24 February 2014 | 14 pages

Western Europe

Corporate leverage

Should you be worried?

- **Credit quality past its prime** — European corporate fundamentals are probably quite far down on most investors' list of concerns. Current credit quality is indeed solid. But on most metrics the trend is unequivocally going in the wrong direction.
- **Net debt to EBITDA near a non-recessionary high** — We calculate seven different measures of net debt to EBITDA to show that leverage has risen by about ¼ of a turn from early 2011. Outside recession, leverage has seldom, if ever, been higher in the European credit market. Contrary to common perception the increase is more due to rising debt than to falling EBITDA.
- **Releveraging in the right places?** Fortunately perhaps, the credits that are leveraging up tend to be the ones that can afford it – mainly companies based in the core with a market cap of more than €20bn and leverage that is below average. By sector, the releveraging is mostly in Cyclicals and Industrials. Whether credit spreads compensate for it is another matter.
- **The Releveraging Trade** — We recommend buying protection on a basket of low-beta, low-leverage, large-cap corporates, funded by selling protection on the non-financial component of iTraxx Main. Not only is this basket extremely tight in absolute spread terms, but it is also historically very tight relative to peers.

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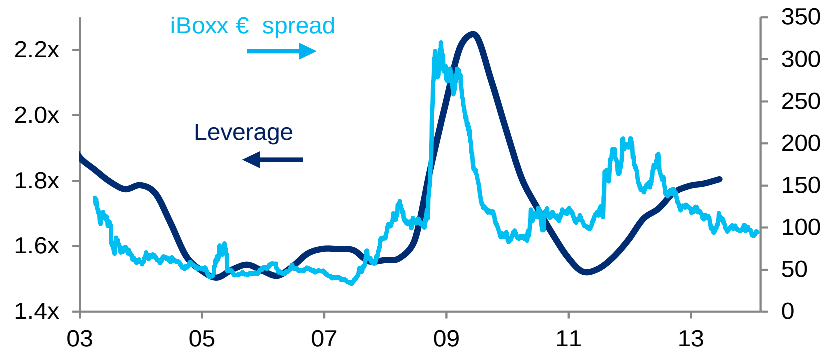
Figure 1. Net debt / EBITDA vs iBoxx € non-financial spreads, bp



Source: Citi Research

Corporate releveraging – should you worry?

Of all our assertions, one in particular seems to raise a fair few eyebrows among clients: that corporate leverage is rising in Europe. “There’s no sign of releveraging in my portfolio” or “Other charts I’ve seen don’t show the same rising trend in leverage" – the counterarguments we've heard suggests not everyone agrees.

It seems like such a simple thing to prove or disprove, but the reality is that people look at different universes and they weigh things differently. One measure may be appropriate for one analysis, but entirely inappropriate for another. You won't get an unequivocal right or wrong.

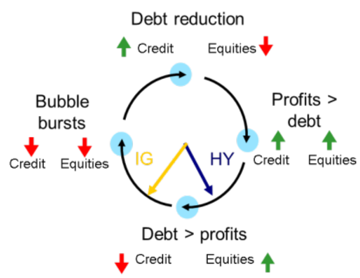
Yet faced with staunch opposition in some corners, we could not resist the temptation to test the robustness of our calculation by computing corporate leverage in (almost) as many ways as we could conceive of to get a more nuanced picture.

So what *is* happening with corporate releveraging?

Some measures like net debt to equity and interest coverage remain comparatively benign. But on our preferred metric, net debt to EBITDA, we're even more confident that corporate leverage in Europe is indeed rising. All the different calculations show a remarkably similar pattern: having risen by about ¼ of a turn over the last six quarters, net debt to EBITDA is at or close to an all-time high outside recessionary periods.

Profits may recover somewhat this year, helping to diminish the pace of releveraging. Yet with the emphasis on shareholder value (probably more buybacks and dividends than M&A), we predict the rising trend will persist.

Figure 2. "The Leverage Clock" (Europe)



Source: Citi Research

So for many companies the good old leverage clock increasingly appears to have passed prime time (Figure 2). But there is more to the story than that.

The good news is that the releveraging is being done by the companies that can afford it – the ones with a high market capitalisation. Companies with higher (starting) leverage and smaller balance sheets are still keeping leverage levels comparatively stable.

The bad news is obviously that spreads on these "releveragers" tend to be awfully tight. It is as good a fundamental excuse to move down in credit quality in 2014, as you are likely to get!

How do you trade that view? Well, we like buying protection on a basket of large companies with tight spreads and low leverage against iTraxx non-financials. The entry point is about as attractive as it has been at any point in recent years.

Getting down with corporate leverage

Discussing how to calculate corporate leverage ratios may sound a bit 'micro'. But if you want to understand how one person's leverage metric can differ a lot from another's, then you'll have to get into the calculations. So please bear with us a bit, before we get to the results.

How do you calculate the leverage ratio?

Our leverage metric has always been based on the non-financial companies in the EuroStoxx index. For the subset with consistent history, we sum up each company's net debt and EBITDA separately, and then divide to get an aggregate ratio. This method obviously gives a higher weighting to large companies. Our logic is that large companies also have a higher weighting in the indices.

A common alternative is to calculate the net debt to EBITDA ratios for individual companies and then take and average or a median to get an aggregate leverage metric. That way all companies have equal influence – large or small – like, say, the iTraxx index.

We'd dismiss any metric based on an average without hesitation. Consider a company with, say, €100mn of net debt and a negative EBITDA of one euro. The ratio of -100,000,000 is evidently meaningless and would massively distort any average. It may be an extreme example, but metrics based on averages are often distorted by individual (small) companies reporting EBITDAs close to zero.

The median is a more sensible metric. It avoids one or a few companies with a leverage ratio far away from the rest of the sample having a disproportionate effect. But for better or worse, the median may also miss out relevant information. If, for instance, the 51% of corporates with the lowest leverage do nothing, but the other 49% raise it sharply, then the median would be unaffected – in effect, ignoring releveraging of nearly half the sample. That's another reason we still prefer our standard approach.

A different issue is whether we should have used iBoxx rather than EuroStoxx. Obviously, iBoxx is a much better fit with the universe that most credit investors are benchmarked to. But it is also important to consider the consequences: The sample size will be smaller and it will include a significant number of non-European corporates. Moreover, we quite like tracking what's happening to a broader universe of 'potential' issuers rather than just the existing ones.

But to settle the debate, we've tried pretty much every combination of the above we could conceive of to see whether it makes any difference (each one is detailed in the table below).

Figure 3. The geeky bit: methodology behind the leverage ratio calculations

'Summed EuroStoxx': Take all the non-financial companies in the EuroStoxx 600 index. Sum up their individual net debt and EBITDA and calculate an aggregate ratio subsequently. *Sample size: 284 companies.*

'Summed iBoxx': Take all the non-financial companies in the iBoxx € Corporate index. Sum up their individual net debt and EBITDA and calculate an aggregate ratio subsequently. *Sample size: 129 companies (~64% of the total weight of non-financials in iBoxx).*

'Summed Combined index': Take all the non-financial companies EuroStoxx 600 and/or iBoxx. Sum up their individual net debt and EBITDA and calculate an aggregate ratio subsequently. *Sample size: 329 companies.*

'Median EuroStoxx': Take all the individual net debt to EBITDA ratios of companies in EuroStoxx 600 and calculate the median. *Sample size: 284 companies.*

'Median iBoxx': Take all the individual net debt to EBITDA ratios of companies in iBoxx and calculate the median. *Sample size: 129 companies.*

'Median Combined index ': Take all the individual net debt to EBITDA ratios of companies in EuroStoxx 600 and/or iBoxx and calculate the median. *Sample size: 329 companies.*

'Weighted iBoxx': Weigh each company's net debt and EBITDA by the market value & DV01-adjusted weight in iBoxx and divide to get an aggregate ratio. *Sample size: 129.*

For all the measures we've:

- All data is downloaded from Bloomberg.
- Only included companies with a full dataset between 2006-H1 2013. Before 2006, we've allowed the sample size to decrease.
- Converted reporting currencies into euros at prevailing exchange rates (also historically).
- Used the current index constituents (also historically).
- Split EBITDA figures that were reported on a semi-annual basis into equal amounts for the relevant two quarters.
- Assumed net debt figures reported on a semi-annual basis was the same over the two relevant quarters.
- Annualised EBITDA by multiplying the quarterly figure by 4.
- Used a centered rolling four-quarter moving average to smooth the final indices.

Source: Citi Research

Lever me up, Scottie!

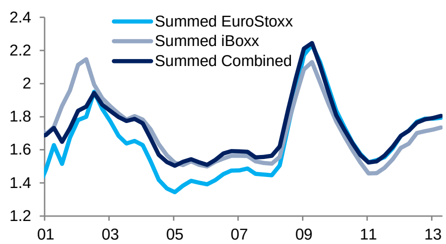
With the small print out of the way, let's look at the results:

Figure 4 shows the leverage ratios calculated on the different indices by summing up the net debt numbers and the EBITDA numbers individually and then dividing.

What strikes us the most is how little difference it has made in recent years which index you choose. Leverage has risen by about 0.3 turns from the low in Q1 2011. That equates to about 40% of the deleveraging that took place between Q1 2009 and Q1 2011 (albeit mostly due to an improvement in earnings).

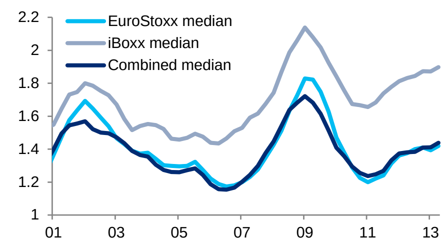
Granted, the measures do diverge a little when you go further back in time but they all suggest that leverage is as high as we have seen in the last fourteen years outside recessions. In fact, leverage is now close to the peak from the recession that followed the bursting of the TMT bubble in 2001-2002 – non-financial spreads then were as wide as 190bp.

Figure 4. Leverage ratios, summing individual constituent net debt & EBITDAs



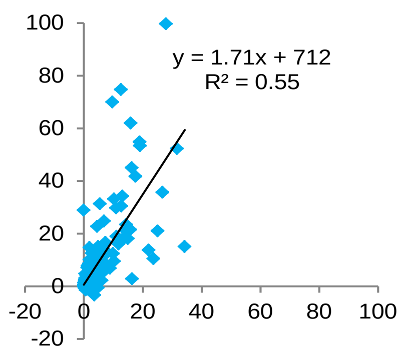
Source: Citi Research, Bloomberg.

Figure 5. Leverage ratios, median of individual ratios



Source: Citi Research, Bloomberg.

Figure 6. Net debt (y-axis) vs. ann. EBITDA (x-axis) by company, Q2 2013, €bn



Source: Citi Research, Bloomberg.

Figure 5 shows the median leverage ratios for the same three indices. Two issues are immediately apparent:

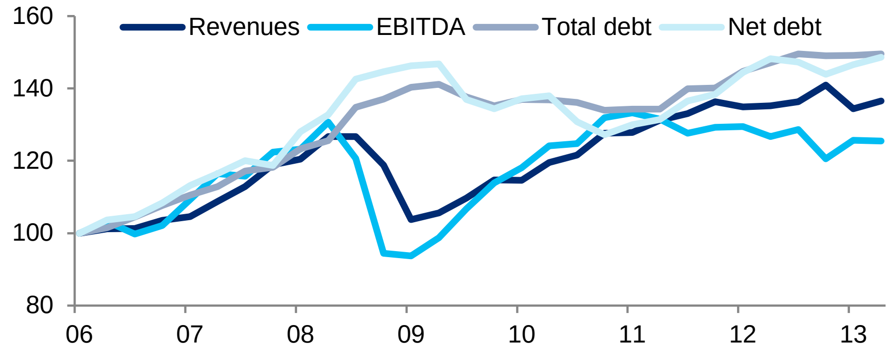
- *Why does the iBoxx median diverge from the others over time?* We'd attribute that to a sort of 'survivor' bias. Remember, the median is calculated on the current constituents. A company that chose to lever up and issue a bond recently will be in the index, but it will be dragging the median down in the periods before the releveraging took place. This impacts an unweighted index more than a weighted one. As such, it is not our favourite measure for historical comparisons.
- *Why are the median leverage numbers lower than the average leverage numbers?* The answer is that companies with larger earnings tend to operate with higher leverage than their smaller peers and that matters more in a weighted index. This is easy to show by plotting each company's net debt versus EBITDA (Figure 6); net debt rises by ~1.7 euros for each euro of EBITDA.

More broadly, though: all three median-based metrics confirm that corporate leverage is indeed rising, although the trend is perhaps slightly less pronounced (currently ~0.2 turns above the 2011 low). So the aggregate story is, to our minds, pretty unequivocal, but let's look at the detail.

Okay, let's break it down

Let's start by examining what's behind the releveraging. From Figure 7 it's pretty easy to see that most of the latest shift is due to rising debt (as opposed to falling cash levels), supplemented with a slight fall in EBITDA. The fact that EBITDA has struggled to keep pace with revenues is an indication of slight margin pressure in places.

Figure 7. Sales, EBITDA & debt, Indexed, 2006=100



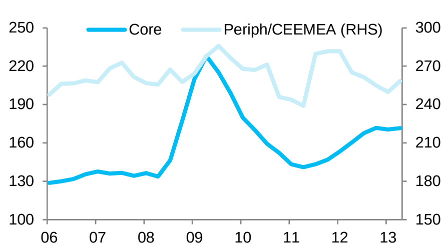
Source: Citi Research. Bloomberg. Note: Based on a consistent sample of 330 companies

But the question burning on your lips now is probably 'who is responsible for this releveraging then?' Breaking our leverage metric[1] down by region, broad sectors, and by market cap gives the broader answers:

- All the releveraging over the last couple of years appears to have taken place in 'core' European countries (including the UK, Switzerland and Scandinavia) (Figure 8). Leverage in the periphery and Eastern Europe, albeit higher, has remained remarkably stable[2]. So despite the earnings pressures from weak domestic demand, periphery companies have managed to keep leverage down through debt reduction. By our metrics, periphery net debt is down by about 15% from the peak in the middle of 2009, while net debt in the core is unchanged over the same period.

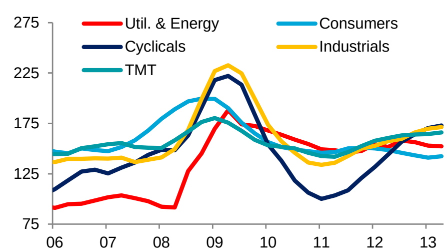
- The divergences are also quite striking between sectors (Figure 9). Companies in Consumer Goods, along with Utilities have mostly been deleveraging over the last couple of years. That contrasts somewhat with the comparatively poor spread performance of the latter two (arguably underscoring the limitations of looking at leverage as the sole metric for credit quality). Industrials and TMT have releveraged slightly. But the real shift is in Cyclicals[3], where after a sharp drop in leverage between 2009-11[4] companies have been increasing debt despite falling EBITDA over the last couple of years.

Figure 8. Leverage by broad region



Source: Citi Research, Bloomberg.

Figure 9. Leverage by aggregate sectors



Source: Citi Research, Bloomberg.

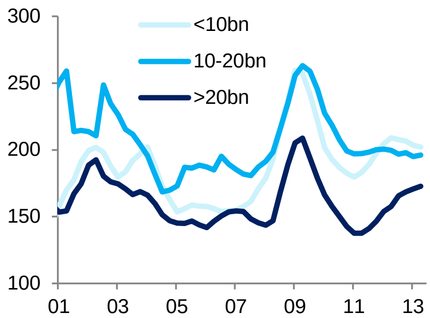
[1] The "Summed Combined index".

[2] The sample is small (only 26 companies).

[3] Here comprising basic resources, chemicals and construction

[4] Reflecting both rising EBITDA and falling debt.

Figure 10. Leverage by market cap. (€ bn)

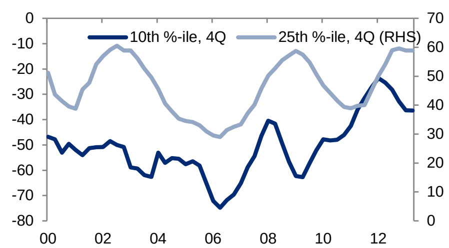


Source: Citi Research, Bloomberg

Perhaps the most interesting split is by market capitalization (Figure 10). Large caps tend to be less leveraged than smaller peers. But the entire releveraging that we've seen over the last couple of years has been in the 20bn+ cap companies. Smaller peers, in contrast, have kept leverage stable. It is encouraging, and indeed not surprising, that the companies with the greatest financial flexibility are the ones using it with funding costs at record lows.

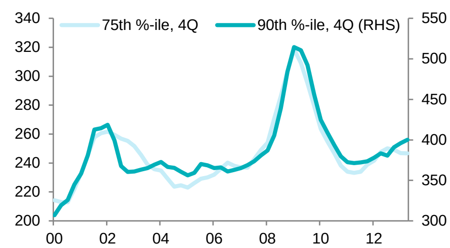
Looking at percentiles paints a similar picture. Companies with leverage in the lowest 10% and 25% are almost as leveraged (or rather "the least deleveraged") as they have ever been (Figure 11). However, companies in the 75th and 90th percentiles (i.e. with high leverage) have only seen leverage rise very slightly from the 2011 low (Figure 12).

Figure 11. Leverage, 10th & 25th percentiles



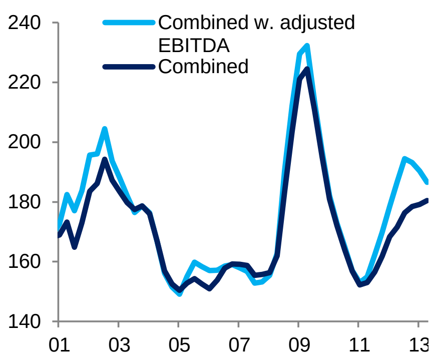
Source: Citi Research

Figure 12. Leverage, 75th & 90th percentiles



Source: Citi Research

Figure 13. Net debt to adjusted EBITDA vs. unadjusted EBITDA



Source: Citi Research, Bloomberg.

"Ah, but you're not adjusting EBITDA!"

Next, it's probably also worth discussing the counterarguments.

As any credit analyst worth their salt will tell you, it can be very misleading to compare the reported figures of one company with another. In an ideal world, we would perhaps make lease adjustments, strip out finance businesses, plug unfunded pension liabilities into net debt and so on. But beyond the amount of time it'd take, we haven't for three reasons:

Firstly, making all these adjustments in a consistent manner would reduce the sample size greatly. Secondly, it would reduce the transparency substantially. Our numbers should be reasonably straightforward to replicate.

Thirdly, we don't actually think these adjustments matter much. We are not comparing one company with another. Trends across a large number of companies over time should not be very susceptible to individual accounting quirks.

To illustrate the point we've replaced EBITDA with Bloomberg's measure of adjusted EBITDA, which strips out one-offs in Figure 13. Sure, it changes things at the margin, but not the overall picture.

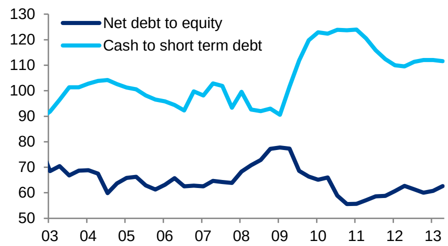
"You're missing the point: there's life beyond net debt/EBITDA"

So we remain adamant that corporate leverage in Europe is rising in aggregate. But we'll readily concede leverage isn't the only metric to judge credit quality on. And if you look at other metrics then there's no question that you can paint a more benign picture:

- Relative to equity, net debt levels remain comparatively low. During the crisis many companies bolstered the equity cushion. That arguably puts them in a slightly better position to absorb losses, before it starts to hurt bondholders (Figure 14).

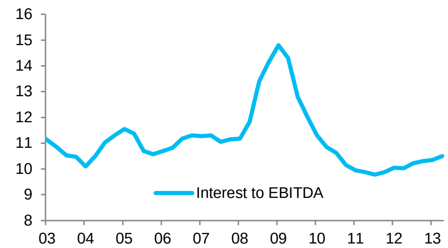
- It's also reassuring that companies retain a higher cash level relative to short-term debt than they used to (Figure 14). It obviously implies that it'll take a bit longer before a shutdown in the primary market becomes a critical funding issue.
- And perhaps most importantly, the debt service burden, measured by interest cost relative to EBITDA, is still near a record low (Figure 15).

Figure 14. Net debt/equity & cash/ST debt



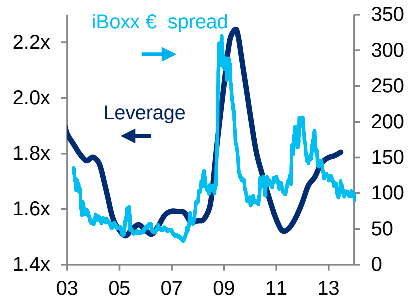
Source: Citi Research, Bloomberg.

Figure 15. Interest expense to EBITDA



Source: Citi Research, Bloomberg. Sample: 180 companies

Figure 16. Leverage vs iBoxx € non-financial spreads, bp



Source: Citi Research, Bloomberg

Conclusion: So should you be worried about leverage?

We don't dispute that corporate balance sheets remain in good health here and now – and that this has helped underpin spreads to date. And we are by no means expecting a wave defaults any time soon.

Our quibble is about direction, rather than level. Net debt to equity may be comparatively low, but as with net debt to EBITDA, it is rising. Cash coverage of short-term debt may be a month higher than pre-crisis, but it is falling. Interest coverage may be strong at the moment, but it too is weakening, despite record low interest rates and very low credit spreads. In every downturn, the deterioration in conventional credit metrics does not come from rising debt; it nearly always comes from a sudden sharp drop in earnings.

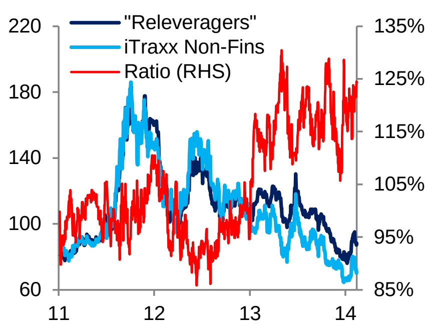
In the bigger scheme of things, the divergence between credit spreads and leverage is already very unusual (Figure 16). So if recent trends are sustained for another couple of years, then we would be entering the next downturn, whenever it comes, with very stretched balance sheets and no cushion whatsoever in credit spreads.

Will it continue? You could argue that the releveraging trend might slow down this year, as earnings recover. Our equity strategists argue for 10% EPS growth, which very roughly probably translates into 4-5% EBITDA growth. But we think those incremental profits will be deployed towards shareholders rather than bondholders. Our base case is that the rise in leverage will continue at a similar pace to what we have seen over the last couple of years.

Does it matter? It obviously leaves some scope for a painful correction should spreads recouple with fundamentals. But truth be told, even we are not expecting that to happen any time soon given current technicals in the credit market.

Yet that doesn't prevent the divergence from acting as a break on spread tightening. In the US, where corporate releveraging has progressed faster than in Europe[5], non-financial spreads were unable to rally for most of the second half of last year, even though it was clearly a risk-on environment. In Europe too, most of the spread performance this year (as set out in our Outlook for 2014) should come from financials rather than non-financials, especially in the sectors where the deterioration is concentrated, like Cyclicals and Industrials.

Figure 17. Spread performance of releveraging credits vs iTraxx Non-Fins, bp



Source: Citi Research

The Releveraging Trade

It's tempting to ask whether any of this releveraging has any meaningful impact on spreads, if it really is only done by the companies with lots of financial flexibility.

So we took the ten names in the iBoxx index that have increased their leverage most from Q1 2011[6] for which there was CDS spread history. Figure 17 shows their average spread performance versus and relative to the non-financial issuers in iTraxx.

In absolute basis point terms these "releveragers" have underperformed by around 20bp, which in relative terms translates into more than 30% versus peers since the middle of 2012.

[5] See 'Corporate leverage in the crosshairs: And why it's finally starting to matter for valuations', J. Shoup, 3 October 2013.

[6] Consisting of MAN, Solvay, PostNL, Lanxess, DSM, Daimler, Volvo, SAB Miller, Fortum and Morrison.

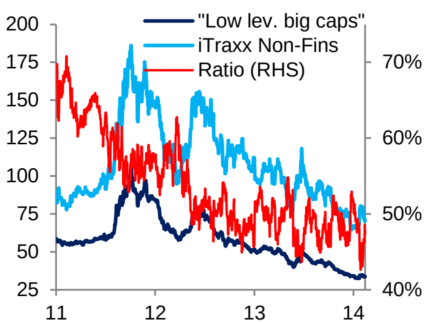
We recommend buying protection on a basket of the lowest spread, low leverage large-cap issuers in the iTraxx index against selling protection on iTraxx Non-Financials[7] (Figure 18). We would weigh positions to be carry neutral, but investors looking for a long bias could use equal notionals.

Figure 18. Buy protection on low spread, low leverage large caps funded by selling protection on iTraxx non-financials

	5yr CDS spread	Buy protection	Sell protection	Ann. Carry
Nestle	24	16.2mn		-38.8K
Unilever	26	16.2mn		-42.0K
Total	32	16.2mn		-51.7K
Henkel	32	16.2mn		-51.7K
Sanofi	34	16.2mn		-55.0K
Linde	37	16.2mn		-59.8K
Deutsche Post	37	16.2mn		-59.8K
Telenor	38	16.2mn		-61.4K
Compass Group	39	16.2mn		-63.0K
TeliaSonera	40	16.2mn		-64.7K
iTraxx Main	73		100mn	730.0K
iTraxx Senior Fins.	91	20mn		-182.0K
Total		181.7mn	100.0mn	0.0K

Source: Citi Research, Bloomberg. Note: We will track performance in our regular trading publications published by Abel Elizalde.

Figure 19. Spread performance of low lev. large cap credits vs iTraxx Non-Fins, bp



Source: Citi Research

Obviously, without the benefit of hindsight is it unlikely that the basket of names that we have seen will see the same trend going forward as our "releveragers" did above. But we like the trade nonetheless, because of the inherent asymmetry in risk reward. Not only are spreads on all the names in the basket already very tight in absolute terms, but they are also as tight as we have seen them in years relative to the rest of iTraxx non-financials (Figure 19).

We will explore releveraging candidates in more detail in an upcoming note.

[7] iTraxx Main – Senior Financials in 1/5th the amount

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.

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	12 Month Rating			Relative Rating		
Data current as of 31 Dec 2013	Buy	Hold	Sell	Buy	Hold	Sell
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