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Full Yield Curve and 2018's Interest Rate Spike May Boost Pension Expense in 2019 at Large Companies

Tinkering with pensions and their assumptions has been a continual process by government officials and corporations for years. In recent years, first came the Pension Adjustment Act to cure funding shortfalls in a quicker and more orderly manner. Then the MAP-21 plan in 2012 was designed to offset the "temporary" decline in interest rates by allowing companies to use modified higher discount rates in calculating Benefit Obligations (PBO) based on 25-year average bond rates rather than 2-year averages, which reduced the amount of funding required by holding PBO down. MAP-21 was designed to phase out by 2015, but like nearly every government program it has now been extended twice and now will run through 2024. We should add, it doesn't actually expire, it is designed to narrow the difference between the 2-year rate and the adjusted 25-year rate to the point where the 2-year rate is likely to be used. It is the narrowing process that keeps getting pushed out – it was supposed to start narrowing in 2013 and now does not begin until 2020.

There are two items that we have not seen as much discussion about of late but have also impacted some pension plans. The first is companies have been allowed to use a Full Yield Curve approach for the Interest Rate Expense calculation since 2016. This essentially decouples the discount rate used to calculate PBO from the discount rate to compute interest expense for pension cost. With rates falling, it effectively lowered the interest expense assumption and reduced pension cost without changing the PBO or funding requirements. Second, the spike in interest rates in 2018 – especially late in the year – allowed many companies to boost the discount rate on PBO and thus lower their total liability. At the same time, the rate to calculate interest expense often didn't rise as much giving these companies another boost to earnings via flat to down interest expense in many cases.

We looked at seven companies using this Full Yield Curve approach: Ford, General Motors, AT&T, Verizon, Honeywell, United Technologies, and Johnson & Johnson. We believe the decline in interest rates in 2019 may hurt EPS at several of these companies as the 2018 pension assumptions are changed again. Johnson & Johnson has been the most conservative of the group and a case can be made that it has punished past earnings already and may not see as much of an impact:

- **Changing to Full Yield Curve methods of computing interest expense assumptions in pension costs has given several companies a boost in EPS in recent years. This method brought in more short-term rates, which have been significantly lower and allowed the Interest Cost assumption figure to drop below the PBO Discount Rate. This change can impact EPS but does not impact the PBO for the pension.**

- **Volatility in the bond market has changed the equation further in late 2018 and early 2019. These have the potential to erase the earnings gains. Short term rates have risen faster than longer term rates since 2018 and the spread has dropped to almost zero.**

- **Companies were quick to boost the discount rate on PBO and take advantage of the higher rates overall, but most also either cut or kept their Interest Rate assumption flat, which runs counter to what the market showed. That's another reason why 2019 could see more headwinds in our view.**

- **AT&T had no benefit from a lower interest expense component in Pensions in 2018 as they boosted the interest rate assumption and it equaled the Discount Rate for PBO. The company has already called out a pension headwind in 1Q19 of 5-cents.** We think the headwind is probably about 3-cents, but AT&T could see some higher cash flow needs for the pension in 2019-2020 vs. guidance of minimal attention in that area.

- **Verizon's impact of the accounting change has been minimal of late and outside the margins it is beating forecasts.** It did not raise its interest expense assumption despite boosting the Discount Rate by 70bp. The headwind to EPS may be minimal though.

- **Ford is not beating forecasts by much and while boosting its discount rate it cut the interest rate assumption last year. We think both situations will reserve with a potential 4-7 cent EPS headwind.** Interest expense is rising this year already at Ford and they have not called warning in this area. Realistic cuts to the discount rate could double or triple the underfunding level of the pension.

- **General Motors could lose a decent source of EPS if the discount rate falls and the pension interest rate rises. GM is calling out pension as a headwind for the year already so that may not catch many by surprise. Interest expense on pensions is up $107 million in the 1H19 vs. a decline of $95 million in 2018.**

- **United Technologies cut the interest rate assumption last year and is starting at the lowest level of the companies we examined. They could see a larger increase than the others too. The discount rate hike of 2018 could reverse and combined with the abnormally low interest rate assumption – there could be a 30-cent headwind under tame forecasts for a $300 million negative swing. Interest expense is up $123 million already in 1H19.**

- **Honeywell looks to be in good shape as it never had an undue benefit from the accounting method change. It also has an overfunded pension plan and even a 50bp cut in discount rate won't change that. We saw little reason for concern.**

- **Johnson & Johnson has the most conservative assumptions. Changing accounting methods actually punished EPS in prior years. It also shows that PBO discount rates can fall below the interest cost assumptions.** We do not see much of an EPS headwind and JNJ is still underfunded and will be making cash contributions. We're not sure the outlook at JNJ would change much.

Full Yield Curve Change

Historically, companies use a two-year average of bond rates at various points on the yield curve to compute the discount rate to set PBO. The thought is there are some liabilities being paid out soon, others over a medium term, and the rest over a longer term. So, the weighted average of the term structure plays a role and the average of rates at those various terms over 24-months helps smooth out some of the short-term gyrations of bond rates.

The interest expense calculation was very straightforward. It largely took the PBO that has been discounted to a present value – adjusted it for payments made - and multiplied by the same discount rate to represent the accretion of new obligation from the passage of time. Here are a couple of examples:

Honeywell	2015	2014	2013
PBO discount Rate	4.46%	4.08%	4.89%
Interest Exp. Rate	4.08%	4.89%	4.06%

General Motors	2015	2014	2013
PBO discount Rate	4.06%	3.73%	4.46%
Interest Exp. Rate	3.73%	4.46%	3.59%

See how the PBO discount rate from 2013 is equal to the interest rate assumption in 2014 and the same with 2014's PBO rate and 2015's interest rate.

For 2016, companies were allowed to change the interest rate assumption to a full yield curve method. This would use an average that included more short term rates in that assumption. It effectively lowered the interest expense calculation assumption and decoupled it from the PBO discount rate:

Honeywell	2018	2017	2016	2015
PBO discount Rate	4.35%	3.68%	4.20%	4.46%
Interest Exp. Rate	3.27%	3.49%	3.59%	4.08%

General Motors	2018	2017	2016	2015
PBO discount Rate	4.22%	3.53%	3.92%	4.06%
Interest Exp. Rate	3.19%	3.35%	3.36%	3.73%

Notice how the even though the PBO rates are still declining, the interest expense assumptions the following year are falling faster in some cases and are below the PBO discount rate. Pension expense is still largely determined by the discount rate applied to new benefits earned (Service Cost) + Accretion of past benefits earned (Interest Cost) – Expected return on pension plan assets. The other two assumptions in most cases have been impacted by the overall decline in rates, but not the components of factors used to create the assumptions. The result has been that basic pension cost has benefited by changing how the Interest Expense assumption is formed when companies switch to the Full Yield Curve method:

Honeywell	2018	2017	2016	2015	2014	2013
PBO discount Rate	4.35%	3.68%	4.20%	4.46%	4.08%	4.89%
Interest Exp. Rate	3.27%	3.49%	3.59%	4.08%	4.89%	4.06%
Interest Exp. $	$573	$586	$600	$696	$771	$677
Old Method Int Exp $	$645	$705	$745	$696	$771	$677
Earnings Benefit	$72	$119	$145	$0	$0	$0

This table simply created an expected interest expense in dollar terms by using the prior year's PBO discount rate to estimate an interest expense under the old method and compared that to the actual interest expense. As expected, there was an earnings benefit starting in 2016 in many cases.

Interest Rate Volatility May Be a Bigger Issue in 2019 and 2020

We are not looking at this now because these companies have an area of low-quality earnings that has been happening for three-years. Instead, we believe the interest rate volatility of late 2018 and in 2019 have set the table for potential negative earnings headwinds. **We think these companies received a nice bump from the pensions in 2018 because the discount rate to calculate the PBO went up and reduced the PBO figure. Then, the interest cost was calculated on that lower PBO using a still reduced interest rate.**

The full yield curve method of determining an interest rate gives more emphasis to shorter yields. While both long and short yields have been declining, the spread has shrunk. This may create a situation where the discount rate falls faster than the interest expense rate.

Also, the PBO calculation is tied to an average of two year corporate bond rates. Those have also seen the spread decrease against the 10-year treasury. Moreover, while the PBO will lose the 2017 figures but keep the higher 2018 figures in determining a PBO discount rate, the 2019 figures replacing 2017 are coming much lower. At this point, it appears to us that the discount rate will fall in 2019 and should rates stay near these levels into 2020 – the 2018 figures start to vanish from the calculation and could push the discount rate down again.

We don't think many have forgotten last fall's activity in the bond market, but trying to keep this illustration as short as possible – here's what was happening:

Yields	10-Year	2-Year	Spread	Aaa Corps	Spread
1Q17	2.50%	1.20%	1.30%	3.95%	1.45%
2Q17	2.30%	1.30%	1.00%	3.80%	1.50%
3Q17	2.20%	1.60%	0.60%	3.65%	1.45%
4Q17	2.30%	2.00%	0.30%	3.55%	1.25%
1Q18	2.70%	2.15%	0.55%	3.70%	1.00%
2Q18	3.00%	2.50%	0.50%	3.90%	0.90%
3Q18	2.90%	2.60%	0.30%	3.90%	1.00%
4Q18	3.00%	2.80%	0.20%	4.10%	1.10%
1Q19	2.70%	2.50%	0.20%	3.75%	1.05%
2Q19	2.25%	2.00%	0.25%	3.50%	1.25%
current	1.50%	1.43%	0.07%	2.95%	1.45%

This doesn't show all the spikes and we eyeballed the average rates for the quarter. What we would expect companies to show in 2018 is higher discount rates for PBO reflecting higher rates overall and interest rate assumptions rising more than discount rates reflecting a shrinking spread between short and long term bonds. Here's what we saw:

	18 PBO	17 PBO	18 Int	17 Int
Verizon	4.40%	3.70%	3.40%	3.40%
AT&T	4.50%	3.80%	3.80%	3.60%
Ford	4.29%	3.60%	3.22%	3.40%
Gen. Motors	4.22%	3.53%	3.19%	3.35%
Honeywell	4.35%	3.68%	3.27%	3.49%
Utd Tech	4.00%	3.40%	3.00%	3.30%
J&J	3.76%	3.00%	3.60%	3.98%

All the companies took basically a 70bp increase in discount rate and lowered their PBO figure. However, only one raised the interest rate at all – AT&T by 20bp. That struck us as odd given that their new method added a greater emphasis on short-term rates, which have seen the largest increase.

As we see how various rates are starting out in 2019, **we think the PBO discount rates will decline this year. The yields on corporates are lower now than in 2017 too which should add fuel to a discount rate cut.** That should push up total PBO to calculate interest expense. Then the spread has continued to narrow between long and short rates. Both rates have fallen, but two year rates have been above the levels of 2017 for part of this year. **We would expect the interest expense to actually rise this year as the short term rates are higher now than 2017. It was the steepness in the curve that allowed the reductions in rates and expect the interest rate assumptions to likely close the gap to the PBO discount rate. In total this**

could remove the earnings gain generated by using a lower interest rate assumption at many of these companies from 2016-18.

Below, we will look at each of the companies individually. Of these companies we have a Buy rating on AT&T and a 4- EQ rating on Ford. In this exercise, we are isolating one source of potential earnings headwinds – these are not complete reviews or recommendations on the stocks based solely on pension assumptions.

AT&T – Early Adopter Has Already Seen Benefits Fade and Announced Headwinds

AT&T has benefitted from this change for more years and has benefitted from a wider change between the interest rate and discount rate. However, its interest rate never reached the low points of others and it was the only company we saw that posted a higher interest rate assumption in 2018. In fact, the interest rate assumption was equal to the prior year PBO discount rate. The EPS benefit from the full curve approach was zero in 2018.

AT&T	2018	2017	2016	2015	2014	2013
PBO discount Rate	4.50%	3.80%	4.40%	4.60%	4.30%	5.00%
Interest Exp. Rate	3.80%	3.60%	3.70%	3.30%	4.60%	4.30%
Interest Exp. $	$2,092	$1,936	$1,980	$1,902	$2,470	$2,429
Old Method Int Exp $	$2,092	$2,366	$2,462	$2,478	$2,685	$2,429
Earnings Benefit	$0	$430	$482	$576	$215	$0

This had been a larger part of earnings until 2018 than at some of the other companies.

AT&T	2018	2017	2016
Adjusted EPS	$3.52	$3.05	$2.84
Interest Benefit	$0.00	$0.05	$0.05

In fact, AT&T in the 1Q19 announced that it saw a 5-cent impact on EPS due to falling interest rates causing adjustments to PBO and assumptions. That would likely include more than just the interest rate assumption in calculating expense.

Looking at a fall in the discount rate of 50-100bp adding $3.5-$7.0 billion to PBO and the interest rate rising again by 20-30bp – we estimate that AT&T would have a 3-5 cent headwind on EPS in 2019. Conceivably, its interest rate assumption may rise less than others after it was raised 20bp in 2018. That would keep the headwind under 3-cents. The company already called out 5-cents in 1Q and has been hitting guidance or beating by 1-cent in recent quarters. It is also possible with AT&T starting at an Interest Rate assumption that is 40-80bp above others on this list – a case could be made that AT&T could see the interest rate decline too and only have the higher PBO to push up Interest Expense. That may put their headwind closer to 2-cents.

The company could make some negative news having the pension underfunding level rise from $3.8 billion to $8 billion on the lower discount rate. The company had been guiding to minimal funding needs this year.

Verizon – We Estimate Minimal Impact on EPS

Verizon adopted the full yield curve assumption in 2016. It had an immediate impact on earnings as the Interest Expense figure declined. Again, notice that the largest change happened in the first year as the rate dropped by 120bp. Last year, it only came in 30bp below the old method.

Verizon	2018	2017	2016	2015	2014	2013
PBO discount Rate	4.40%	3.70%	4.30%	4.60%	4.20%	5.00%
Interest Exp. Rate	3.40%	3.40%	3.20%	4.20%	5.00%	4.20%
Interest Exp. $	$690	$683	$677	$969	$1,035	$1,002
Old Method Int Exp $	$751	$864	$973	$969	$1,035	$1,002
Earnings Benefit	$61	$181	$296	$0	$0	$0

As the interest rate assumption has approached a level closer to where it should be historically, the benefit to earnings has declined. Using the 21%, 35%, 35% tax rates for the last three years, EPS was helped in a minor way of late:

Verizon	2018	2017	2016
Adjusted EPS	$4.71	$3.74	$3.87
Interest Benefit	$0.01	$0.03	$0.07

The company has been beating forecasts by essentially 3-cents per quarter of late. It is worth nothing that interest expense for the pension is up $22 million so far through June so it does appear the interest rate is starting to rise. We're surprised VZ did not raise the interest rate assumption in 2018.

PBO was $19.6 billion at the end of 2018 after the higher discount rate cut $1.4 billion off of PBO. Sensitivity Guidance is that a 50bp drop in the discount rate adds $1.0 billion to PBO. We would not be surprised to see a 50-100bp drop there and a 20-30bp increase in interest rate – that would produce an interest expense of $742-$799 million. The net change would be 1-2 cents of EPS headwind for 2019. We would consider that immaterial.

The larger potential news catching part for Verizon would the discount rate falling for PBO and pushing up the underfunded level. That stood at only $1.75 billion at the end of 2018 and the company is only anticipating $0.3 billion in funding in 2019 and $0 in funding until 2024. That outlook may change a bit based on a falling discount rate.

Ford May See a Jump in Interest Expense Large Enough to Miss Forecasts

Ford is one that surprises us because it still cut the interest rate assumption in 2018. We are not sure that is sustainable at this point. While the y/y change in earnings from the full curve approach declined simply due to heavier cuts in basis points in prior years, Ford still helped EPS in 2018.

Ford	2018	2017	2016	2015	2014	2013
PBO discount Rate	4.29%	3.60%	4.03%	4.27%	3.94%	4.74%
Interest Exp. Rate	3.22%	3.40%	3.46%	3.94%	4.74%	3.84%
Interest Exp. $	$1,525	$1,524	$1,524	$1,817	$1,992	$1,914
Old Method Int Exp $	$1,705	$1,806	$1,881	$1,817	$1,992	$1,914
Earnings Benefit	$180	$282	$357	$0	$0	$0

Ford	2018	2017	2016
Adjusted EPS	$1.30	$1.78	$1.76
Interest Benefit	$0.04	$0.05	$0.06

The interest benefit is a larger percentage of EPS at Ford than at AT&T or Verizon. The company has not increased its forecast for pension contributions for 2019. It has seen interest cost rise by $85 million already in the first half.

Because the interest rate fell 18bp last year, we think a 40-50bp increase this year may be reasonable and match the 20-30bp increase we used on AT&T and VZ. Also, Ford's sensitivity forecast is a 100bp cut in PBO discount rate would add $5.15 billion to the PBO. Assuming a 50-100bp cut and higher PBO – we estimate Ford could see a 4-7 cent headwind from the interest rate assumption falling. With the exception of 1Q19, Ford's recent history has been to be very close to estimates with actual results. This may be enough of a headwind to trigger and earnings miss. If rates stayed flat on the interest expense, the headwind is about 2 cents, but given the rise in costs in the 1H19 that gives us reason to believe the Interest Expense will increase more than just a function of higher PBO.

The underfunding level on US plans was only $2.5 billion on a PBO of $42 billion last year. If it rises to $5.0-$7.5 billion, future cash contributions may need to rise.

General Motors – Material Changes Likely Could Hurt EPS Beats – GM Has Been Talking about Pension Already in 2019

GM also managed to cut its interest rate assumption in 2018 and may have to face a larger increase than other companies in 2019.

General Motors	2018	2017	2016	2015	2014	2013
PBO discount Rate	4.22%	3.53%	3.92%	4.06%	3.73%	4.46%
Interest Exp. Rate	3.19%	3.35%	3.36%	3.73%	4.46%	3.59%
Interest Exp. $	$2,050	$2,145	$2,212	$2,754	$3,060	$2,837
Old Method Int Exp $	$2,269	$2,510	$2,673	$2,754	$3,060	$2,837
Earnings Benefit	$219	$365	$461	$0	$0	$0

The company has been beating forecasts by over 20 cents per quarter of late and the EPS headwind may not be as significant of a problem. Still, the size of the EPS boost from lower interest rates has been material in our view.

Gen. Motors	2018	2017	2016
Adjusted EPS	$6.54	$6.62	$6.12
Interest Benefit	$0.12	$0.16	$0.19

The company has started calling pensions a headwind for 2019. It reported an increase in interest expense of $107 million in the 1H19 vs. a decline of $95 million for all of 2018. The discount rate falling 25bp adds $1.42 billion to PBO. We would forecast a $2.8-$5.6 billion increase this year. Also, like Ford, it started the year with an interest rate down about 20bp. We think it could rise 40-50bp in 2019. Those assumptions would cost GM about 14-23 cents of headwind.

The company is still making sizeable contributions to the pension plan, the underfunded amount was $5.1 billion last year on $61.2 billion in PBO – the underfunded increase would be modest as a percentage compared to other companies here. And GM is alerting investors to the headwind.

United Technologies – Interest Assumption the Lowest of the Group and Interest Expense already jumping in 2019

United Technologies not only cut its interest assumption but is the lowest of the group we looked at. We would not be surprised if it needs to grow 60-70bp in the near term to be in the range of where the others are headed. It is interesting to note that UTX has already seen interest expense increase by $123 million in the 1H19, whereas interest expense was essentially flat last year.

United Tech	2018	2017	2016	2015	2014	2013
PBO discount Rate	4.00%	3.40%	3.80%	4.10%	3.80%	4.70%
Interest Exp. Rate	3.00%	3.30%	3.40%	3.80%	4.70%	4.00%
Interest Exp. $	$1,117	$1,120	$1,183	$1,399	$1,517	$1,373
Old Method Int Exp $	$1,266	$1,290	$1,426	$1,399	$1,517	$1,373
Earnings Benefit	$149	$170	$243	$0	$0	$0

The company has been beating EPS forecasts by over 11-cents per quarter of late so the pension headwind may not be a material issue here. The pension benefit for the last couple of years is only about 2% of EPS.

Utd Tech	2018	2017	2016
Adjusted EPS	$7.61	$6.65	$6.61
Interest Benefit	$0.15	$0.14	$0.19

Still the size of the jump in interest rate may become material. Their pension sensitivity guidance is that 25bp of lower discount rate is $1.06 billion added to PBO. We would then assume a 50-100bp cut there and a 60-70bp increase in interest rate. That would cost them $0.29-$0.40 in EPS in 2019. That would be an increase of $300-$400 million and they already had $123 million in higher costs without spelling out the full reasons. Given the discount rate is already at 4.0% and likely to fall, but probably not through the interest rate figure – it would make us believe this headwind would come in at the lower end of this forecast.

Honeywell – The Benefits to the Accounting Change Were Not Material and Unlikely to Cause Much of a Headwind

The pension plan was overfunded by almost $1 billion at the end of 2018, so Honeywell lacks some of the risk of reporting too much bad news here. In fact, a 50bp cut in the discount rate would boost PBO by only $840 million and it would still be overfunded. Plus, the overall benefit to earnings of changing the interest rate assumption has been minor about 1% of EPS.

Honeywell	2018	2017	2016	2015	2014	2013
PBO discount Rate	4.35%	3.68%	4.20%	4.46%	4.08%	4.89%
Interest Exp. Rate	3.27%	3.49%	3.59%	4.08%	4.89%	4.06%
Interest Exp. $	$573	$586	$600	$696	$771	$677
Old Method Int Exp $	$645	$705	$745	$696	$771	$677
Earnings Benefit	$72	$119	$145	$0	$0	$0

Honeywell	2018	2017	2016
Adjusted EPS	$8.01	$7.15	$7.75
Interest Benefit	$0.08	$0.10	$0.12

So far, the interest cost is only up about $20 million in the 1H19. We still believe HON will need to raise the interest rate figure by 30-40bp. However, even with a 50-100bp drop in discount rate and the PBO rising to $16.9-$17.8 billion – EPS only gets hit 3-8 cents. Also, the low end assumes a $30 million boost to interest expense and $20 million has already happened. HON is beating forecasts by 2-4 cents per quarter. Overall, it never enjoyed a meaningful benefit to EPS by using this new interest method and won't have the same level of headwind as the others. Without a pension funding shortfall, there is unlikely to be much bad news there either.

Johnson & Johnson – Most Conservative Assumptions, Actually Punished Earnings with Accounting Change

JNJ may have other risk factors in play, but we don't see negatives to its pension assumptions. After changing to the full yield approach, JNJ's interest rate has exceeded its discount rate and it actually hurt EPS. It has the 2nd highest interest assumption to AT&T and may not see much of an increase given that its discount rate is already low and frequently below the interest figure. JNJ does provide a point – the discount rate can go below the interest rate figure. We mentioned a couple times above that may limit the interest rate growth toward the lower part of the range.

JNJ took an increase in discount rate too but took the smallest increase and is starting at the lowest figure still of the group we examined.

J&J	2018	2017	2016	2015	2014	2013
PBO discount Rate	3.76%	3.30%	3.78%	4.11%	3.78%	4.78%
Interest Exp. Rate	3.60%	3.98%	4.24%	3.78%	4.78%	4.25%
Interest Exp. $	$996	$927	$927	$988	$1,018	$908
Old Method Int Exp $	$913	$880	$899	$988	$1,018	$908
Earnings Benefit	-$83	-$47	-$28	$0	$0	$0

The company has been beating forecasts by 2-6 cents per quarter of late and then had a large beat in 2Q. It has actually hurt its earnings by 1-2 cents per year by changing to its new interest rate assumptions:

JNJ	2018	2017	2016
Adjusted EPS	$8.18	$7.30	$6.73
Interest Benefit	-$0.02	-$0.01	-$0.01

This has been immaterial either way. JNJ is still underfunded on the pension by nearly $5 billion on the PBO of $31.7 billion so it will be funding the pension either way also. So much of the news here is unlikely to change for JNJ. Our estimate is there could be a 3-5 cent headwind if the interest rate assumption rises 20-30bp and the PBO discount rate falls 25-50bp. We would lean very much toward the low-end here which would be $100 million of additional expense and the company has already reported a $48 million increase in the 1H19.

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