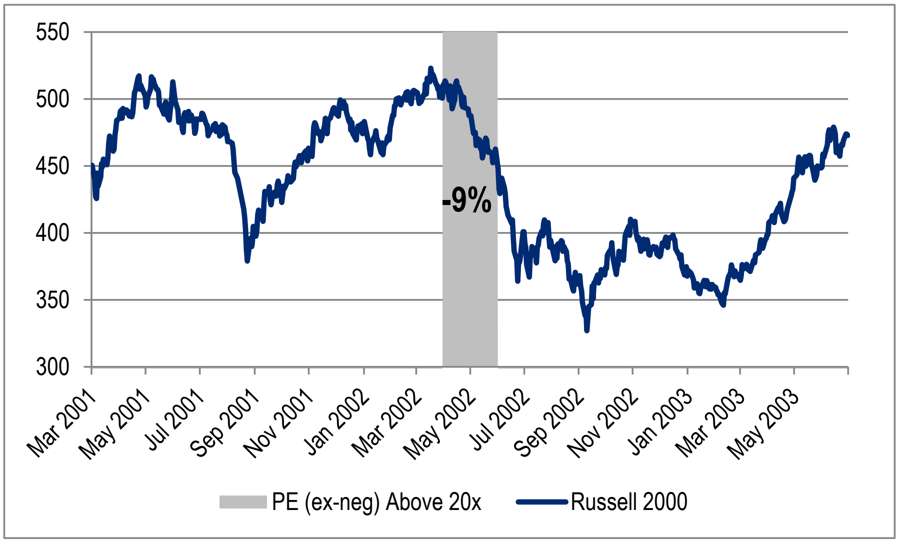


Source: Russell, FactSet, Bloomberg

April 2002 - June 2002

The RUT trailing PE spiked very briefly following a +37% counter trend rally in late-’01 and early-’02, before finally capitulating to the ultimate late-’02/early- ’03 lows. The RUT declined roughly -12% during this period. While valuations certainly could have triggered selling at that point, we would identify one final sell off in Tech as triggering the broader index decline. Recall that RUT Financials were a strong absolute performer during much of the Tech Bubble burst phase, but with that sector also contributing to the selling during this brief phase (see Figure 7).

Figure 7. Russell 2000 Performance with PE (ex-neg) > 20x (Apr '02 - Jun '02)



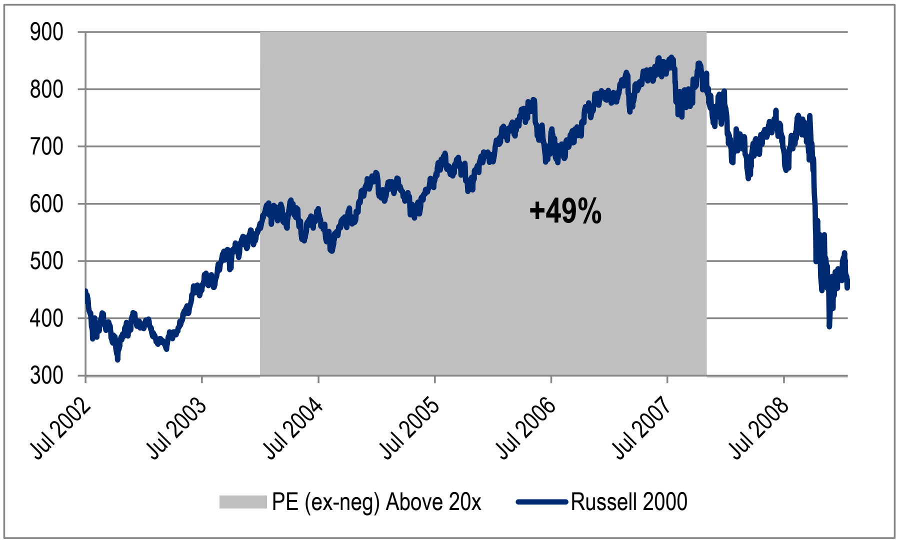
Source: Russell, FactSet, Bloomberg

December 2003 - October 2007

This timeframe comprised the longest period of trailing ex-neg PEs near or above 20x. From the point at which valuations first reached 20x, the index advanced +50% to its late-'07 peak. Over this period, Energy and Materials performance stood out, with Staples, Utilities, and Industrials also outperforming. Interestingly, while this phase undoubtedly had a stronger "commodities" focus, Utilities and Staples were the only consistent outperformers relative to the '97-'98 period. Of course, this bull run (and sustained period of higher valuations) ran into the Global Financial Crisis. While difficult to isolate valuations as a causal factor in the broader market's ultimate decline, the market's reaction serves as a poster child for our early comment that higher valuations may reflect a degree of complacency while exacerbating the ensuing volatility in the markets (see Figure 8).

Valuations remained near current levels for much of the '04 through '07 time frame, with the Russell 2000 advancing roughly 50% during that period.

Figure 8. Russell 2000 Performance with PE (ex-neg) > 20x (Dec '03 - Oct '07)

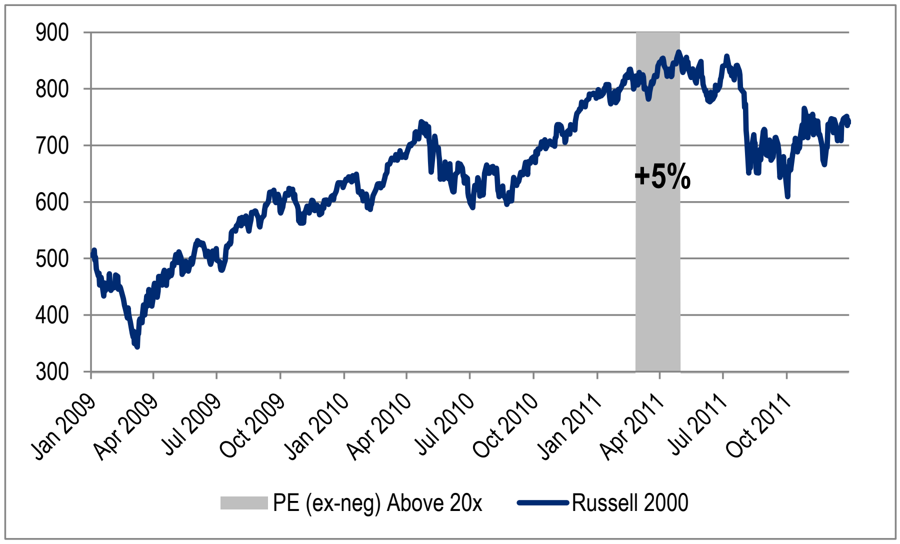


Source: Russell, FactSet, Bloomberg

February 2011 - April 2011

The Russell 2000 briefly traded at a trailing PE of 20x during this three month period in early 2011. The index appreciated just over 4% during that time. The index had already experienced a strong move since late August 2010. Ultimately, this rally ran into the European sovereign debt crisis, along with the August downgrade of the US credit rating. Once again, it's hard to argue that valuations were the culprit in this case, but certainly may have contributed to the ensuing volatility (see Figure 9).

Figure 9. Russell 2000 Performance with PE (ex-neg) > 20x (Feb '11 - Apr '11)

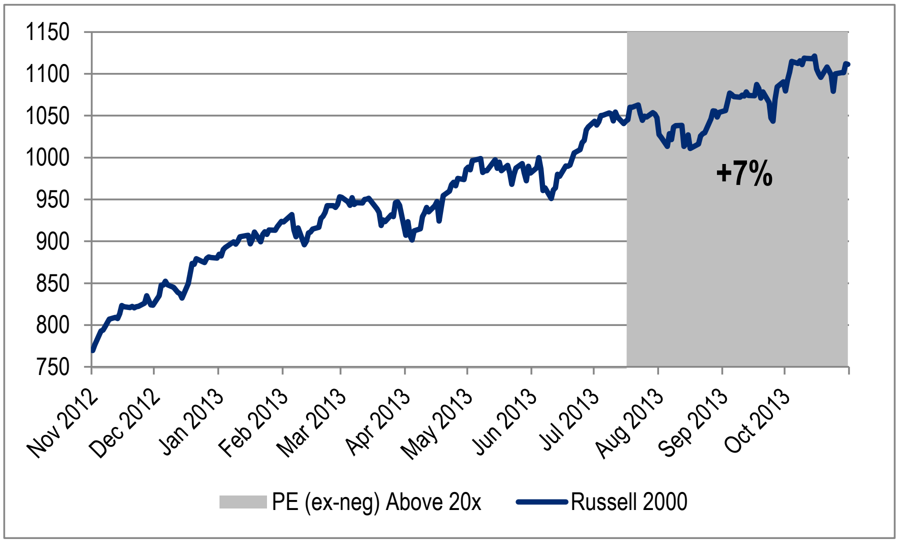


Source: Russell, FactSet, Bloomberg

July 2013 - Current

The trailing ex neg PE for the R2000 ticked through 20x near the end of July. Since then, the index has advanced +6%. Energy, Industrials, Materials and Staples have outperformed since that time, indicative of an economically sensitive bias to the index. Over the past month, Consumer Discretionary and Financials have shown improving relative performance even as Health Care has faded. Tech, which started the period strong, has faded into the quarterly reporting period. Of course, how long the current pattern will continue is the big question. Our view remains that the burden from this point is on earnings growth, while we need to stay wary of that exogenous event which, by definition, is difficult to predict (see Figure 10).

Figure 10. Russell 2000 Performance with PE (ex-neg) > 20x (Jul '13 - Current)



Source: Russell, FactSet, Bloomberg

Valuation Connections

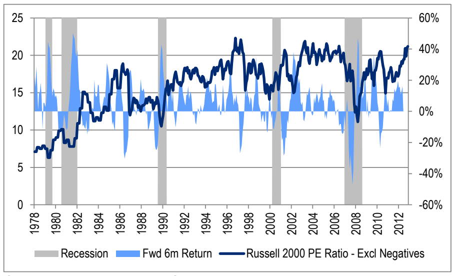
We continuously monitor a variety of valuation metrics, including trailing and forward PE, Px/Book, Px/Sales and Px/Cash Flow. A complete compilation of this data can be found in our US Small/Mid Cap Quarterly Chalk Talk. As would be expected, there tends to be general consistency as to valuation trends, but to varying degrees. For example, in Figures 11-13 we overlay RUT trailing PE ex-neg, Px/Book, and Px/Sales with both forward returns and recessionary periods. Note that both trailing PE and Px/Sales are at or near highs, while Px/Book remains below previous highs. When assessing these differences, investors need to be cognizant of sector performance influences. For example, outperformance by Biotech may infer higher Px/Sales, while lagging performance by Financials may weigh on Px/Book.

The very general pattern is for valuations to fall into recession phases as stocks begin to discount the economic downturn, but relative to an earnings lag. In turn, valuations will rise as stocks start to discount the emergence from recessionary conditions even as the full impact of recessionary conditions on trailing earnings are also felt with a lagging effect.

Both trailing PE and Px/Sales are at or near highs, while Px/Book remains below previous highs.

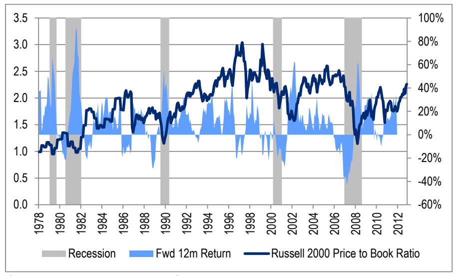
In turn assessing valuations relative to forward returns, there is general consistency between the PE, Px/Book and Px/Sales metrics, as one would expect. While most periods of negative absolute returns are preceded by “higher” valuations, this is not always the case.

Figure 11. Russell 2000 PE (ex-neg) with Forward 6m Returns and Recessions



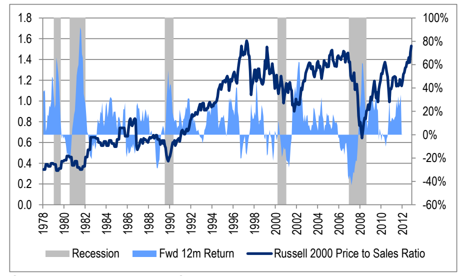
Source: Russell, FactSet, NBER

Figure 12. Russell 2000 Px/Book (ex-neg) with Forward 12m Returns and Recessions



Source: Russell, FactSet, NBER

Figure 13. Russell 2000 Px/Sales (ex-neg) with Forward 12m Returns and Recessions



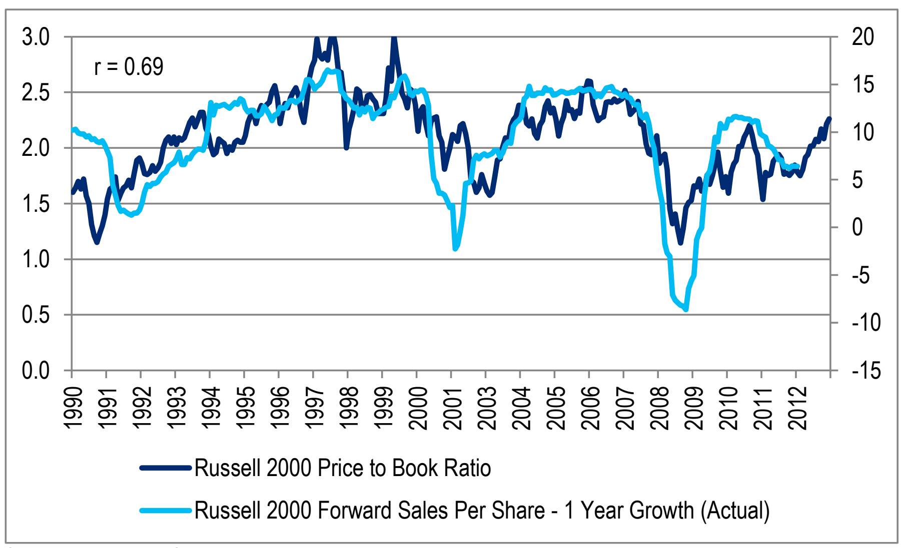
Source: Russell, FactSet, NBER

In looking at valuations relative to fundamental and macro factors, longer term relationships are often apparent, but shorter term deviations are also common. We take a look at three examples.

First, in Figure 14 we note a strong correlation between Russell 2000 Px/Book and one year forward sales growth. The connection is that a rising Px/Book is indicative of investors discounting an expected improvement in underlying fundamental growth drivers. In this context, if the past 23 years is any guide, recent improvement in Px/Book is indicative of improving sales growth rates as we head into 2014. For reference, current bottom up consensus points to +7% sales growth in 2013, with only modest improvement to +8% currently projected for 2014. Expectations for the Growth style index are higher than for the Value index. In any event, this relationship would suggest that 2014 growth expectations may be conservative.

We note a strong correlation between Russell 2000 Px/Book and one year forward sales growth.

Figure 14. Russell 2000 Px/Book vs. Forward 12 Month Sales Growth

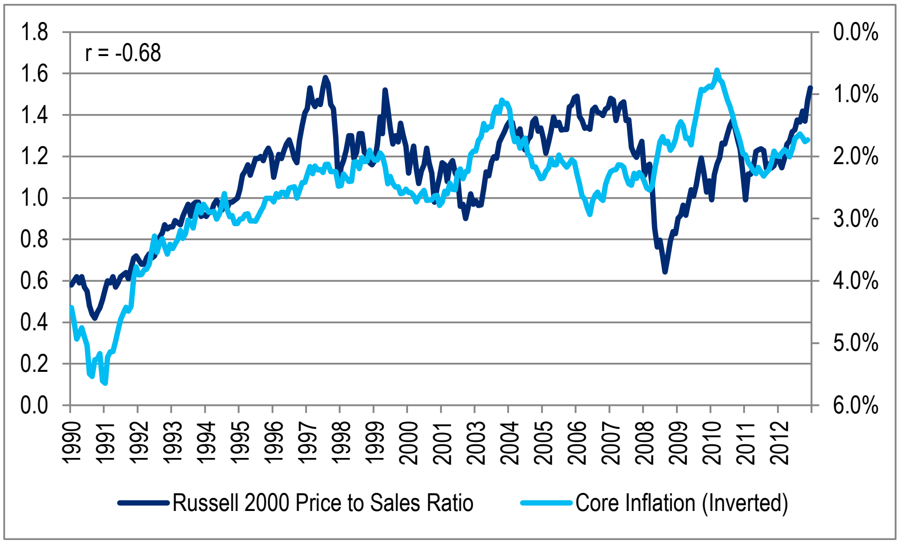


Source: Russell, FactSet

Second, Russell 2000 Px/Sales has a solid negative correlation to inflation since 1990 (see Figure 15). This is less intuitive. But, the connection would be that sales should be positively associated with inflation. Thus, during periods of low inflation, Px/Sales would be expected to rise as sales lack the benefit to earnings from margin improvement as costs are positively impacted by low inflation. In this case, an increase in inflation would be expected should the macro backdrop improve as Citi's economists are projecting, and would be consistent with Fed tapering. A positive sales growth read through could imply a falling Px/Sales dynamic.

Russell 2000 Px/Sales has a solid negative correlation to inflation since 1990.

Figure 15. Russell 2000 Trailing Px/Sales vs. Core Inflation (Inverted)

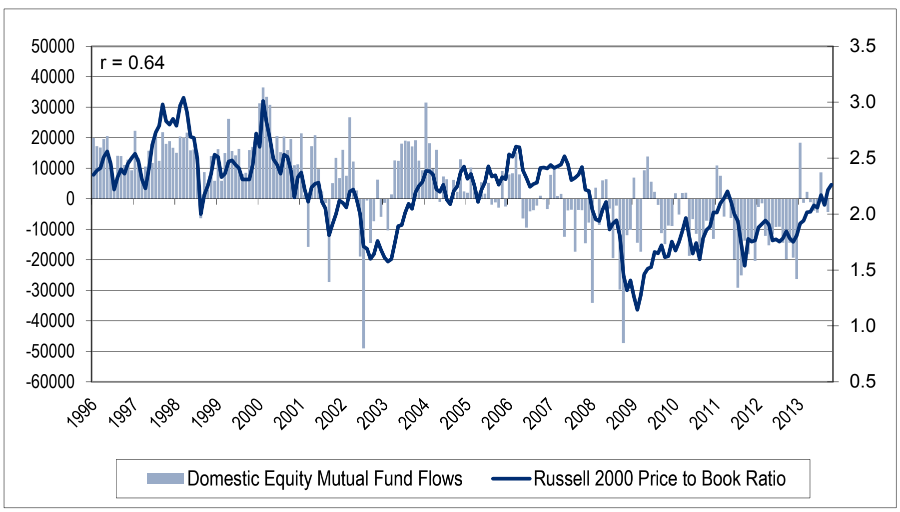


Source: Russell, FactSet, Haver Analytics

Third, we note that, since the mid-'90s, Russell 2000 Px/Book has shown a solid correlation to domestic equity mutual fund flows (see Figure 16). A similar relationship exists for trailing PEs. Our view is that this feeds into the ongoing bull case for small cap. Essentially, a gradual, but ongoing, rotation out of bonds (or off the sidelines) and into US equities should support higher valuations than would otherwise be the case.

Since the mid-'90s, Russell 2000 Px/Book has shown a solid correlation to domestic equity mutual fund flows.

Figure 16. Russell 2000 Px/Book vs. Domestic Equity Mutual Fund Flows

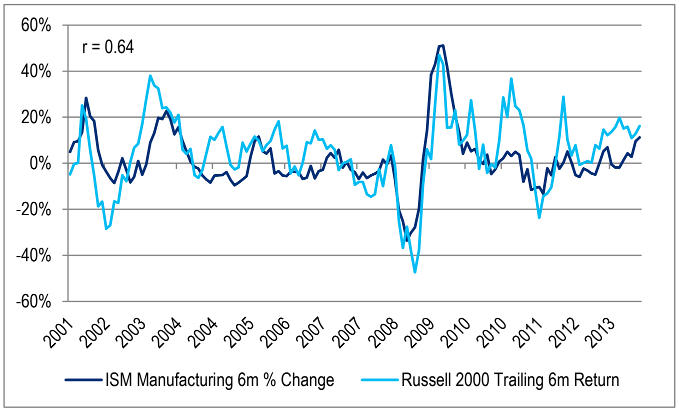


Source: Russell, FactSet, ICI/Haver Analytics

We continue to emphasize that the performance correlation between small cap and basic macro indicators.

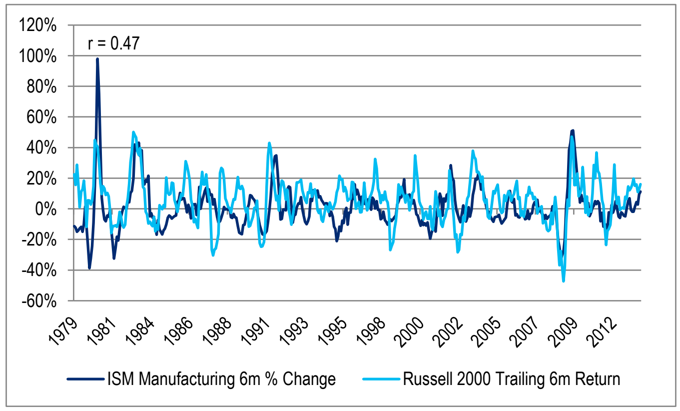
Tying this to other macro connections, we continue to emphasize that the performance correlation between small cap and basic macro indicators, such as the ISM, has trended higher since the broader markets emerged from the Tech Bubble and bust. Our view is that the Tech Bubble was a unique valuation event, and as small cap emerged from the late '02 lows, it essentially reconnected with its economically sensitive roots (see Figure 17 and Figure 18).

Figure 17. Russell 2000 6-month Returns vs. ISM Manufacturing 6-month % Change Since 2002



Source: Russell, FactSet, Haver Analytics

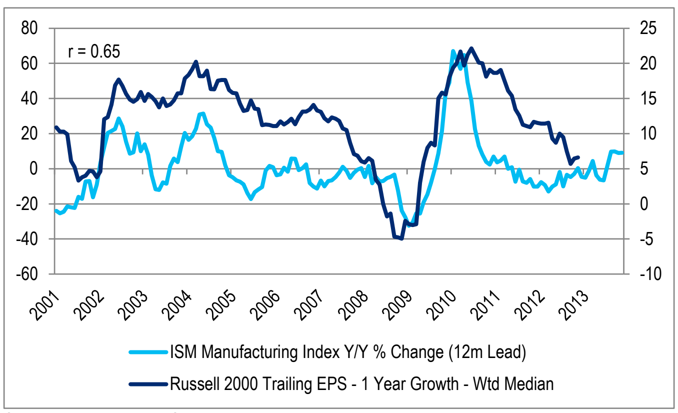
Figure 18. Russell 2000 6-month Returns vs. ISM Manufacturing 6-month % Change Since 1979



Source: Russell, FactSet, Haver Analytics

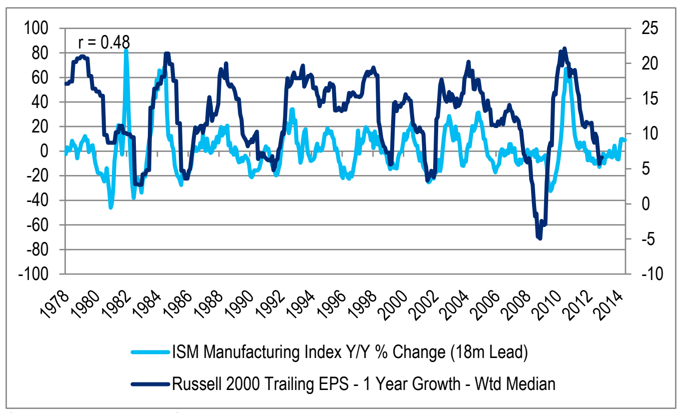
In addition, since index inception in the late-'70s, there has been a tendency for the ISM to lead RUT trailing earnings growth by approximately 18 months. Interestingly, since the '02 time frame, the lead has compressed to 12 months (see Figure 19 and Figure 20).

Figure 19. Russell 2000 Trailing 12-month EPS Growth vs. ISM Manufacturing Y/Y % Change Since 2002 (12-month Lead)



Source: Russell, FactSet, Haver Analytics

Figure 20. Russell 2000 Trailing 12-month EPS Growth vs. ISM Manufacturing Y/Y % Change Since 1978 (18-month Lead)

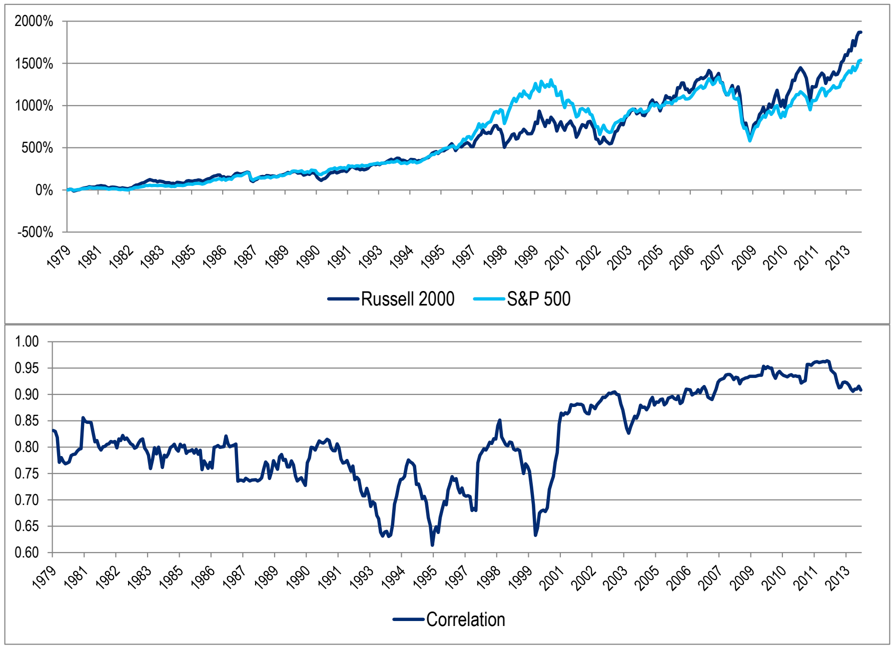


Source: Russell, FactSet, Haver Analytics

Lastly, our focus to this point has been on valuations and small cap absolute performance trends. No doubt, the relative performance discussion has also increased, as the Russell 2000 has outperformed the S&P 500 year-to-date. That debate is beyond the scope of this discussion. But, we'd simply remind investors that the correlation between small and large cap remains quite high (see Figure 21). As such, it would seem that the large vs. small debate is more about degree of move than it is about direction of move.

The large vs. small debate is more about degree of move than it is about direction of move.

Figure 21. Russell 2000 and S&P 500 Performance Since 1979 with One Year Correlation



Source: Bloomberg

Screening for Laggards

We have argued for momentum follow through into year end, based both on seasonal factors as well as a performance analysis of Nov-Dec in years of Jan-Oct strength. The valuation discussion above is consistent with that view. However, we have also called for an economically sensitive bias to the action, implying a rotation toward laggards.

As we move through November, we thought it timely to provide a quick update on our trading approach. Basically, we think of "laggards" as taking two forms.

We think of "laggards" as taking two forms.

One is year-to-date outperformers which have pulled back recently, as a function of the Q3 reporting period or other related concerns, but where fundamentals remain intact.

The other is year to date laggards, but which have begun to "catch up".

In Figure 22 and Figure 23, we show screens for both approaches, focusing on stocks under $6B in market cap which are rated 1 or 2 by Citi Research. Note that there are several stocks in these screens which are contained in our SMID Focus list. These include: Advanced Energy Industries (AEIS), American Axle (AXLE), Goodyear Tire (GT), Great Plains Energy (GXP) and Medivation (MDVN).

Figure 22. Pullback Screen

Ticker	Name	Rating	ETR	Mkt Cap	Price	YTD Rtn	Down From YTD High	Current CY14 EPS	12/31/2012 CY14 EPS
CLVS	Clovis Oncology	1H	112.6	1,550	51.27	220.4	-36.0	-3.35	N/A
FSL	Freescale Semiconductor Holdings, I Ltd	1H	42.1	3,810	14.78	34.2	-16.6	1.13	0.97
NTRI	NutriSystem Inc	1H	34.3	550	19.14	134.3	-6.2	0.59	0.46
EGN	Energen Corp	1	31.1	5,490	75.96	68.5	-11.0	4.14	3.95
GT	Goodyear Tire & Rubber Co	1H	30.3	5,350	21.65	56.8	-7.0	3.10	3.15
HOS	Hornbeck Offshore Services Inc	1	30.0	1,940	53.84	56.8	-9.0	4.70	4.10
IDTI	Integrated Device Technology Inc	1H	29.5	1,520	10.04	37.5	-5.6	0.51	0.35
AXL	American Axle & Manufacturing Holdings Inc.	1	21.2	1,430	18.98	69.5	-9.4	2.50	2.50
THO	Thor Industries Inc	1	19.2	2,850	53.46	42.8	-10.6	3.73	3.34
WWWW	Web.Com Group	1	17.9	1,380	27.15	83.4	-18.7	2.54	2.54
PKG	Packaging Corp of America	1	14.4	5,970	60.84	58.1	-5.3	3.48	3.00
TOWR	Tower International, Inc.	1	13.9	449	21.95	172.7	-6.6	2.73	1.32
UNFI	United Natural Foods Inc	1	12.9	3,510	70.85	32.2	-5.7	2.63	2.56
WETF	WisdomTree Investments Inc	2	10.4	1,760	13.59	122.1	-5.6	0.62	0.37
SANM	Sanmina-SCI Corporation	2H	9.9	1,290	15.48	39.8	-14.6	1.77	1.82
SAM	The Boston Beer Company Inc	2	9.6	3,110	242.75	80.6	-6.4	6.09	6.07
BREW	Craft Brew Alliance Inc	2	9.3	295	15.56	140.1	-11.4	0.23	0.21
AEIS	Advanced Energy Industries Inc	1H	7.5	930	23.26	68.4	-10.4	1.70	N/A

Criteria:
Citi coverage under $6B market cap (ex-MLP)
Buy or Neutral rated
Positive ETR
YTD return > 30%
Down at least -5% from YTD high
Calendar 2014 EPS estimate down no more than 5% since beginning of year

Source: FactSet, dataCentral, Citi Research. Priced as of Nov 15 close.

Figure 23. Laggards Screen

Ticker	Name	Rating	ETR	Mkt Cap	Price	YTD Rtn	1M Rtn
BERY	Berry Plastics Group	1	35.0	2,390	20.74	29.0	14.5
NOR	Noranda Aluminum Holding Corporation	2H	17.9	194	2.85	-53.4	16.8
HSNI	HSN Inc.	1	17.3	3,050	57.72	4.8	10.4
CJES	C&J Energy Services Inc.	1	17.0	1,310	23.93	11.6	13.7
BTU	Peabody Energy	1	16.1	5,420	20.10	-24.5	13.6
STWD	Starwood Property Trust, Inc.	1	13.4	5,180	26.52	15.5	10.1
FL	Foot Locker Inc	1	12.6	5,520	37.14	15.6	13.1
MDVN	Medivation, Inc	1	12.1	4,710	62.43	22.0	24.5
AEO	American Eagle Outfitters Inc.	2	10.9	3,040	15.78	-23.1	17.2
SSRI	Silver Standard Resources, Inc.	2	9.9	500	6.19	-58.4	10.7
AMKR	Amkor Technology Inc	1	9.7	1,190	5.47	29.0	23.2
GXP	Great Plains Energy Inc.	1	9.6	3,770	24.53	20.8	10.5
URBN	Urban Outfitters Inc.	2	9.5	5,920	40.17	2.1	11.9
LHO	LaSalle Hotel Properties	1	9.3	3,090	32.13	26.5	11.0
CMC	Commercial Metals Co	2	7.2	2,240	19.11	28.6	13.4
KRG	Kite Realty Group Trust	1	6.5	856	6.80	21.6	10.4
BRKS	Brooks Automation Inc	2H	5.7	681	10.24	27.2	10.5
OEH	Orient-Express Hotels	2H	5.1	1,790	14.75	26.2	13.3
OSUR	OraSure Technologies, Inc	1	4.8	398	7.16	-0.3	13.7
X	United States Steel Corporation	2H	4.3	4,050	28.00	17.4	19.0
TOL	Toll Brothers	2	1.6	5,880	33.47	3.5	10.5
TUMI	Tumi Holdings Inc	2	0.7	1,550	22.84	9.5	11.1
CLF	Cliffs Natural Resources Inc.	2	0.3	4,210	27.51	-28.7	21.5
COLM	Columbia Sportswear Co	2	0.3	2,340	67.80	27.1	10.2

Criteria:
Citi coverage under $6B market cap (ex-MLP)
Buy or Neutral rated
Positive ETR
YTD Return < 30%
1-month Return > 10%

Source: FactSet, dataCentral, Citi Research. Priced as of Nov 15 close.

Appendix A-1

Analyst Certification

The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

IMPORTANT DISCLOSURES

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of United States Steel Corp

Citigroup Global Markets Inc. is serving as financial advisor to Starwood Property Trust in its acquisition of LNR Property LLC. Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Starwood Property Trust Inc

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Foot Locker Inc

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Commercial Metals Co

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Energen Corp

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Medivation Inc

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Peabody Energy Corp

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Web.com Group Inc

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of The Goodyear Tire & Rubber Co

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Tumi Holdings Inc

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Kite Realty Group Trust

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Cliffs Natural Resources Inc

Citigroup Global Markets Inc. is acting as a joint book-running manager on the announced secondary offering of common shares of Tower International Inc.

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Amkor Technology Inc

Citigroup Global Markets Inc. or its affiliates beneficially owns 1% or more of any class of common equity securities of United States Steel Corporation, Silver Standard Resources, Inc., C&J Energy Services Inc., Cliffs Natural Resources Inc.. This position reflects information available as of the prior business day.

Within the past 12 months, Citigroup Global Markets Inc. or its affiliates has acted as manager or co-manager of an offering of securities of Silver Standard Resources, Inc., LaSalle Hotel Properties, Starwood Property Trust, Inc., Commercial Metals Co, Toll Brothers, Goodyear Tire & Rubber Co, Kite Realty Group Trust, Packaging Corp of America, Berry Plastics Group, Cliffs Natural Resources Inc., Tower International, Inc., American Axle & Manufacturing Holdings Inc..

Citigroup Global Markets Inc. or its affiliates has received compensation for investment banking services provided within the past 12 months from United States Steel Corporation, Silver Standard Resources, Inc., LaSalle Hotel Properties, WisdomTree Investments Inc, Starwood Property Trust, Inc., Commercial Metals Co, Noranda Aluminum Holding Corporation, Peabody Energy, Web.Com Group, Toll Brothers, Goodyear Tire & Rubber Co, Kite Realty Group Trust, Packaging Corp of America, Berry Plastics Group, Cliffs Natural Resources Inc., Freescale Semiconductor Holdings, I Ltd, Tower International, Inc., American Axle & Manufacturing Holdings Inc., Amkor Technology Inc, OraSure Technologies, Inc.

Citigroup Global Markets Inc. or its affiliates expects to receive or intends to seek, within the next three months, compensation for investment banking services from Noranda Aluminum Holding Corporation, Toll Brothers, Berry Plastics Group.

Citigroup Global Markets Inc. or an affiliate received compensation for products and services other than investment banking services from United States Steel Corporation, Silver Standard Resources, Inc., LaSalle Hotel Properties, Orient-Express Hotels, Integrated Device Technology Inc, C&J Energy Services Inc., Starwood Property Trust, Inc., Foot Locker Inc, Commercial Metals Co, Noranda Aluminum Holding Corporation, Peabody Energy, Web.Com Group, Hornbeck Offshore Services Inc, Toll Brothers, Goodyear Tire & Rubber Co, Sanmina-SCI Corporation, Kite Realty Group Trust, Packaging Corp of America, Berry Plastics Group, Cliffs Natural Resources Inc., Freescale Semiconductor Holdings, I Ltd, Tower International, Inc., American Axle & Manufacturing Holdings Inc., Amkor Technology Inc in the past 12 months.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as investment banking client(s): Sanmina-SCI Corporation, Starwood Property Trust, Inc., C&J Energy Services Inc., Web.Com Group, OraSure Technologies, Inc, Berry Plastics Group, United States Steel Corporation, Silver Standard Resources, Inc., LaSalle Hotel Properties, WisdomTree Investments Inc, Commercial Metals Co, Noranda Aluminum Holding Corporation, Peabody Energy, Toll Brothers, Goodyear Tire & Rubber Co, Kite Realty Group Trust, Packaging Corp of America, Cliffs Natural Resources Inc., Freescale Semiconductor Holdings, I Ltd, Tower International, Inc., American Axle & Manufacturing Holdings Inc., Amkor Technology Inc.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, securities-related: Starwood Property Trust, Inc., United States Steel Corporation, NutriSystem Inc, Silver Standard Resources, Inc., LaSalle Hotel Properties, Orient-Express Hotels, Integrated Device Technology Inc, Commercial Metals Co, Energen Corp, Columbia Sportswear Co, Noranda Aluminum

Holding Corporation, Peabody Energy, Hornbeck Offshore Services Inc, Toll Brothers, Great Plains Energy Inc., Goodyear Tire & Rubber Co, Sanmina-SCI Corporation, Kite Realty Group Trust, American Eagle Outfitters Inc., Packaging Corp of America, Berry Plastics Group, Cliffs Natural Resources Inc., Freescale Semiconductor Holdings, I Ltd, Tower International, Inc., American Axle & Manufacturing Holdings Inc., Amkor Technology Inc.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, non-securities-related: United States Steel Corporation, LaSalle Hotel Properties, Orient-Express Hotels, Integrated Device Technology Inc, C&J Energy Services Inc., Starwood Property Trust, Inc., Foot Locker Inc, Commercial Metals Co, Noranda Aluminum Holding Corporation, Peabody Energy, Web.Com Group, Hornbeck Offshore Services Inc, Toll Brothers, Goodyear Tire & Rubber Co, Sanmina-SCI Corporation, Kite Realty Group Trust, Packaging Corp of America, Berry Plastics Group, Cliffs Natural Resources Inc., Freescale Semiconductor Holdings, I Ltd, Tower International, Inc., American Axle & Manufacturing Holdings Inc., Amkor Technology Inc.

Citigroup Global Markets Inc. or an affiliate received compensation in the past 12 months from Sanmina-SCI Corporation, Starwood Property Trust, Inc., Cliffs Natural Resources Inc., OraSure Technologies, Inc, Silver Standard Resources, Inc..

Analysts' compensation is determined based upon activities and services intended to benefit the investor clients of Citigroup Global Markets Inc. and its affiliates ("the Firm"). Like all Firm employees, analysts receive compensation that is impacted by overall firm profitability which includes investment banking revenues.

The Firm is a market maker in the publicly traded equity securities of United Natural Foods Inc, NutriSystem Inc, Silver Standard Resources, Inc., Integrated Device Technology Inc, WisdomTree Investments Inc, Clovis Oncology, HSN Inc., Brooks Automation Inc, Columbia Sportswear Co, Medivation, Inc, Peabody Energy, Advanced Energy Industries Inc, Web.Com Group, Goodyear Tire & Rubber Co, Thor Industries Inc, Sanmina-SCI Corporation, Packaging Corp of America, Craft Brew Alliance Inc, Urban Outfitters Inc., Amkor Technology Inc, OraSure Technologies, Inc.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Research product ("the Product"), please contact Citi Research, 388 Greenwich Street, 28th Floor, New York, NY, 10013, Attention: Legal/Compliance [E6WYB6412478]. In addition, the same important disclosures, with the exception of the Valuation and Risk assessments and historical disclosures, are contained on the Firm's disclosure website at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures. Valuation and Risk assessments can be found in the text of the most recent research note/report regarding the subject company. Historical disclosures (for up to the past three years) will be provided upon request.

Citi Research Equity Ratings Distribution

	12 Month Rating			*Relative Rating*		
Data current as of 30 Sep 2013	**Buy**	**Hold**	**Sell**	**Buy**	**Hold**	**Sell**
Citi Research Global Fundamental Coverage	48%	40%	12%	6%	87%	6%
% of companies in each rating category that are investment banking clients	55%	50%	43%	64%	51%	48%

Guide to Citi Research Fundamental Research Investment Ratings:

Citi Research stock recommendations include an investment rating and an optional risk rating to highlight high risk stocks.

Risk rating takes into account both price volatility and fundamental criteria. Stocks will either have no risk rating or a High risk rating assigned.

Investment Ratings: Citi Research investment ratings are Buy, Neutral and Sell. Our ratings are a function of analyst expectations of expected total return ("ETR") and risk. ETR is the sum of the forecast price appreciation (or depreciation) plus the dividend yield for a stock within the next 12 months. The Investment rating definitions are: Buy (1) ETR of 15% or more or 25% or more for High risk stocks; and Sell (3) for negative ETR. Any covered stock not assigned a Buy or a Sell is a Neutral (2). For stocks rated Neutral (2), if an analyst believes that there are insufficient valuation drivers and/or investment catalysts to derive a positive or negative investment view, they may elect with the approval of Citi Research management not to assign a target price and, thus, not derive an ETR. Analysts may place covered stocks "Under Review" in response to exceptional circumstances (e.g. lack of information critical to the analyst's thesis) affecting the company and / or trading in the company's securities (e.g. trading suspension). As soon as practically possible, the analyst will publish a note re-establishing a rating and investment thesis. To satisfy regulatory requirements, we correspond Under Review and Neutral to Hold in our ratings distribution table for our 12-month fundamental rating system. However, we reiterate that we do not consider Under Review to be a recommendation.

Relative three-month ratings: Citi Research may also assign a three-month relative call (or rating) to a stock to highlight expected out-performance (most preferred) or under-performance (least preferred) versus the geographic and industry sector over a 3 month period. The relative call may highlight a specific near-term catalyst or event impacting the company or the market that is anticipated to have a short-term price impact on the equity securities of the company. Absent any specific catalyst the analyst(s) will indicate the most and least preferred stocks in the universe of stocks under consideration, explaining the basis for this short-term view. This three-month view may be different from and does not affect a stock's fundamental equity rating, which reflects a longer-term total absolute return expectation. For purposes of NASD/NYSE ratings-distribution-disclosure rules, most preferred calls correspond to a buy recommendation and least preferred calls correspond to a sell recommendation. Any stock not assigned to a most preferred or least preferred call is considered non-relative-rated (NRR). For purposes of NASD/NYSE ratings-distribution-disclosure rules we correspond NRR to Hold in our ratings distribution table for our 3-month relative rating system. However, we reiterate that we do not consider NRR to be a recommendation.

Prior to October 8, 2011, the firm's stock recommendation system included a risk rating and an investment rating. **Risk ratings,** which took into account both price volatility and fundamental criteria, were: Low (L), Medium (M), High (H), and Speculative (S). **Investment Ratings** of Buy, Hold and Sell were a function of the Citi Research expectation of total return (forecast price appreciation and dividend yield within the next 12 months) and risk rating. Additionally, analysts could have placed covered stocks "Under Review" in response to exceptional circumstances (e.g. lack of information critical to the analyst's thesis) affecting the company and/or trading in the company's securities (e.g. trading suspension). Stocks placed "Under Review" were monitored daily by management and as practically possible, the analyst published a note re-establishing a rating and investment thesis. For securities in developed markets (US, UK, Europe, Japan, and Australia/New Zealand), investment ratings were:Buy (1) (expected total return of 10% or more for Low-Risk stocks, 15% or more for Medium-Risk stocks, 20% or more for High-Risk stocks, and 35% or more for Speculative stocks); Hold (2) (0%-10% for Low-Risk stocks, 0%-15% for Medium-Risk stocks, 0%-20% for High-Risk stocks, and 0%-35% for Speculative stocks); and Sell (3) (negative total return). For securities in emerging markets (Asia Pacific, Emerging Europe/Middle East/Africa, and Latin America), investment ratings were:Buy (1) (expected total return of 15% or more for Low-Risk stocks, 20% or more for Medium-Risk stocks, 30% or more for High-Risk stocks, and 40% or more for Speculative stocks); Hold (2) (5%-15% for

Low-Risk stocks, 10%-20% for Medium-Risk stocks, 15%-30% for High-Risk stocks, and 20%-40% for Speculative stocks); and Sell (3) (5% or less for Low-Risk stocks, 10% or less for Medium-Risk stocks, 15% or less for High-Risk stocks, and 20% or less for Speculative stocks).

Investment ratings are determined by the ranges described above at the time of initiation of coverage, a change in investment and/or risk rating, or a change in target price (subject to limited management discretion). At other times, the expected total returns may fall outside of these ranges because of market price movements and/or other short-term volatility or trading patterns. Such interim deviations from specified ranges will be permitted but will become subject to review by Research Management. Your decision to buy or sell a security should be based upon your personal investment objectives and should be made only after evaluating the stock's expected performance and risk.

NON-US RESEARCH ANALYST DISCLOSURES

Non-US research analysts who have prepared this report (i.e., all research analysts listed below other than those identified as employed by Citigroup Global Markets Inc.) are not registered/qualified as research analysts with FINRA. Such research analysts may not be associated persons of the member organization and therefore may not be subject to the NYSE Rule 472 and NASD Rule 2711 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account. The legal entities employing the authors of this report are listed below:

Citigroup Global Markets Inc	Scott T Chronert; Louis L Odette, CFA; Shahriar (Shar) Pourreza, CFA; Oliver Chen, CFA; Terence Whalen; Itay Michaeli; Anthony Pettinari; Vivien Azer; Brian Yu, CFA; Robin Shoemaker; Yaron Werber, MD; Kate McShane, CFA; Faisel Khan, CFA; Glen Yeung; Mark Brown, CFA; Jason B Bazinet; Michael Bilerman; Gregory R Badishkanian; Amit Bhalla; Jim Suva, CPA; Donald Fandetti, CFA; Will Randow, CFA; William R Katz; Walter H Pritchard, CFA

OTHER DISCLOSURES

Citigroup Global Markets Inc. and/or its affiliates has a significant financial interest in relation to United States Steel Corporation, C&J Energy Services Inc., Starwood Property Trust, Inc., Peabody Energy, Toll Brothers, Goodyear Tire & Rubber Co, Cliffs Natural Resources Inc., American Axle & Manufacturing Holdings Inc.. (For an explanation of the determination of significant financial interest, please refer to the policy for managing conflicts of interest which can be found at www.citiVelocity.com.)

For securities recommended in the Product in which the Firm is not a market maker, the Firm is a liquidity provider in the issuers' financial instruments and may act as principal in connection with such transactions. The Firm is a regular issuer of traded financial instruments linked to securities that may have been recommended in the Product. The Firm regularly trades in the securities of the issuer(s) discussed in the Product. The Firm may engage in securities transactions in a manner inconsistent with the Product and, with respect to securities covered by the Product, will buy or sell from customers on a principal basis.

Securities recommended, offered, or sold by the Firm: (i) are not insured by the Federal Deposit Insurance Corporation; (ii) are not deposits or other obligations of any insured depository institution (including Citibank); and (iii) are subject to investment risks, including the possible loss of the principal amount invested. Although information has been obtained from and is based upon sources that the Firm believes to be reliable, we do not guarantee its accuracy and it may be incomplete and condensed. Note, however, that the Firm has taken all reasonable steps to determine the accuracy and completeness of the disclosures made in the Important Disclosures section of the Product. The Firm's research department has received assistance from the subject company(ies) referred to in this Product including, but not limited to, discussions with management of the subject company(ies). Firm policy prohibits research analysts from sending draft research to subject companies. However, it should be presumed that the author of the Product has had discussions with the subject company to ensure factual accuracy prior to publication. All opinions, projections and estimates constitute the judgment of the author as of the date of the Product and these, plus any other information contained in the Product, are subject to change without notice. Prices and availability of financial instruments also are subject to change without notice. Notwithstanding other departments within the Firm advising the companies discussed in this Product, information obtained in such role is not used in the preparation of the Product. Although Citi Research does not set a predetermined frequency for publication, if the Product is a fundamental research report, it is the intention of Citi Research to provide research coverage of the/those issuer(s) mentioned therein, including in response to news affecting this issuer, subject to applicable quiet periods and capacity constraints. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security. Any decision to purchase securities mentioned in the Product must take into account existing public information on such security or any registered prospectus.

Investing in non-U.S. securities, including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of the U.S. Securities and Exchange Commission. There may be limited information available on foreign securities. Foreign companies are generally not subject to uniform audit and reporting standards, practices and requirements comparable to those in the U.S. Securities of some foreign companies may be less liquid and their prices more volatile than securities of comparable U.S. companies. In addition, exchange rate movements may have an adverse effect on the value of an investment in a foreign stock and its corresponding dividend payment for U.S. investors. Net dividends to ADR investors are estimated, using withholding tax rates conventions, deemed accurate, but investors are urged to consult their tax advisor for exact dividend computations. Investors who have received the Product from the Firm may be prohibited in certain states or other jurisdictions from purchasing securities mentioned in the Product from the Firm. Please ask your Financial Consultant for additional details. Citigroup Global Markets Inc. takes responsibility for the Product in the United States. Any orders by US investors resulting from the information contained in the Product may be placed only through Citigroup Global Markets Inc.

The Citigroup legal entity that takes responsibility for the production of the Product is the legal entity which the first named author is employed by. The Product is made available in **Australia** through Citi Global Markets Australia Pty Ltd. (ABN 64 003 114 832 and AFSL No. 240992), participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in Australia to Private Banking wholesale clients through Citigroup Pty Limited (ABN 88 004 325 080 and AFSL 238098). Citigroup Pty Limited provides all financial product advice to Australian Private Banking wholesale clients through bankers and relationship managers. If there is any doubt about the suitability of investments held in Citigroup Private Bank accounts, investors should contact the Citigroup Private Bank in Australia. Citigroup companies may compensate affiliates and their representatives for providing products and services to clients. The Product is made available in **Brazil** by

Citigroup Global Markets Brasil - CCTVM SA, which is regulated by CVM - Comissão de Valores Mobiliários, BACEN - Brazilian Central Bank, APIMEC - Associação dos Analistas e Profissionais de Investimento do Mercado de Capitais and ANBID - Associação Nacional dos Bancos de Investimento. Av. Paulista, 1111 - 11º andar - CEP. 01311920 - São Paulo - SP. If the Product is being made available in certain provinces of **Canada** by Citigroup Global Markets (Canada) Inc. ("CGM Canada"), CGM Canada has approved the Product. Citigroup Place, 123 Front Street West, Suite 1100, Toronto, Ontario M5J 2M3. This product is available in **Chile** through Banchile Corredores de Bolsa S.A., an indirect subsidiary of Citigroup Inc., which is regulated by the Superintendencia de Valores y Seguros. Agustinas 975, piso 2, Santiago, Chile. The Product is made available in **France** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 1-5 Rue Paul Cézanne, 8ème, Paris, France. The Product is distributed in **Germany** by Citigroup Global Markets Deutschland AG ("CGMD"), which is regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin). CGMD, Reuterweg 16, 60323 Frankfurt am Main. Research which relates to "securities" (as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong)) is issued in **Hong Kong** by, or on behalf of, Citigroup Global Markets Asia Limited which takes full responsibility for its content. Citigroup Global Markets Asia Ltd. is regulated by Hong Kong Securities and Futures Commission. If the Research is made available through Citibank, N.A., Hong Kong Branch, for its clients in Citi Private Bank, it is made available by Citibank N.A., Citibank Tower, Citibank Plaza, 3 Garden Road, Hong Kong. Citibank N.A. is regulated by the Hong Kong Monetary Authority. Please contact your Private Banker in Citibank N.A., Hong Kong, Branch if you have any queries on or any matters arising from or in connection with this document. The Product is made available in **India** by Citigroup Global Markets India Private Limited, which is regulated by Securities and Exchange Board of India. Bakhtawar, Nariman Point, Mumbai 400-021. The Product is made available in **Indonesia** through PT Citigroup Securities Indonesia. 5/F, Citibank Tower, Bapindo Plaza, Jl. Jend. Sudirman Kav. 54-55, Jakarta 12190. Neither this Product nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable capital market laws and regulations. This Product is not an offer of securities in Indonesia. The securities referred to in this Product have not been registered with the Capital Market and Financial Institutions Supervisory Agency (BAPEPAM-LK) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market laws and regulations. The Product is made available in **Israel** through Citibank NA, regulated by the Bank of Israel and the Israeli Securities Authority. Citibank, N.A, Platinum Building, 21 Ha'arba'ah St, Tel Aviv, Israel. The Product is made available in **Italy** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. Via dei Mercanti, 12, Milan, 20121, Italy. The Product is made available in **Japan** by Citigroup Global Markets Japan Inc. ("CGMJ"), which is regulated by Financial Services Agency, Securities and Exchange Surveillance Commission, Japan Securities Dealers Association, Tokyo Stock Exchange and Osaka Securities Exchange. Shin-Marunouchi Building, 1-5-1 Marunouchi, Chiyoda-ku, Tokyo 100-6520 Japan. If the Product was distributed by SMBC Nikko Securities Inc. it is being so distributed under license. In the event that an error is found in an CGMJ research report, a revised version will be posted on the Firm's Citi Velocity website. If you have questions regarding Citi Velocity, please call (81 3) 6270-3019 for help. The Product is made available in **Korea** by Citigroup Global Markets Korea Securities Ltd., which is regulated by the Financial Services Commission, the Financial Supervisory Service and the Korea Financial Investment Association (KOFIA). Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. KOFIA makes available registration information of research analysts on its website. Please visit the following website if you wish to find KOFIA registration information on research analysts of Citigroup Global Markets Korea Securities Ltd. http://dis.kofia.or.kr/fs/dis2/fundMgr/DISFundMgrAnalystPop.jsp?companyCd2=A03030&pageDiv=02. The Product is made available in Korea by Citibank Korea Inc., which is regulated by the Financial Services Commission and the Financial Supervisory Service. Address is Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. The Product is made available in **Malaysia** by Citigroup Global Markets Malaysia Sdn Bhd (Company No. 460819-D) ("CGMM") to its clients and CGMM takes responsibility for its contents. CGMM is regulated by the Securities Commission of Malaysia. Please contact CGMM at Level 43 Menara Citibank, 165 Jalan Ampang, 50450 Kuala Lumpur, Malaysia in respect of any matters arising from, or in connection with, the Product. The Product is made available in **Mexico** by Acciones y Valores Banamex, S.A. De C. V., Casa de Bolsa, Integrante del Grupo Financiero Banamex ("Accival") which is a wholly owned subsidiary of Citigroup Inc. and is regulated by Comision Nacional Bancaria y de Valores. Reforma 398, Col. Juarez, 06600 Mexico, D.F. In **New Zealand** the Product is made available to 'wholesale clients' only as defined by s5C(1) of the Financial Advisers Act 2008 ('FAA') through Citigroup Global Markets Australia Pty Ltd (ABN 64 003 114 832 and AFSL No. 240992), an overseas financial adviser as defined by the FAA, participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in **Pakistan** by Citibank N.A. Pakistan branch, which is regulated by the State Bank of Pakistan and Securities Exchange Commission, Pakistan. AWT Plaza, 1.1. Chundrigar Road, P.O. Box 4889, Karachi-74200. The Product is made available in the **Philippines** through Citicorp Financial Services and Insurance Brokerage Philippines, Inc., which is regulated by the Philippines Securities and Exchange Commission. 20th Floor Citibank Square Bldg. The Product is made available in the Philippines through Citibank NA Philippines branch, Citibank Tower, 8741 Paseo De Roxas, Makati City, Manila. Citibank NA Philippines NA is regulated by The Bangko Sentral ng Pilipinas. The Product is made available in **Poland** by Dom Maklerski Banku Handlowego SA an indirect subsidiary of Citigroup Inc., which is regulated by Komisja Nadzoru Finansowego. Dom Maklerski Banku Handlowego S.A. ul.Senatorska 16, 00-923 Warszawa. The Product is made available in the **Russian Federation** through ZAO Citibank, which is licensed to carry out banking activities in the Russian Federation in accordance with the general banking license issued by the Central Bank of the Russian Federation and brokerage activities in accordance with the license issued by the Federal Service for Financial Markets. Neither the Product nor any information contained in the Product shall be considered as advertising the securities mentioned in this report within the territory of the Russian Federation or outside the Russian Federation. The Product does not constitute an appraisal within the meaning of the Federal Law of the Russian Federation of 29 July 1998 No. 135-FZ (as amended) On Appraisal Activities in the Russian Federation. 8-10 Gasheka Street, 125047 Moscow. The Product is made available in **Singapore** through Citigroup Global Markets Singapore Pte. Ltd. ("CGMSPL"), a capital markets services license holder, and regulated by Monetary Authority of Singapore. Please contact CGMSPL at 8 Marina View, 21st Floor Asia Square Tower 1, Singapore 018960, in respect of any matters arising from, or in connection with, the analysis of this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). The Product is made available by The Citigroup Private Bank in Singapore through Citibank, N.A., Singapore Branch, a licensed bank in Singapore that is regulated by Monetary Authority of Singapore. Please contact your Private Banker in Citibank N.A., Singapore Branch if you have any queries on or any matters arising from or in connection with this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). This report is distributed in Singapore by Citibank Singapore Ltd ("CSL") to selected Citigold/Citigold Private Clients. CSL provides no independent research or analysis of the substance or in preparation of this report. Please contact your Citigold//Citigold Private Client Relationship Manager in CSL if you have any queries on or any matters arising from or in connection with this report. This report is intended for recipients who are accredited investors as defined under the Securities and Futures Act (Cap. 289). Citigroup Global Markets (Pty) Ltd. is incorporated in the **Republic of South Africa** (company registration number 2000/025866/07) and its

registered office is at 145 West Street, Sandton, 2196, Saxonwold. Citigroup Global Markets (Pty) Ltd. is regulated by JSE Securities Exchange South Africa, South African Reserve Bank and the Financial Services Board. The investments and services contained herein are not available to private customers in South Africa. The Product is made available in **Spain** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 29 Jose Ortega Y Gasset, 4th Floor, Madrid, 28006, Spain. The Product is made available in the **Republic of China** through Citigroup Global Markets Taiwan Securities Company Ltd. ("CGMTS"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan, subject to the respective license scope of each entity and the applicable laws and regulations in the Republic of China. CGMTS and CSTL are both regulated by the Securities and Futures Bureau of the Financial Supervisory Commission of Taiwan, the Republic of China. No portion of the Product may be reproduced or quoted in the Republic of China by the press or any third parties [without the written authorization of CGMTS and CSTL]. If the Product covers securities which are not allowed to be offered or traded in the Republic of China, neither the Product nor any information contained in the Product shall be considered as advertising the securities or making recommendation of the securities in the Republic of China. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security or financial products. Any decision to purchase securities or financial products mentioned in the Product must take into account existing public information on such security or the financial products or any registered prospectus. The Product is made available in **Thailand** through Citicorp Securities (Thailand) Ltd., which is regulated by the Securities and Exchange Commission of Thailand. 18/F, 22/F and 29/F, 82 North Sathorn Road, Silom, Bangrak, Bangkok 10500, Thailand. The Product is made available in **Turkey** through Citibank AS which is regulated by Capital Markets Board. Tekfen Tower, Eski Buyukdere Caddesi # 209 Kat 2B, 23294 Levent, Istanbul, Turkey. In the **U.A.E**, these materials (the "Materials") are communicated by Citigroup Global Markets Limited, DIFC branch ("CGML"), an entity registered in the Dubai International Financial Center ("DIFC") and licensed and regulated by the Dubai Financial Services Authority ("DFSA") to Professional Clients and Market Counterparties only and should not be relied upon or distributed to Retail Clients. A distribution of the different Citi Research ratings distribution, in percentage terms for Investments in each sector covered is made available on request. Financial products and/or services to which the Materials relate will only be made available to Professional Clients and Market Counterparties. The Product is made available in **United Kingdom** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. This material may relate to investments or services of a person outside of the UK or to other matters which are not regulated by the FSA and further details as to where this may be the case are available upon request in respect of this material. Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB. The Product is made available in **United States** by Citigroup Global Markets Inc, which is a member of FINRA and registered with the US Securities and Exchange Commission. 388 Greenwich Street, New York, NY 10013. Unless specified to the contrary, within EU Member States, the Product is made available by Citigroup Global Markets Limited, which is regulated by Financial Services Authority.

Pursuant to Comissão de Valores Mobiliários Rule 483, Citi is required to disclose whether a Citi related company or business has a commercial relationship with the subject company. Considering that Citi operates multiple businesses in more than 100 countries around the world, it is likely that Citi has a commercial relationship with the subject company.

Many European regulators require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of investment research. The policy applicable to Citi Research's Products can be found at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures.

Compensation of equity research analysts is determined by equity research management and Citigroup's senior management and is not linked to specific transactions or recommendations.

The Product may have been distributed simultaneously, in multiple formats, to the Firm's worldwide institutional and retail customers. The Product is not to be construed as providing investment services in any jurisdiction where the provision of such services would not be permitted.

Subject to the nature and contents of the Product, the investments described therein are subject to fluctuations in price and/or value and investors may get back less than originally invested. Certain high-volatility investments can be subject to sudden and large falls in value that could equal or exceed the amount invested. Certain investments contained in the Product may have tax implications for private customers whereby levels and basis of taxation may be subject to change. If in doubt, investors should seek advice from a tax adviser. The Product does not purport to identify the nature of the specific market or other risks associated with a particular transaction. Advice in the Product is general and should not be construed as personal advice given it has been prepared without taking account of the objectives, financial situation or needs of any particular investor. Accordingly, investors should, before acting on the advice, consider the appropriateness of the advice, having regard to their objectives, financial situation and needs. Prior to acquiring any financial product, it is the client's responsibility to obtain the relevant offer document for the product and consider it before making a decision as to whether to purchase the product.

Citi Research generally disseminates its research to the Firm's global institutional and retail clients via both proprietary (e.g., Citi Velocity and Citi Personal Wealth Management) and non-proprietary electronic distribution platforms. Certain research may be disseminated only via Citi's proprietary distribution platforms; however such research will not contain changes to earnings forecasts, target price, investment or risk rating or investment thesis or be otherwise inconsistent with the author's previously published research. Certain research is made available only to institutional investors to satisfy regulatory requirements. Individual Citi Research analysts may also opt to circulate published research to one or more clients by email; such email distribution is discretionary and is done only after the research has been disseminated.

The level and types of services provided by Citi Research analysts to clients may vary depending on various factors such as the client's individual preferences as to the frequency and manner of receiving communications from analysts, the client's risk profile and investment focus and perspective (e.g. market-wide, sector specific, long term, short-term etc.), the size and scope of the overall client relationship with Citi and legal and regulatory constraints.

Citi Research product may source data from dataCentral. dataCentral is a Citi Research proprietary database, which includes Citi estimates, data from company reports and feeds from Reuters and Datastream.