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November 2, 2018 05:55 PM GMT

Muni Strategy Dashboard | North America

Swimming Against the Outflows

Outflows should continue in November, but we remain constructive. Returns turn well before outflow cycles end. S&P's methodology change appears priced in, ratios are higher, taxes are up, and supply should be a tailwind into year-end.

MORGAN STANLEY & CO. LLC

Mark T Schmidt, CFA
STRATEGIST
Mark.Schmidt1@morganstanley.com +1 212 296-8702

Michael D Zezas, CFA
STRATEGIST
Michael.Zezas@morganstanley.com +1 212 761-8609

Alexander W Ventriglia
STRATEGIST
Alexander.Ventriglia@morganstanley.com +1 212 761-3462

We expect outflows to continue, but aren't too bothered by it. How do you forecast fund flows? Upon closer inspection of the factors that tend to drive outflows, we find that flows momentum remains the best predictor. Said more simply, last month's flows are a good gauge of this month's flows. Crucially, both monthly and daily series suggest that *flows momentum is a stronger predictor than market returns:* it takes more than one or two bad (or good) months of returns to shift a flow cycle. Although a lot of the variation remains unexplained, we think it's reasonable to expect outflows of about 0.5% of total net assets next month, given weakness this month. Extremely strong or weak total returns would only move this base case estimate by one or two tenths. Still, we believe investors shouldn't be too bothered by this. As we've previously demonstrated, markets tend to bottom well before outflows end (see *Constructive Cycle Turn Ahead*).

A good call from TMI for higher ratios in October portended a better starting position for munis in November. TMI accurately called higher ratios in October: the 10Y ratio rose from 82% to 87%. Although weakness in traded spreads versus evals suggests more weakness ahead, ratios are close to our year-end target of 89%: we like the market at these levels, even if getting there required giving up excess returns.

BABs refinancing: Resurgent, but Not Risky: The IRS clarified the rules around refunding BABs. With $50bn in BABs hitting their first call dates in 2019 and 2020, the news implies upside to next year's refunding forecast. For now, however, we think negative net supply will provide a light tailwind to the market. Our new money model has scored well, but we've underestimated refundings; gross is tracking to end the year at $340bn (versus our 2018 forecast of $315bn).

S&P's Methodology Change - Mostly in the price; After much anticipation, we have sensed relatively little volatility in dedicated tax spreads affected by S&P's methodology change. A few deals have gone day-to-day, but this is likely due to outflows and rates volatility (not necessarily a ratings change). Compare this to the impact of COFINA, where good news for bondholders has outweighed any notch changes: COFINA's 75% YTD return has driven essentially all of the dedicated tax sector's YTD outperformance versus the main index.

Exhibit 1: IG munis underperformed USTs and corporates in October

Muni Excess Returns vs Treasuries		
Index	YTD	MoM
S&P Muni IG Index	0.4%	-0.6%
S&P Muni Short Index	0.4%	-0.2%
S&P Muni Intermediate Index	0.7%	-0.5%
S&P Muni 20Y+ Index	1.5%	-0.9%

Muni Excess Returns vs Corps		
Index	YTD	MoM
S&P Muni IG Index	-0.1%	-0.3%
S&P Muni HY Index	5.5%	0.8%

Source: Morgan Stanley Research, The Yield Book, Bloomberg, S&P Dow Jones Indices; As of October 31, 2018.

Exhibit 2: Munis fall 0.7% in October, reversing YTD gains.

Muni Sectors	October	Year 2018	Prior 12 Months
IG	-0.6%	-1.1%	-0.7%
Main	-0.7%	-0.8%	-0.3%
High Yield	-1.2%	4.2%	5.6%
BABs	-8.0%	-11.1%	-9.9%
Short	0.0%	0.8%	0.3%
Power	-0.5%	-0.7%	-0.3%
Intermediate	-0.5%	-0.8%	-0.8%
Utilities	-0.6%	-0.9%	-0.4%
Main	-0.7%	-0.8%	-0.3%
GO	-0.7%	-1.3%	-0.9%
Transportation	-0.7%	-1.3%	-0.6%
Water/Sewer	-0.7%	-1.5%	-0.9%
Education	-0.7%	-1.2%	-0.4%
Hospital	-0.8%	-1.3%	0.0%
Housing	-0.9%	-1.1%	-0.3%
Long	-1.2%	-1.6%	0.0%

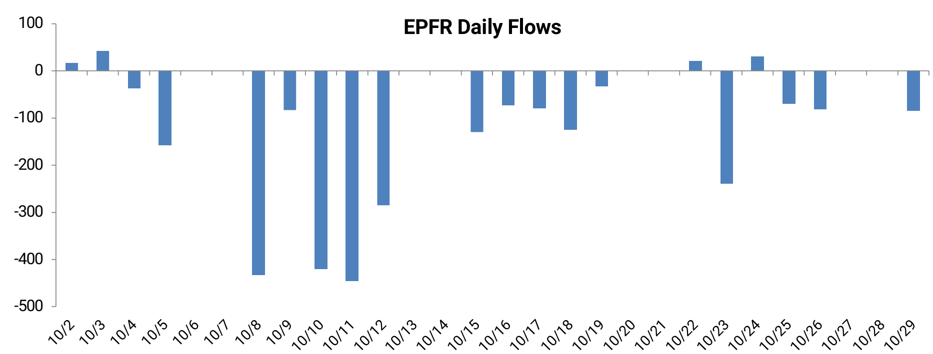
Source: Morgan Stanley Research, S&P Dow Jones Muni Indices

When will outflows end?

- We look statistically at the frequency, duration, and drivers of outflow cycles.
- We find evidence that flows momentum matters more than returns. Similarly, negative returns must be sustained and substantial to overpower an inflows cycle.
- Our models imply that October outflows of around 0.7% of total net assets may be followed by November outflows of about 0.5% of assets - plus or minus a few tenths depending on market returns and unexplained factors.
- Headline risk matters, and may account for the unexplained variation (40%) in the flows data.

How bad is the current outflow cycle? Although we're inclined to look past outflows when forecasting the market (one reason why we're constructive on munis right now), mutual fund managers lack that luxury. Thus, we take a step back from our usual focus on market returns, and instead think about flows as a variable worth forecasting in and of itself.

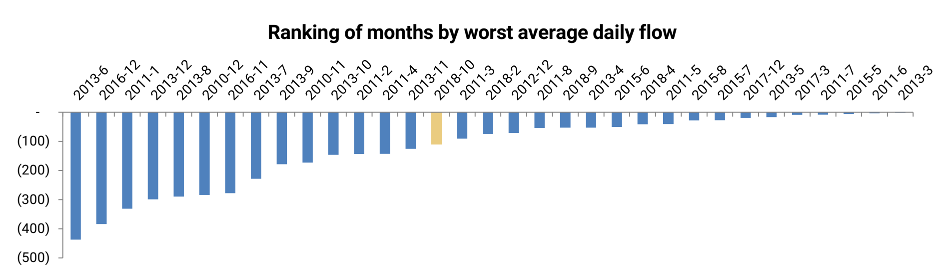
Exhibit 3: Outflows ongoing in October



Source: Morgan Stanley Research, EPFR

The first step is to ask how bad the current outflow cycle is. 2013-like daily outflows of $400mn+ the week of October 8 made this month (October 2018) the fifteenth worst month since 2009. That daily average flow (-$100mn) is firmly in the bottom quintile of flows. Still, it is less than a third of the outflows registered in 2010, 2013, or late 2016.

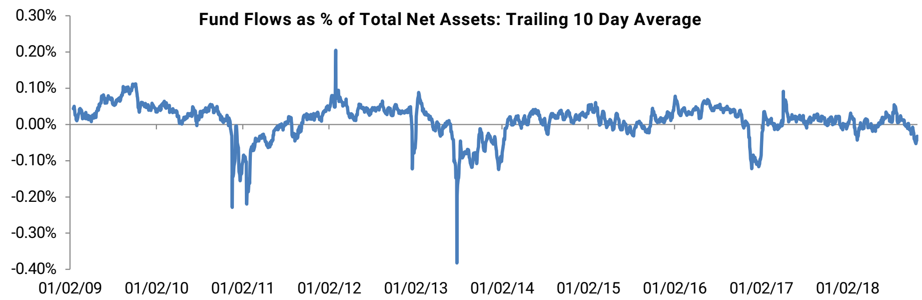
Exhibit 4: Since 2009, October 2018 was the 15th worst month for average daily fund flows



Source: Morgan Stanley Research, EPFR

Similarly, if we standardize flows by total net assets and take a trailing average, we get a view of only a moderate outflow cycle. On a trailing 10-day average basis, we've been in an outflow cycle for about 30 consecutive days. By comparison, the 2016-17 outflow cycle was around 45 days long; the 2013-14 cycle was 170 days long, and the 2010-11 cycle was 150 days long.

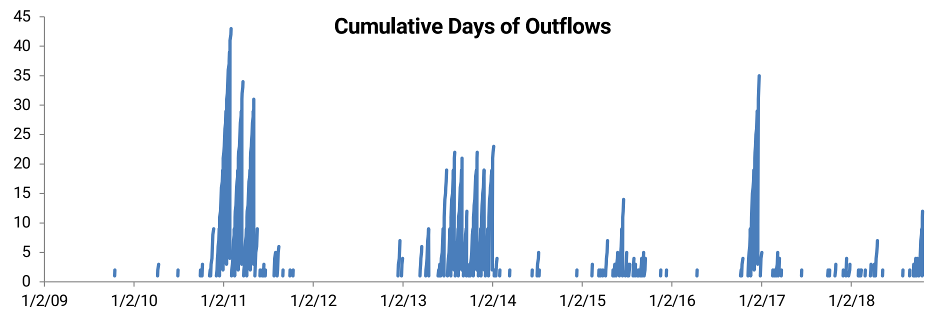
Exhibit 5: The current outflow cycle is relatively modest versus 2016, 2013 and 2010.



Source: Morgan Stanley Research, EPFR

Although we talk of outflow cycles, it might be better to think of outflows as though we were thinking of the weather: whether the forecast calls for rain is less meaningful than *how much rain* you'd expect, and *how long* you'd expect rain to last.

Exhibit 6: Outflows lasting more than 10 consecutive days are relatively uncommon - most outflows are isolated, one day events



Source: Morgan Stanley Research, EPFR

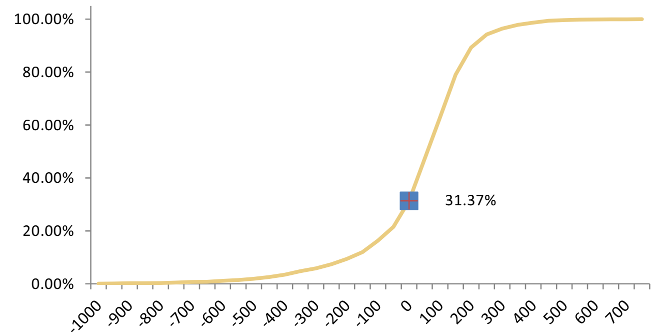
Consecutive outflows of more than five business days are rare - in fact, they constitute less than 10% of all outflow periods. Instead, 70% of all outflows have been isolated, one-day events: a light drizzle in the grand scheme of things.

Exhibit 7: Outflows of 5 or more consecutive days occur only about 10% of the time

	Count	%
All outflow days	795	
All outflow periods	318	100%
1 day isolated outflow	224	70%
2 consecutive day isolated outflow	41	13%
3 consecutive day isolated outflow	15	5%
4 consecutive day isolated outflow	10	3%
5 consecutive day isolated outflow	7	2%
6+ consecutive day isolated outflow	21	7%

Source: Morgan Stanley Research, EPFR

Exhibit 8: Outflows occur only 32% of the time: the median fund flow is a modest positive inflow



Source: Morgan Stanley Research, EPFR

The simplest way to forecast anything, perhaps, is to assume mean reversion. By that measure, we'd expect outflows to continue moderating. Indeed, the long-run average is a daily inflow of somewhere under $50mn.

To better predict flows, we experimented with multiple regression models off weekly and daily data, building off our prior thoughts on flows (see *Momentum, Mo' Problems*, January 11, 2016). Specifically:

1. **Flows follow returns:** investors add money to munis in response to positive returns. [1]
2. **Prior periods of inflows tend to signal more inflows:** formally, flows can be modeled along autoregressive lines. Somewhat more broadly, there is evidence of "herding" consistent with the nature of the muni investor base (see *5 Core Principles*, and *The Art of Municycle Maintenance*).

We ran over a dozen models across both our daily and monthly dataset. We varied the time periods (looking back over a full sample, versus just the past few years) to account for shifting correlations over time. We settled upon two specifications - one for our monthly data set and one for our daily data set. We chose robust standard errors after employing the Breusch-Pagan test to detect heteroskedasticity.

Exhibit 9: Monthly regression model

Current Month Net New Sales a linear function of:

	Estimate	Std. Error	t value	Pr(>|t|)
Intercept	-0.000587	0.000450	-1.30	0.1940
Last Month's Net New Sales as % of TNA	0.626074	0.078455	7.98	0.0000 ***
Current Month Returns	0.197241	0.033333	5.92	0.0000 ***
Last Month Returns	0.123877	0.033339	3.72	0.0003 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
Robust Standard Errors (Huber/White "sandwich" method)
Non-Robust ANOVA: Adjusted R-squared: 0.6281, F p-value: <2.2e-16

Source: Morgan Stanley Research, ICI, S&P Dow Jones Muni Indices, R. n = 223

On a monthly basis, we found that last month's flows, together with this and last month's return, explain about 60% in the variation in the current month's flow. The daily data suggested a similar pattern, plus some evidence of more rapid, noisy fluctuations.

Exhibit 10: Daily regression model

Daily Fund Flows a linear function of:	Estimate	Std. Error	t value	Pr(>|t|)
Intercept	0.0000	0.0000	-0.1463	0.8838
Yesterday's Flow (as % of TNA)	-0.3919	0.0490	-7.9914	9.39E-15 ***
Trailing 5D Av. Flow (as % of TNA)	1.3637	0.0759	17.9658	2.20E-16 ***
Trailing 5D Returns	0.0200	0.0051	3.9438	9.17E-05 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
Robust Standard Errors (Huber/White "sandwich" method)
Non-Robust ANOVA: Adjusted R-squared of 0.546, F p-value <2.2e-16

Source: Morgan Stanley Research, EPFR, S&P Dow Jones Muni Indices, R. n = 501

What conclusions can we take away from the data?

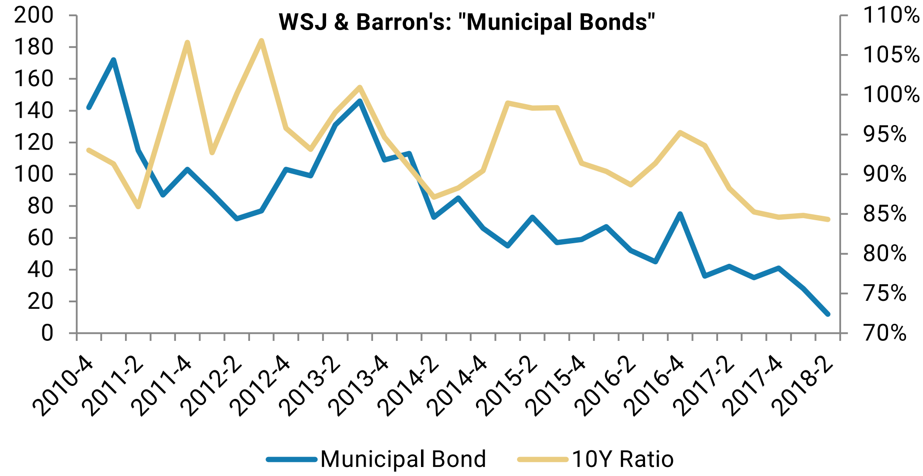
- **"Herding" behavior tends to drive muni cycles:** Muni investors tend to have a relatively homogenous set of investment objectives: long only, oriented to total returns, and unable to hedge well. In this environment, it makes sense that we should detect some momentum in fund flows.

- **However, cycles don't last forever - eventually valuations start to matter:** Momentum decays over time: we found that flows from two months ago were not significant at the 5% confidence level. In general, investors have short memories - eventually current valuations start to drive investment decisions, and "herding" dissipates.

- **Negative returns have to be sustained and substantial to overpower an inflows cycle:** In both the daily and monthly regressions (across two data sources - ICI and EPFR) our analysis suggested that near-term flows momentum was a more powerful predictor than trailing returns. Trailing returns was significant, but on a much smaller magnitude. It takes more than one bad week (or month) to change investor attitudes about munis.

- **Headline risk matters, and may account for some of the missing 30-40% of variation in flows:** Predicting investor sentiment is an art, not a science. In particular, about 40% of the variation in all of our models remained unexplained. We think headline risk might be a missing ingredient (even if it is not possible to precisely measure). We have earlier noted an approximately 35% correlation between the number of mentions of municipal bonds in the Wall Street Journal or Barron's and the 10Y Muni ratio. As with flows & returns, there could be simultaneous causality. That said, we think it is plausible that headline risk may be an unpredictable "x" factor with the potential to drive flows.

Exhibit 11: Headline risk matters: the muni ratio is weakly correlated to the number of mentions of munis in the financial press



Source: Morgan Stanley Research, MMD, Barron's Wall Street Journal

Looking ahead

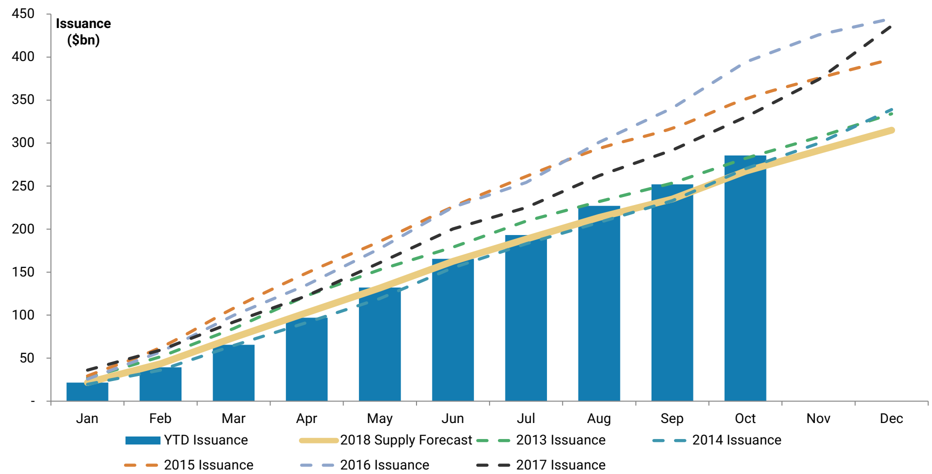
There's plenty of unexplained variation in flows data. Aside from suggesting that we have more modeling work to do, it illustrates that flows remain "noisy": outflows can more or less occur at any time. That said, we can infer a reasonable 'starting point' expectation. October outflows of around 0.7% of total net assets suggest that November outflows of 0.5% would be reasonable, with an actual number higher or lower depending on market returns and unexplained factors. Some of these unexplained considerations include:

- Will mutual fund investors take tax losses by redeeming their shares, thus accelerating outflows? *We did not find evidence of seasonality in daily testing, but our monthly dataset only goes back 18 years - not enough to infer monthly seasonality, in our view.*
- Will rates spike significantly higher? *We do not expect this, but we have heard the argument that a surprise Republican sweep in the midterm elections could send rates sharply higher. We'd note that both our daily and monthly dataset suggests that momentum matters more to flows than returns.*
- Will we get a big, negative headline? *If anything, we seem to be getting closer to a positive headline, assuming Puerto Rico's debt negotiations continue apace.*

Supply: A Tailwind Through Year-End

October's $33bn was in line with our forecast for the month and consistent with the 2H18 pickup in supply. Issuers priced $26bn in New Money and $7bn in Refunding. **Looking into the end of the year, the market is on pace to issue ~$340bn in long-term debt, which is 8% above our year-end target of $315bn. Our forecast anticipated the jump in New Money issuance based on strong economic growth and cheap debt, yet underestimated refundings.**

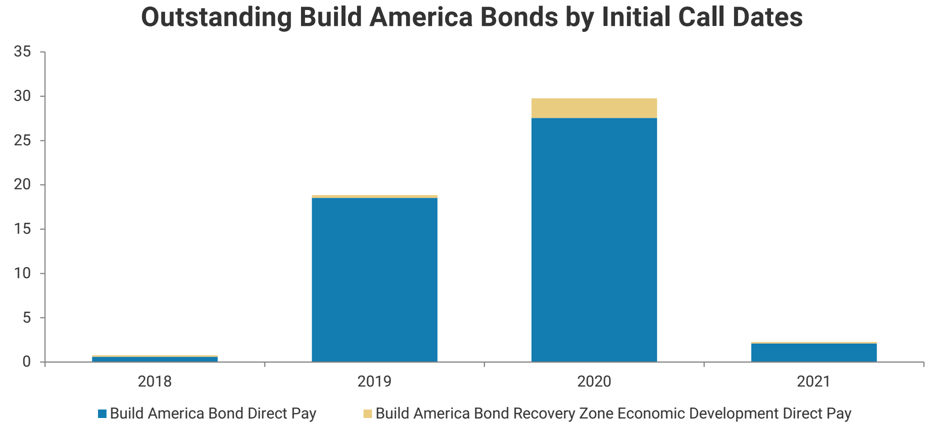
Exhibit 12: After pricing $33bn in long-term issuance in October, the muni market is on pace to price ~$340bn by year-end



Source: Morgan Stanley Research forecasts, The Bond Buyer

October brought two noteworthy developments when considering future issuance. First, the IRS clarified that tax-exempt advance refundings of taxable Build America Bonds (BABs) will still be allowed. In practice, the impact is moot since several bond counsels were already comfortable signing off on tax-exempt advance refunding of BABs; however, the IRS's nod of approval should quell any remaining qualms about using the refinancing tool. [2] Secondly, President Trump and Congress reauthorized WIFIA, providing the program $50mn in budget authority which could support ~$5bn in credit assistance for qualifying projects. Municipalities pair federal financing assistance with tax-exempt debt, so the legislation is modestly supportive of muni issuance (see *Navigating Infrastructure Policy*, May 1, 2018).

Exhibit 13: BAB advance and current refundings should become a supply topic over the next two years, as ~$50bn in BABs hit their first call dates



Source: Morgan Stanley Research, Bloomberg MSRC

Net supply trends

Supply technicals should be supportive through year-end. We forecast gross supply of $24 billion in both November and December, which should shrink the market by $8bn from now until the end of the year. If you add in coupon reinvestments, then expected net supply dips to -$31 billion.

Exhibit 14: We forecast net supply tailwinds in November and December

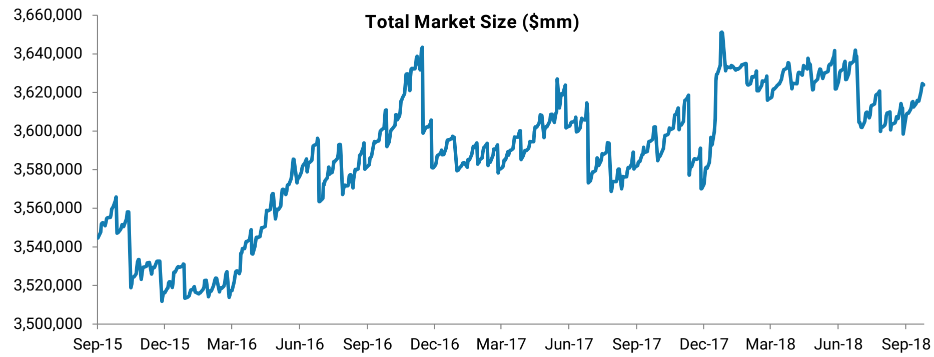
Month (2018)	Forecasted Gross Issuance	Net Supply Forecast*	Supply Tailwind / Headwind Indicator
January	22	-3	
February	22	-5	
March	30	6	
April	29	7	
May	29	2	
June	31	-4	
July	26	-17	
August	25	-13	
September	22	0	
October	32	6	
November	24	-4	
December	24	-4	
Full Year	**315**	**-28**	**N/A**

November Net Supply Indicator

Tailwind Headwind

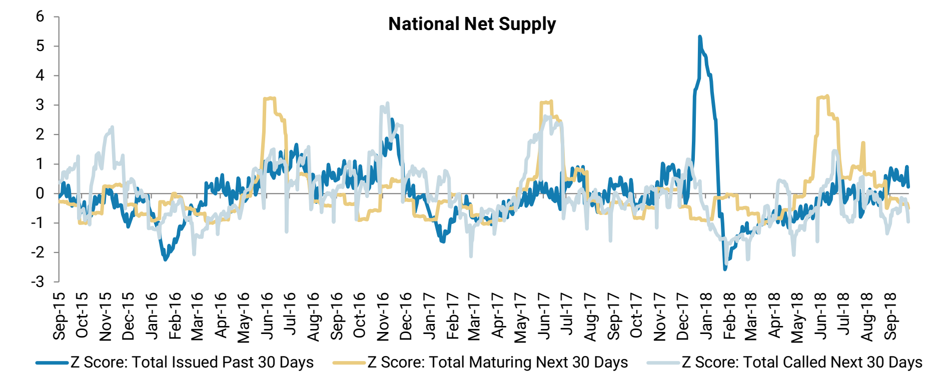
Source: Morgan Stanley Research forecasts, The Bond Buyer, ICE; *Net supply forecasts do not include coupon payments. Our full-year net supply forecast fluctuates month-to-month based on updated ICE redemption data.

Exhibit 15: Through October, the muni market grew in size by $6bn and $3bn, based on month-end to month-end and average daily size comparisons, respectively



Source: Bloomberg, Morgan Stanley Research

Exhibit 16: National net supply



Source: Bloomberg, Morgan Stanley Research

With outflows and a bearish TMI signal, we wonder: will positive winter seasonality matter this year?

One of our core principles is that, despite the hype, supply isn't useful for predicting future market moves (see *5 Core Principles for the Muni Investor: 2. Supply Doesn't Matter*, March 12, 2018). Hence, we refrain from implementing a systematic trading strategy based on supply trends. However, we have noticed a seasonal pattern of the 10Y ratio where the ratio typically declines during the winter - a period which coincides with lower supply.

Exhibit 17: Primary market activity declines during the summer and winter months, particularly during January and February.

Source: Morgan Stanley Research, The Bond Buyer

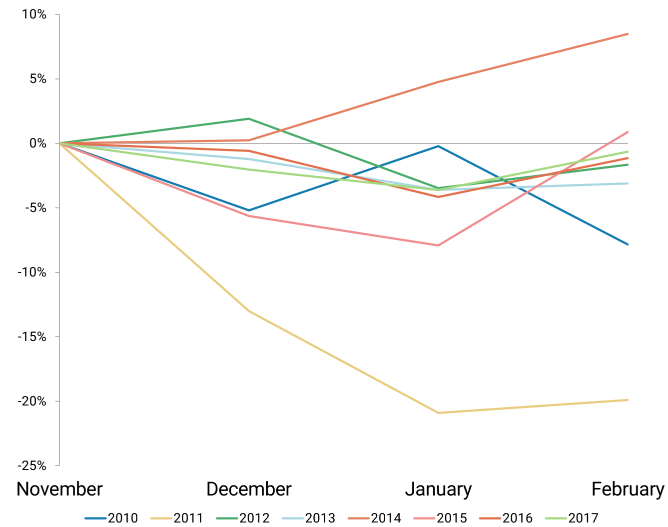
When compared to November's average ratio, the 10Y ratios of December, January, and February tend to be 70 - 200bp lower.

Exhibit 18: Median 10Y ratio changes during the winter

Change in 10Y Ratio from November to specified month (average monthly ratio)			
Observation Period	December	January	February
1982 - 2017	-0.7%	-0.9%	-1.1%
2000 - 2017	-0.7%	-0.7%	-1.0%
2010 - 2017	-1.6%	-3.6%	-1.4%
Standard Deviation in Ratio Change			
1982 - 2017	9.0%	4.7%	4.9%
2000 - 2017	12.8%	6.2%	6.5%
2010 - 2017	4.7%	7.4%	8.2%

Source: Morgan Stanley Research, MMD

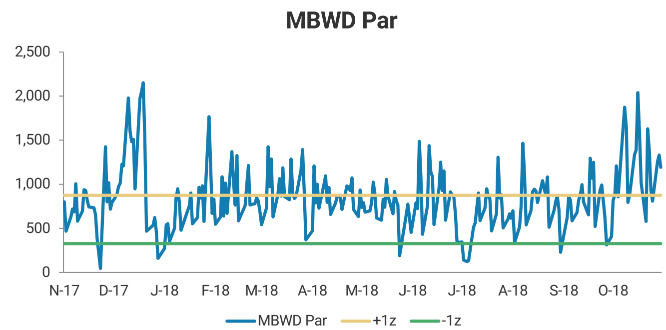
Exhibit 19: The 10Y ratio drifts lower during the winter months



Source: Morgan Stanley Research, MMD

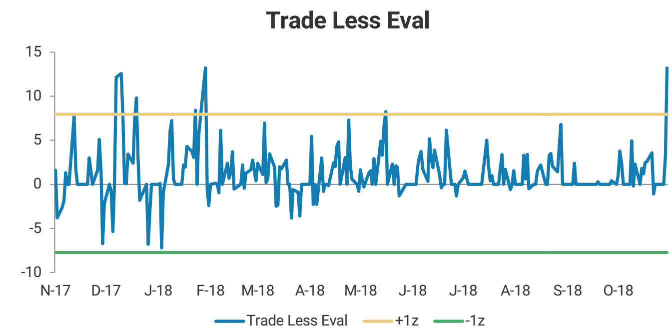
TMI In Review

Exhibit 20: Bid wanteds rose in October



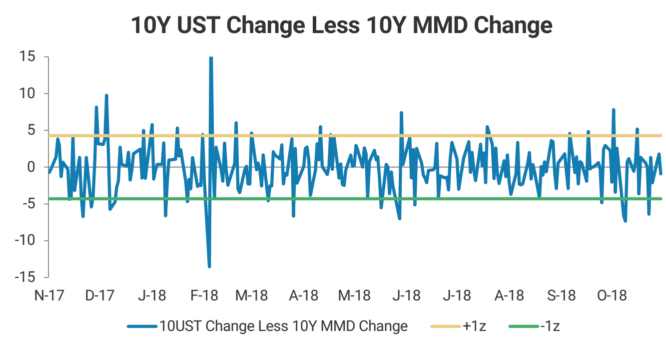
Source: Morgan Stanley Research, Bloomberg

Exhibit 21: Traded spreads weaken vs eval at month-end



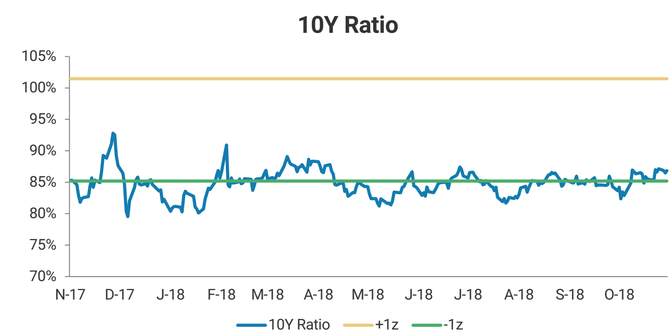
Source: Morgan Stanley Research, Bloomberg, MSRB

Exhibit 22: Munis followed USTs



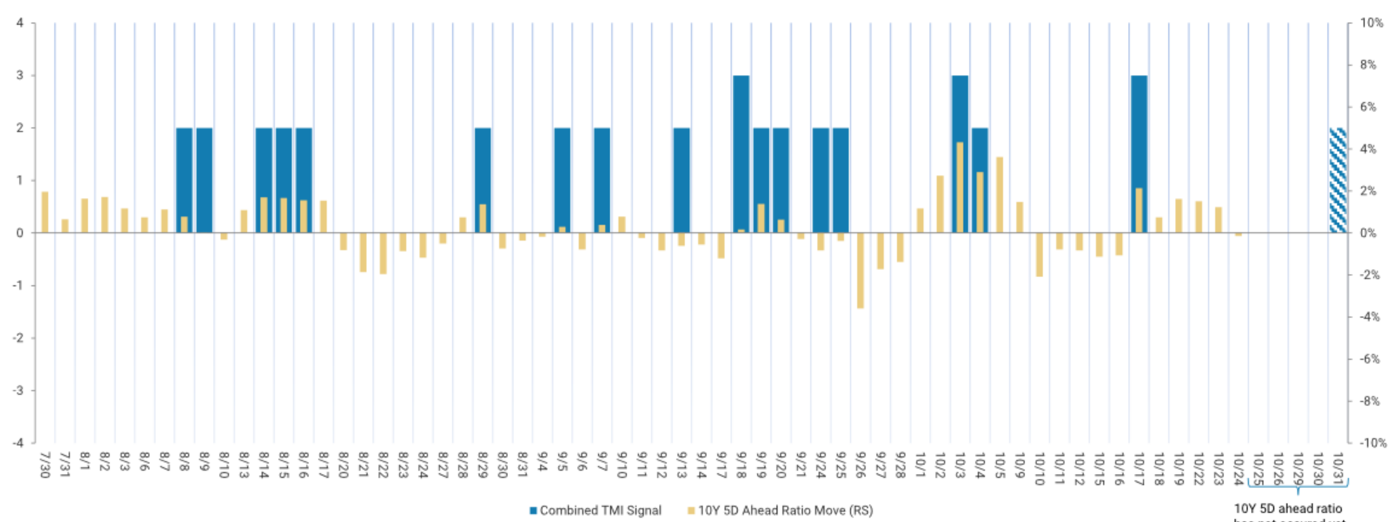
Source: Morgan Stanley Research, MMD, Bloomberg

Exhibit 23: The 10Y ratio moves higher, to 87%



Source: Morgan Stanley Research, MMD, Bloomberg

Exhibit 24: TMI accurately called the bearish ratio move in early October



Source: Morgan Stanley Research

Exhibit 25: Weak trade less eval bearish for ratio

Tactical Muni Indicator As of: 10/31/2018	Value	Z Score	TMI Score
10YUST 1D Chg Less 10YMMD 1D Chg (bp)	-0.9	-0.21	0
10Y MMD/UST Ratio (%)	87%	-0.80	0
Muni Bid Wanted Par Value ($MM)	1192	2.16	1
Trade Less Eval (bp)	13.2	1.67	1
Combined			2

Source: Morgan Stanley Research, MMD, MSRB, Bloomberg

Exhibit 26: Trailing 12-month hit rate at 69%

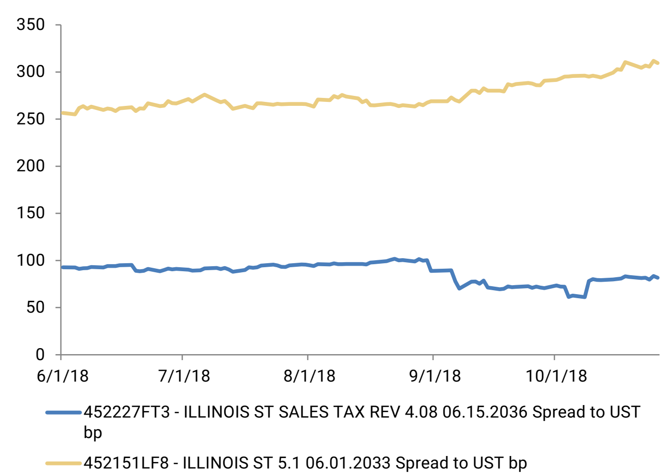
Trailing 12m TMI Statistics			
Score	Frequency	Average 5 Day Ahead 10Y MMD Ratio Change	Hit Rate
≤ -3	0.0%	N/A	N/A
≤ -2	0%	N/A	N/A
≤ -1	3%	-2.3%	100%
0	14%	-1.1%	N/A
≥ 1	82%	0.4%	59%
≥ 2	33%	0.8%	69%
≥ 3	5.2%	1.7%	77%
TMI ≥ ± 1	86%	N/A	60%
TMI ≥ ± 2	33%	N/A	69%

Source: Morgan Stanley Research

S&P's New Dedicated Tax Methodology is Already in the Price

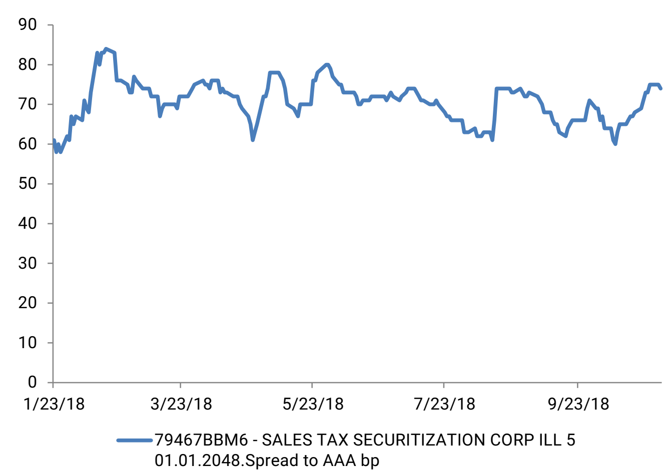
S&P's new dedicated tax methodology stands to change a number of credit ratings over time. Yet there is little evidence spreads care all that much where S&P's revised ratings end up. Illinois sales tax spreads are essentially unchanged to GO spreads in the taxable market, for example, and Chicago Sales Tax Securitization Corp debt remains within its trading range. In both cases, of course, trading is very light.

Exhibit 27: Little movement in taxable Illinois sales tax spreads vs. State of Illinois



Source: Morgan Stanley Research, MSRB, MMD

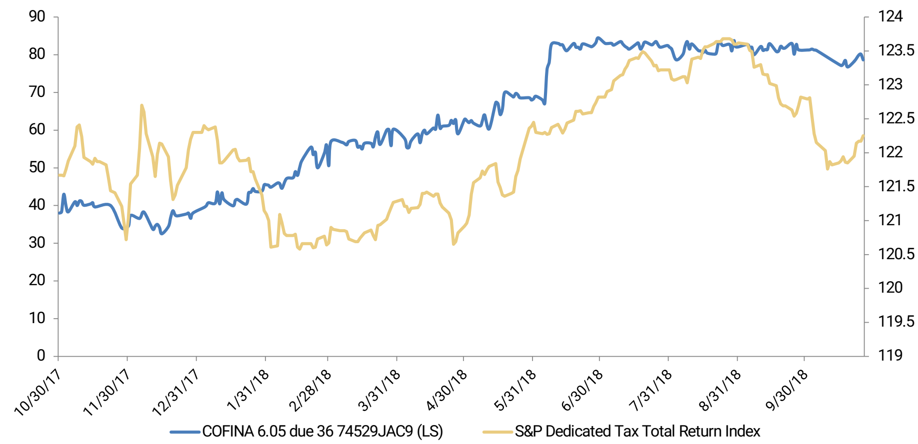
Exhibit 28: Chicago Sales Tax Securitization remains in a trading range



Source: Morgan Stanley Research, MRSB, MMD

This suggests that the revised ratings methodology is in line with how investors actually trade tax secured bonds. In fact, despite the threat of a few large downgrades in lower-rated states, dedicated tax debt has outperformed YTD. **Why? We think surging optimism in COFINA explains much of the rally.**

Exhibit 29: COFINA has significantly outperformed the dedicated tax market, bolstering sector excess returns

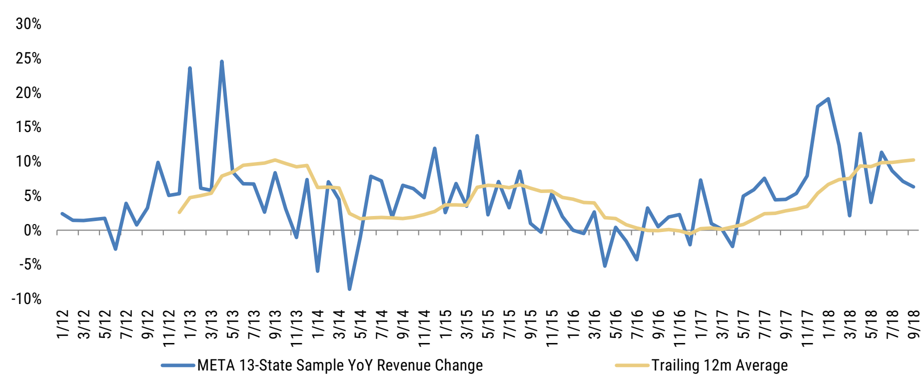


Source: Morgan Stanley Research, Bloomberg, S&P Dow Jones Muni Indices

There is $3.75bn of COFINA debt in the Dedicated Tax Index. YTD, these bonds are up 67%: a gain of $2bn that exceeds the entire excess return of the Dedicated Tax Index versus the Main Muni Index.

State tax collections: Revenue growth still positive

Exhibit 30: Our 13-state Muni Early Tax Analysis (META) aggregate of state tax collections rose 6% in September



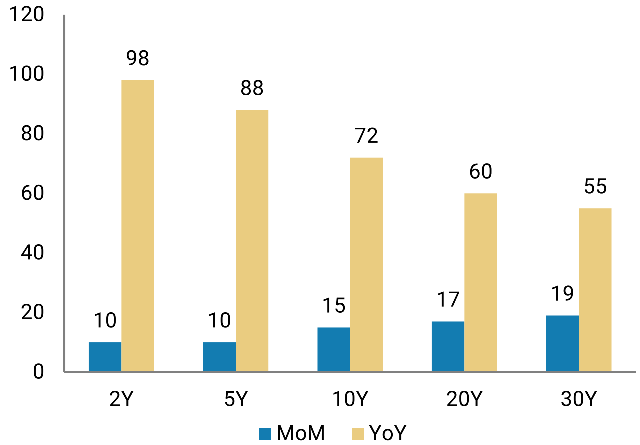
Source: AlphaWise, Morgan Stanley Research

Our 13-state META sample of state tax collections rose 7% in September; the trailing 12-month average stayed at 10%.

Rates & Curve: Slowly higher, slowly steeper

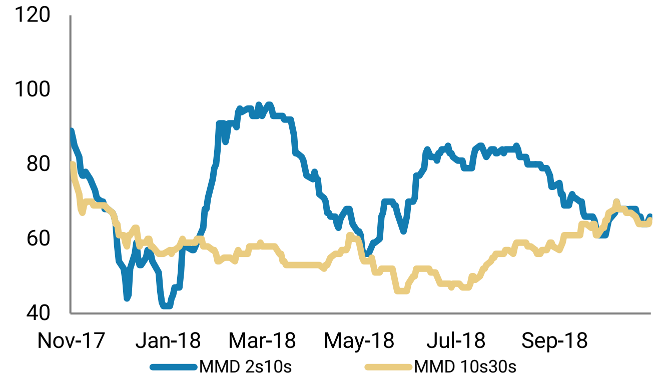
Rates edged modestly higher on the month, with about half the move coming at month-end.

Exhibit 31: A higher, steeper curve MoM



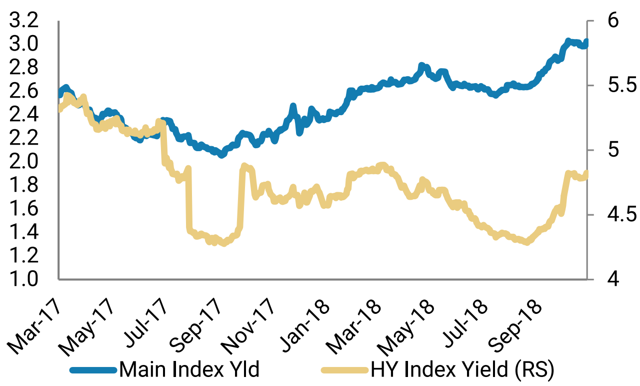
Source: Morgan Stanley Research, MMD

Exhibit 32: 2s10s and 10s30s modestly steepen



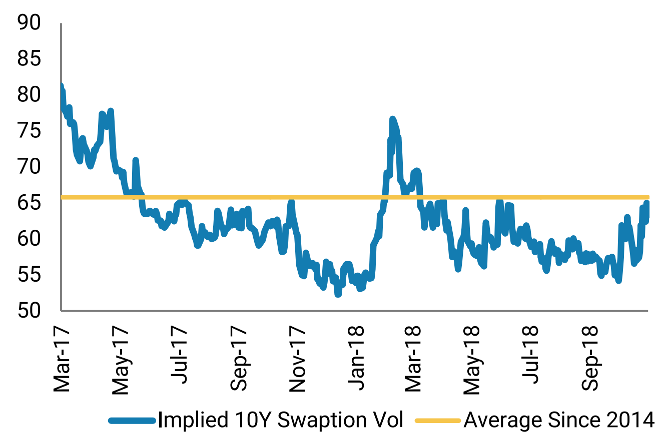
Source: Morgan Stanley Research, MMD

Exhibit 33: HY index rises 28bp, Main index rises 14bp



Source: Morgan Stanley Research, Bloomberg, S&P Dow Jones Indices

Exhibit 34: Volatility spikes higher

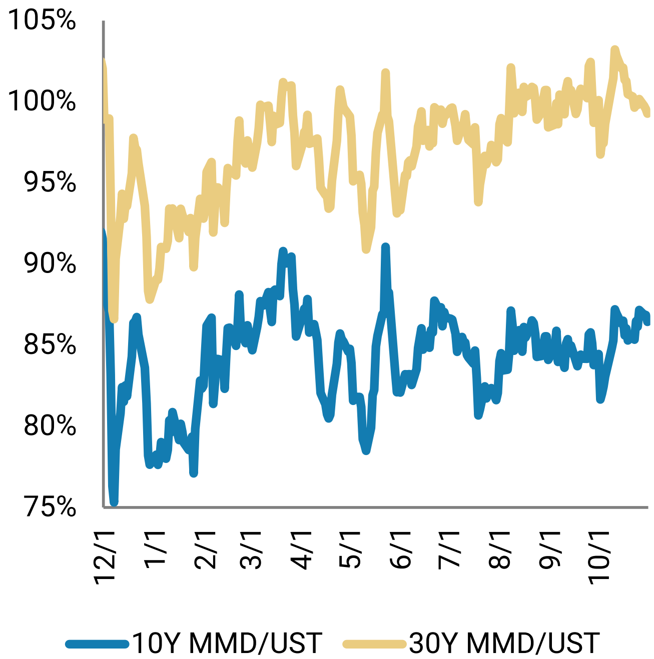


Source: Morgan Stanley Research

Relative value: Unchanged

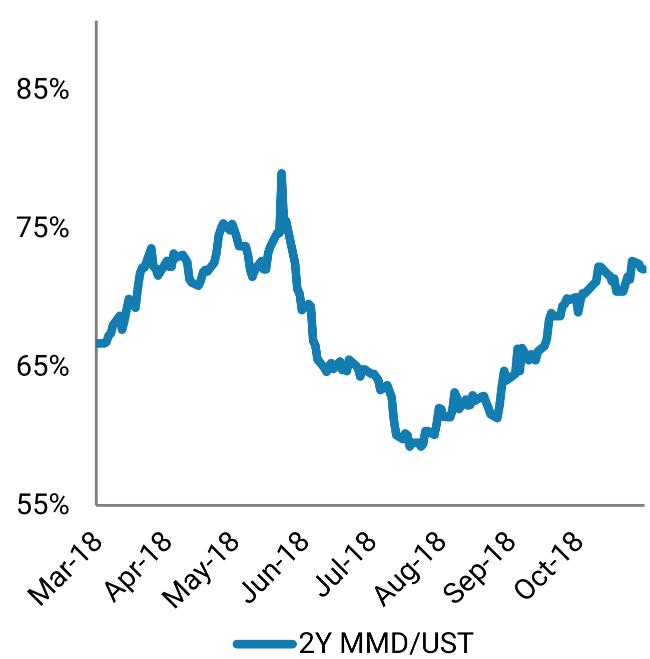
10Y and 30Y ratios moved higher on the month, with the 10Y ratio approaching our year-end forecast of 89% (the 10Y ratio finished October at 87%).

Exhibit 35: 10Y, 30Y ratio rise



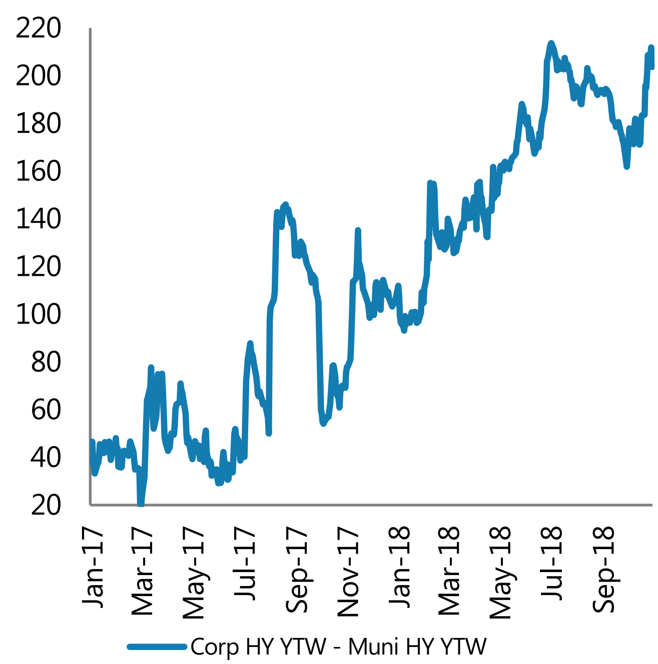
Source: Morgan Stanley Research, MMD

Exhibit 36: 2Y ratio rises to 72%



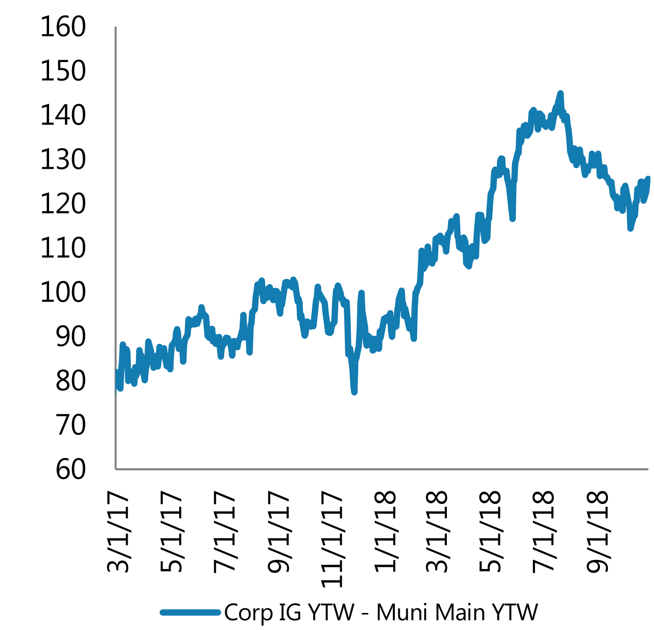
Source: Morgan Stanley Research, MMD

Exhibit 37: Muni HY outperformed Corp HY - the latter sold off 60bp in spread



Source: Morgan Stanley Research, Bloomberg-Barclays Indices

Exhibit 38: IG corps widened 6bp vs IG munis



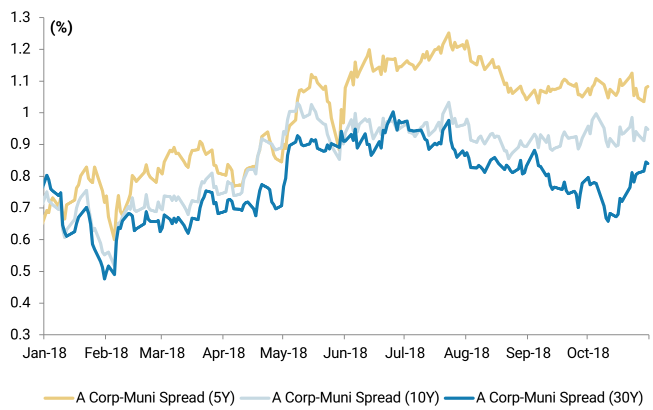
Source: Morgan Stanley Research, Bloomberg-Barclays Indices

Exhibit 39: Market-implied tax rate stabilized at 26% during October

Source: Morgan Stanley Research, The Yield Book, MMD

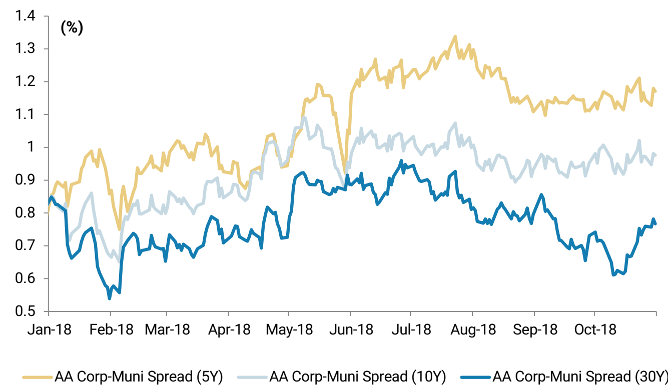
After trading rich versus corporates during the summer, IG munis stabilized at cheaper levels. The stabilization in relative value was seen in front-end and intermediate maturities, while long-end spreads were more volatile.

Exhibit 40: Single-A corp-muni spreads



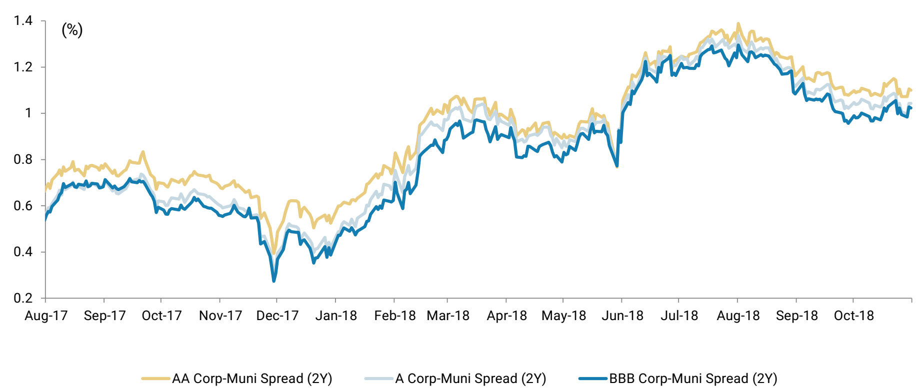
Source: Morgan Stanley Research, MMD, The Yield Book

Exhibit 41: AA corp-muni spreads



Source: Morgan Stanley Research, MMD, The Yield Book

Exhibit 42: Front-end corp-muni spreads stabilized at cheaper levels for munis



Source: Morgan Stanley Research, MMD, The Yield Book

Endnotes

1 (We acknowledge the potential for simultaneous causality, but for now we lack a proper instrument to precisely isolate causal direction.)

2 Hutchinson, Johnny. "IRS: You Can Still Issue Tax-Exempt Bonds to Advance Refund Most Taxable Bonds, Including BABs". The Public Finance Tax Blog. October 2018.

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	COVERAGE UNIVERSE		INVESTMENT BANKING CLIENTS (IBC)			OTHER MATERIAL INVESTMENT SERVICES CLIENTS (MISC)	
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Overweight/Buy	**1157**	**37%**	**305**	**42%**	**26%**	**544**	**39%**
Equal-weight/Hold	**1380**	**44%**	**335**	**46%**	**24%**	**632**	**45%**
Not-Rated/Hold	**47**	**1%**	**7**	**1%**	**15%**	**7**	**0%**
Underweight/Sell	**553**	**18%**	**82**	**11%**	**15%**	**220**	**16%**
TOTAL	**3,137**		**729**			**1403**	

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