



The unexpected impact of lease accounting

Accounting Lifeguard is a new research product that navigates the murky waters of tax and accounting. Written in plain English, it is the one accounting report a generalist equity investor needs to ensure they understand the impact on stocks.

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Some investors think the new lease accounting rules will only change numbers on a page with no cashflow impact. That is mistaken. When they take effect in late 2018, the actual cost of borrowing will change for some firms. Lawmakers themselves have admitted the new clarity into firms' leverage will cause this. As a result, corporate bonds and debt facilities could be repriced. Of course, some investors estimate this effect but the new rules may reveal different numbers.

Currently, rating agencies apply a multiple of between three and ten to annual lease expense to estimate a company's total liability. Analysts and investors also do this. The new rules, however, require a company to discount its future lease commitments to bring them on balance sheet. The problem is nailing down the discount rate. In a new note, the International Accounting Standards Board endorsed the appropriate incremental borrowing rate - a very helpful clarification.

Using this guidance, we created a new model to identify the stocks that benefit and those which may not. We found the median S&P 500 company's capitalised lease obligations halve under the new rules compared with the commonly-used 'Rule of Eight' method, mainly due to lumpy lease expiry profiles. We found 34 stocks, though, that may see their lease liabilities rise. These include: Universal Health Services, Target, Lowe's, Illumina, Whole Foods Market and Intuit.

Eyeing the future, we then used interest rate expectations and dug through the notes in corporate accounts to estimate how companies' lease liabilities will change over the coming four years as old leases are renewed. We identify 18 companies that may see their lease liability fall by 20 per cent. We also note which stocks may offer an unpleasant surprise.

Finally, we calculate the effect on corporate leverage. For simplicity we use the debt to equity ratio, however, other metrics will be similarly affected. We find 48 firms will have a debt/equity ratio more than 20 per cent better than current levels in four years' time. Meanwhile, 12 firms will see their ratios deteriorate a little.



Creating a new model to estimate the leverage impact of lease accounting rules

Most investors accept they will be wrong-footed when companies eventually disclose their capitalised lease liabilities. The question is by how much. One method investors have used to estimate the figure is the 'Rule of eight'. That is, they multiply a company's operating lease expense by eight. Of course, this rule of thumb is far from scientific. So the recent nod of the International Accounting Standards Board towards using the appropriate marginal borrowing rate as a discount rate under the new rules means investors can now more accurately compare their estimates for individual companies. Of course, US companies fall under the FASB's jurisdiction, but the close degree of cooperation between the FASB and the IASB on the lease accounting standard gives weight to the latter's judgement.

To create our estimates (see worked example in figure 6), we examine the schedule of the expiry of lease liabilities in the notes of corporate financial reports. Where lease expiries fall into the last bucket of "greater than five years", we estimate the average length of the bucket of leases by dividing the total future minimum lease payments by the amount to be paid over the next 12 months.

We can then discount the amounts disclosed for each time period at the company's pre-tax weighted average cost of debt. While this may not be the company's theoretical marginal cost of debt, given that the most frequently leased items are buildings and other tangible items, the marginal cost of debt for these items will tend to gravitate towards the company's weighted average cost of debt, admittedly with some margin for error.

Using this method shows a substantial gap with amounts calculated using the 'Rule of eight'. In fact, this discounted method shows that the median company in the S&P 500 has an operating lease value half that of the figure calculated under the 'Rule of eight'. This is similar result to estimates made in 2013 by the CFA Institute and highlights just how much room there is for error and an overestimation of most companies' liabilities.

The wide gap between methods also aligns with DB's European retail team which recently conducted an analysis of companies under their coverage and found significant variations between different methods, although they compared a discounted method with a 'Rule of six'.

Real world impact

Here are four reasons why the change will have a real impact on companies.

First the good news. Negotiating a lease may become easier as currently, some companies are willing to accept more onerous terms from a lessor in order to sign a lease that can be legally defined as 'operating' and thus kept off-balance sheet. Without this need anymore, those onerous terms will vanish.

The bad news, though, is that the actual cost of borrowing for many firms is likely to rise. This is something even regulators themselves have admitted. The reason is that creditors will have clarity on the full extent of a company's liabilities.



For some, they may be lower than expect. Others, however, may throw up a negative surprise of higher liabilities. As companies renew existing debt facilities with their lenders, the newly-disclosed liabilities will almost certainly factor into the discussion.

Whether or not actual interest expense rises, the reported expense in the P&L will rise for non-US firms. This is because the inherent interest amount in each lease payment will be split out separately. American firms, however, will have relief from this rule and will disclose their operating lease payments without splitting this out. In addition, the additional interest charges should be front-loaded in keeping with the usual split of principal and interest under a loan repayment schedule. This means non-US companies with many new leases will report a higher interest expense than otherwise identical companies with identical leases that have a nearer expiry date.

Finally, there is the flow on effects on loan covenants and closely-followed operating metrics. Take, for example, a company with a 20-year lease on a building. Assume an annual lease payment to its landlord equivalent to about one-tenth of revenues, a return on assets of ten per cent and a net debt to ebitda ratio of 3.5. Under the new rules, when it brings the lease onto the balance sheet, its return on assets will fall two-thirds, interest cover will halve and net debt to ebitda will double.

Some companies may have a higher lease liability

Investors could be wrong-footed if they assume all companies will have a discounted lease profile that is lower than that calculated using the 'Rule of Eight'. Using our method, we can identify 34 stocks in the S&P 500 for which their discounted lease liability may be higher than the previously-estimated 'Rule of Eight' amount. It is important to note that this analysis is less meaningful for some companies and industries. For example, real estate firms typically have very long lease periods and some airlines aggregate regional affiliates, however, they are included here for completeness and as a base to examine how leverage changes as interest rates rise.

Figure 1: Some companies may have a higher lease liability than expected

Proportion by which the estimated lease liability using the discounted method exceeds the amount using the 'Rule of Eight'

Name	Sector	Proportion	Name	Sector	Proportion
Target	Consumer Discretionary	67%	United Continental Holdings	Industrials	59%
Nordstrom	Consumer Discretionary	61%	Delta Air Lines	Industrials	11%
TripAdvisor	Consumer Discretionary	43%	Intuit	Information Technology	38%
Netflix	Consumer Discretionary	42%	Motorola Solutions	Information Technology	22%
Kohl's Corp	Consumer Discretionary	37%	Alphabet	Information Technology	5%
CarMax	Consumer Discretionary	28%	Digital Realty Trust	Real Estate	315%
Macy's	Consumer Discretionary	21%	Federal Realty Investment Trust	Real Estate	204%
Lowe's	Consumer Discretionary	14%	AvalonBay Communities	Real Estate	139%
Darden Restaurants	Consumer Discretionary	9%	Equity Residential	Real Estate	98%
Whole Foods Market	Consumer Staples	43%	Simon Property Group	Real Estate	97%
Kroger Co	Consumer Staples	22%	Extra Space Storage	Real Estate	86%
Costco Wholesale Corp	Consumer Staples	16%	Host Hotels & Resorts	Real Estate	24%
CVS Health Corp	Consumer Staples	15%	American Tower Corp	Real Estate	6%
Citizens Financial Group	Financials	83%	AES Corp	Utilities	70%
Invesco Ltd	Financials	12%	Xcel Energy	Utilities	21%
Universal Health Services	Health Care	134%	FirstEnergy Corp	Utilities	16%
Illumina	Health Care	52%			
Biogen	Health Care	11%			

Source: Bloomberg Finance L.P. Deutsche Bank

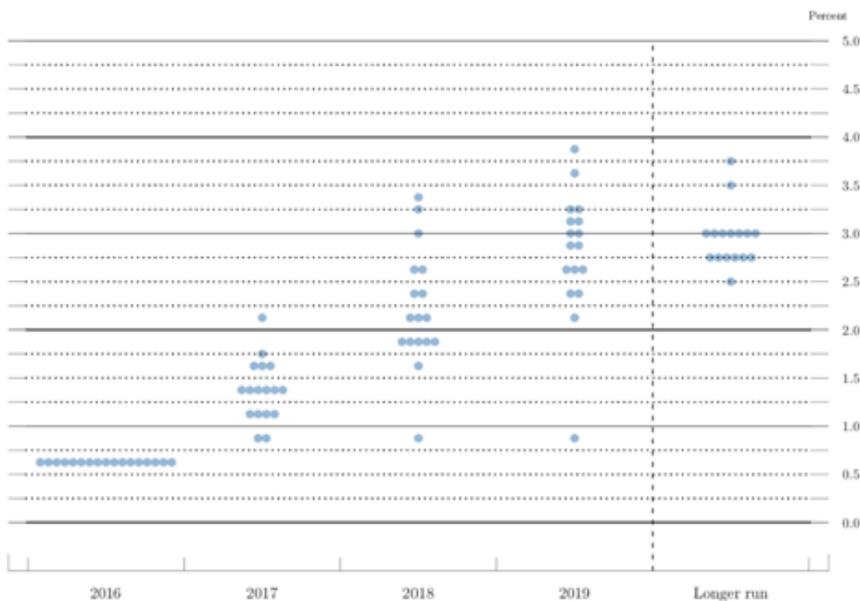


Effect as the discount rate changes

The impact of lease accounting is more complex than merely determining whether a company might have a higher or lower lease liability. That is because a key part of the new accounting rules is that the discount rate is set when the lease is first recognised. So, if the discount rate is based on the marginal cost of borrowing then as interest rates change, the amount of the lease liability will also change as new leases are added. This has the potential to cause confusion between companies that renew otherwise similar leases at different time intervals to their peers. Take, for example, two retail companies that lease their stores on identical ten-year leases. The only difference is the first renewed its lease in 2007 when base interest rates were five per cent. The second renewed its lease in 2010 when rates were almost zero. The first will report a lease liability one-quarter lower than the second. In turn, this lower liability could cause other creditors to offer more favourable terms for future borrowings to the company. Various other tangible effects are also possible as previously discussed.

Given interest rates currently appear to be on an upwards trajectory, we look at how companies might be affected. To do this, we take their current lease expiry schedule and assume that, on average, this schedule will be maintained in the future as the various leases are renewed on a rolling basis. If we assume that a company's borrowing cost rises or falls directly with the Fed Funds rate, we can estimate each company's future cost of debt using the medians at each point in time on the Fed's current dot plot of its members' expectations. For example, the current Fed Funds rate is 0.66 per cent and the dot plot indicates it will be 2.9 per cent in three years time. Therefore, we expect each company's cost of borrowing to increase 2.24 percentage points.

Figure 2: Federal Reserve 'dot plot' of interest rate expectations



Source: Federal Reserve

Using these expectations, we find that in one year's time, there will be five companies that will have a lease liability over 20 per cent lower than the level



calculated using the discount method now. In two years, that number will grow to eight; 17 in the third year, and 18 in the fourth (figure 3).

Comparison with current 'Rule of Eight' metrics

Just as important as knowing the companies for which rising interest rates will help, is those it may hurt. Of the companies that have a current discounted lease liability greater than their 'Rule of Eight' liability, almost half can be expected to see that discounted liability fall by more than one-fifth over the next four years if interest rates rise as expected. However, as interest rates rise, thereby discounting future lease payments more heavily, it will somewhat offset the increase in liability.

These effects can also be estimated over time. Our model shows that in one year, 32 companies will have a discounted lease liability greater than their current 'Rule of Eight' liability. This number falls over time to 20 companies in four years (figure 4).

Unexpected changes in leverage

We can now estimate how companies' leverage could change over time under two scenarios. First, we take a firm's existing non-current liabilities, add the discounted lease payments (excluding the portion due in the next 12 months) and compare with the company's equity. Then, we do the same thing but substitute the expected liability estimated using the 'Rule of Eight'.

We find that a majority of companies should have a better debt/equity ratio in four years' time under the discounted method compared with 'Rule of Eight' method. For some companies, the change is material. In fact, 48 firms will have a debt/equity ratio more than 20 per cent better in four years' time than investors may currently estimate under the 'Rule of Eight'. Meanwhile, 12 firms will have a worse ratio.

When we examine this effect using our discounted calculations projected four years out compared with the discounted estimations today, we find that the future debt/equity ratio is better for one-third of companies with no change in the rest. The changes are smaller but 25 companies will experience a positive change of five per cent or more. None will have a worse ratio given the anchoring effect of the discount rate in the model (figure 5).

Figure 3: Companies with a materially lower lease liability than expected

Companies expected to have a lease liability 20 per cent lower than calculated now											
One year forward			Two years forward			Three years forward			Four years forward		
Federal Realty Investment Trust	Real Estate	-25%	Federal Realty Investment Trust	Real Estate	-46%	Federal Realty Investment Trust	Real Estate	-25%	Federal Realty Investment Trust	Real Estate	-61%
Weilltower	Real Estate	-26%	Weilltower	Real Estate	-46%	Weilltower	Real Estate	-26%	Weilltower	Real Estate	-60%
AvalonBay Communities	Real Estate	-27%	AvalonBay Communities	Real Estate	-44%	AvalonBay Communities	Real Estate	-27%	AvalonBay Communities	Real Estate	-26%
Equity Residential	Real Estate	-26%	Equity Residential	Real Estate	-42%	Equity Residential	Real Estate	-25%	Equity Residential	Real Estate	-26%
Boston Properties	Real Estate	-22%	Boston Properties	Real Estate	-36%	Boston Properties	Real Estate	-48%	Boston Properties	Real Estate	-30%
			Host Hotels & Resorts	Real Estate	-38%	Simon Property Group	Real Estate	-44%	Simon Property Group	Real Estate	-46%
			Simon Property Group	Real Estate	-32%	Host Hotels & Resorts	Real Estate	-44%	Host Hotels & Resorts	Real Estate	-46%
			SL Green Realty Corp	Real Estate	-25%	SL Green Realty Corp	Real Estate	-25%	SL Green Realty Corp	Real Estate	-36%
						Kohl's Corp	Consumer Discretionary	-27%	Kohl's Corp	Consumer Discretionary	-28%
						Kimco Realty Corp	Real Estate	-27%	Kimco Realty Corp	Real Estate	-27%
						Public Storage	Real Estate	-25%	Public Storage	Real Estate	-26%
						Target	Consumer Discretionary	-23%	Target	Consumer Discretionary	-24%
						Digital Realty Trust	Real Estate	-23%	Digital Realty Trust	Real Estate	-24%
						Whole Foods Market	Consumer Staples	-23%	Whole Foods Market	Consumer Staples	-24%
						Illumina	Health Care	-21%	Illumina	Health Care	-22%
						Extra Space Storage	Real Estate	-20%	Extra Space Storage	Real Estate	-21%
						Costco Wholesale Corp	Consumer Staples	-20%	Costco Wholesale Corp	Consumer Staples	-20%
									CarMax	Consumer Discretionary	-20%

Source: Bloomberg Finance L.P. Deutsche Bank





Figure 4: The 'Rule of Eight' method does not always give a greater lease liability

Companies for which their discounted lease aggregate is greater than the 'Rule of Eight' for each future year					
Year one			Year two		
Name	Sector	Amount	Name	Sector	Amount
Digital Realty Trust	Real Estate	278%	Digital Realty Trust	Real Estate	248%
Universal Health Services	Health Care	128%	Universal Health Services	Health Care	123%
Federal Realty Investment Trust	Real Estate	116%	Citizens Financial Group	Financials	78%
Citizens Financial Group	Financials	80%	Federal Realty Investment Trust	Real Estate	63%
AvalonBay Communities	Real Estate	74%	Extra Space Storage	Real Estate	61%
Extra Space Storage	Real Estate	72%	United Continental Holdings	Industrials	48%
Simon Property Group	Real Estate	60%	Nordstrom	Consumer Discretionary	47%
AES Corp	Utilities	57%	AES Corp	Utilities	46%
Nordstrom	Consumer Discretionary	54%	Target	Consumer Discretionary	40%
United Continental Holdings	Industrials	53%	AvalonBay Communities	Real Estate	34%
Target	Consumer Discretionary	53%	Simon Property Group	Real Estate	33%
Equity Residential	Real Estate	46%	Intuit	Information Technology	31%
Illumina	Health Care	40%	Illumina	Health Care	30%
TripAdvisor	Consumer Discretionary	36%	TripAdvisor	Consumer Discretionary	30%
Netflix	Consumer Discretionary	35%	Netflix	Consumer Discretionary	29%
Intuit	Information Technology	34%	Whole Foods Market	Consumer Staples	20%
Whole Foods Market	Consumer Staples	30%	Motorola Solutions	Information Technology	14%
Kohl's Corp	Consumer Discretionary	22%	Equity Residential	Real Estate	14%
CarMax	Consumer Discretionary	19%	Kroger Co	Consumer Staples	14%
Kroger Co	Consumer Staples	18%	CarMax	Consumer Discretionary	11%
Motorola Solutions	Information Technology	18%	Kohl's Corp	Consumer Discretionary	11%
Macy's	Consumer Discretionary	14%	Macy's	Consumer Discretionary	8%
Xcel Energy	Utilities	13%	Xcel Energy	Utilities	6%
FirstEnergy Corp	Utilities	10%	Invesco Ltd	Financials	6%
CVS Health Corp	Consumer Staples	9%	Lowe's Cos	Consumer Discretionary	4%
Lowe's Cos	Consumer Discretionary	9%	FirstEnergy Corp	Utilities	4%
Invesco	Financials	9%	Delta Air Lines	Industrials	4%
Costco Wholesale Corp	Consumer Staples	8%	CVS Health Corp	Consumer Staples	4%
Delta Air Lines	Industrials	7%	Biogen	Health Care	2%
Biogen	Health Care	6%	Costco Wholesale Corp	Consumer Staples	1%
Darden Restaurants	Consumer Discretionary	4%			
Host Hotels & Resorts	Real Estate	1%			
Year three			Year four		
Name	Sector	Amount	Name	Sector	Amount
Digital Realty Trust	Real Estate	218%	Digital Realty Trust	Real Estate	215%
Universal Health Services	Health Care	117%	Universal Health Services	Health Care	116%
Citizens Financial Group	Financials	75%	Citizens Financial Group	Financials	74%
Extra Space Storage	Real Estate	49%	Extra Space Storage	Real Estate	48%
United Continental Holdings	Industrials	43%	United Continental Holdings	Industrials	43%
Nordstrom	Consumer Discretionary	40%	Nordstrom	Consumer Discretionary	39%
AES Corp	Utilities	35%	AES Corp	Utilities	34%
Target	Consumer Discretionary	28%	Target	Consumer Discretionary	27%
Intuit	Information Technology	27%	Intuit	Information Technology	26%
TripAdvisor	Consumer Discretionary	24%	TripAdvisor	Consumer Discretionary	23%
Federal Realty Investment Trust	Real Estate	23%	Netflix	Consumer Discretionary	22%
Netflix	Consumer Discretionary	23%	Federal Realty Investment Trust	Real Estate	20%
Illumina	Health Care	20%	Illumina	Health Care	19%
Motorola Solutions	Information Technology	10%	Motorola Solutions	Information Technology	10%
Simon Property Group	Real Estate	10%	Kroger Co	Consumer Staples	9%
Whole Foods Market	Consumer Staples	10%	Whole Foods Market	Consumer Staples	8%
Kroger Co	Consumer Staples	9%	Simon Property Group	Real Estate	7%
CarMax	Consumer Discretionary	4%	Invesco Ltd	Financials	3%
AvalonBay Communities	Real Estate	3%	CarMax	Consumer Discretionary	3%
Invesco Ltd	Financials	3%	Macy's	Consumer Discretionary	1%
Macy's	Consumer Discretionary	2%			

Source: Bloomberg Finance L.P./Deutsche Bank



Figure 5: Movements in debt/equity ratios over four years

Proportional decrease in debt/equity ratio (D/E in four year's time on a discounted basis compared with current D/E grossed up for 'Rule of Eight' lease liabilities)			Proportional decrease in debt/equity ratio (D/E in four year's time on a discounted basis compared with current D/E grossed up for lease liabilities calculated on a discounted basis)		
Name	Sector	Proportionate decrease	Name	Sector	Decrease
Fastenal	Industrials	59%	Whole Foods Market	Consumer Staples	19%
Quanta Services	Industrials	58%	Michael Kors Holdings	Consumer Discretionary	11%
Robert Half International	Industrials	53%	Kohl's Corp	Consumer Discretionary	10%
Paychex	Information Technology	49%	Tractor Supply	Consumer Discretionary	10%
Staples	Consumer Discretionary	49%	Foot Locker	Consumer Discretionary	8%
Genuine Parts	Consumer Discretionary	46%	Darden Restaurants	Consumer Discretionary	8%
Best Buy Co	Consumer Discretionary	42%	Ross Stores	Consumer Discretionary	8%
Ralph Lauren	Consumer Discretionary	41%	Walgreens Boots Alliance	Consumer Staples	8%
Cognizant Technology Solutions	Information Technology	41%	Coach	Consumer Discretionary	7%
Gap Inc	Consumer Discretionary	41%	Dollar General	Consumer Discretionary	7%
Yum! Brands	Consumer Discretionary	39%	Costco Wholesale	Consumer Staples	6%
Fluor Corp	Industrials	38%	Illumina	Health Care	6%
Foot Locker	Consumer Discretionary	38%	Alphabet Inc	Information Technology	6%
H&R Block	Consumer Discretionary	35%	CVS Health Corp	Consumer Staples	6%
TXI Cos Inc	Consumer Discretionary	34%	Gap Inc	Consumer Discretionary	6%
Signet Jewelers Ltd	Consumer Discretionary	34%	TIJ Cos Inc	Consumer Discretionary	6%
Sherwin-Williams Co	Materials	33%	O'Reilly Automotive	Consumer Discretionary	5%
FLIR Systems Inc	Information Technology	32%	Starbucks	Consumer Discretionary	5%
Automatic Data Processing	Information Technology	32%	Advance Auto Parts	Consumer Discretionary	5%
NIKE	Consumer Discretionary	31%	Ralph Lauren	Consumer Discretionary	5%
VF Corp	Consumer Discretionary	31%	Nordstrom	Consumer Discretionary	5%
Starbucks	Consumer Discretionary	30%	TripAdvisor	Consumer Discretionary	5%
Bed Bath & Beyond	Consumer Discretionary	30%	Under Armour	Consumer Discretionary	5%
Advance Auto Parts	Consumer Discretionary	30%	Yum! Brands	Consumer Discretionary	5%
PVH Corp	Consumer Discretionary	30%	United Continental Holdings	Industrials	5%
Accenture PLC	Information Technology	29%			
Tesoro	Energy	29%			
Estee Lauder	Consumer Staples	29%			
Michael Kors Holdings	Consumer Discretionary	28%			
Alaska Air Group	Industrials	28%			
Southwest Airlines	Industrials	28%			
Ross Stores	Consumer Discretionary	26%			
TechnipFMC	Energy	26%			
Edison International	Utilities	25%			
Coach Inc	Consumer Discretionary	25%			
Valero Energy Corp	Energy	24%			
Mohawk Industries	Consumer Discretionary	24%			
CH Robinson Worldwide	Industrials	22%			
Total System Services	Information Technology	22%			
LKQ Corp	Consumer Discretionary	22%			
Cummins	Industrials	21%			
Quest Diagnostics	Health Care	21%			
Jacobs Engineering Group	Industrials	21%			
Henry Schein	Health Care	20%			
Laboratory Corp of America	Health Care	20%			
WW Grainger	Industrials	20%			
Exxon Mobil	Energy	20%			
Varian Medical Systems	Health Care	20%			
Motorola Solutions	Information Technology	-1%			
AES Corp	Utilities	-1%			
Netflix	Consumer Discretionary	-1%			
Target	Consumer Discretionary	-2%			
Kroger	Consumer Staples	-3%			
Universal Health Services	Health Care	-4%			
Illumina	Health Care	-4%			
Whole Foods Market	Consumer Staples	-7%			
TripAdvisor	Consumer Discretionary	-7%			
Intuit	Information Technology	-7%			
Nordstrom	Consumer Discretionary	-11%			
United Continental Holdings	Industrials	-17%			

Source: Bloomberg Finance L.P. Deutsche Bank



Figure 6: Worked example

Whole Foods Market						
3,117 Total liabilities						
1,776 Total non-current liabilities						
3,224 Total equity						
477 Current annual rental expense						
3.6% Pre-tax weighted average cost of debt						
Operating lease obligation by year						
	1	2	3	4	5	5+
	433	522	557	568	569	6,485
9,134 Future min payments net of sublease income						
21 Assumed average lease length - years						
3,816 Estimated lease liability under the 'Rule of Eight'						
Discounted amount by year						
	418	486	501	493	476	3,066
5,439 Total discounted amount						
43% Difference to 'Rule of Eight' %						
Median rate predicted by Fed dot plot by year						
	Now	1	2	3	4	
	0.66%	1.40%	2.10%	2.90%	3.00%	
	Change to now	0.74%	1.44%	2.24%	2.34%	
Assumed cost of debt in future years						
		4.37%	5.07%	5.87%	5.97%	
Discounted amount in future years						
		4,962	4,570	4,180	4,135	
Difference to discounted amount now						
		-9%	-16%	-23%	-24%	
Future discounted amount - 'Rule of Eight' amount						
		1,146	754	364	319	
		30%	20%	10%	8%	
Total liabilities + discounted amount by year						
	Year					
	Ro8	Current	1	2	3	4
	6,933	8,556	8,079	7,687	7,297	7,252
Non-current liabilities + discounted amount by year - 1 yr figure						
	Year					
	Ro8	Current	1	2	3	4
	5,159	6,782	6,323	5,933	5,547	5,503
Non-current liabilities + discounted lease liability (-1yr figure) over equity						
	Year					
	Ro8	Current	1	2	3	4
	1.6	2.1	2.0	1.8	1.7	1.7
Debt/equity (under each method) - 4yr discounted debt/equity						
'Rule of 8'						-0.1
Current discounted						0.4
Change as % of original debt/equity						
'Rule of 8'						7%
Current discounted						-19%

Source: Bloomberg Finance L.P. Company reports, Deutsche Bank



Appendix 1

Important Disclosures

*Other information available upon request

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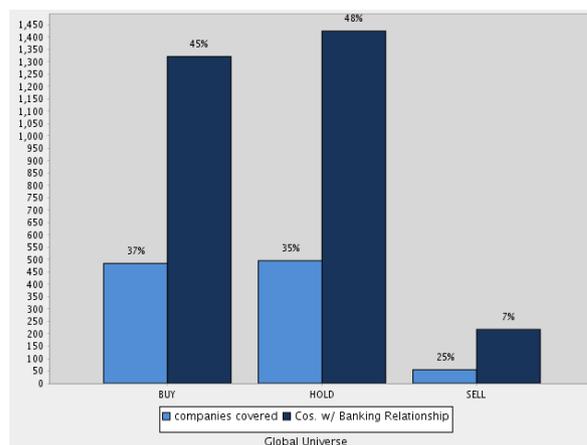
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