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US Economics & Rates Strategy | North America

Treasury Market Commentary, January 2

Both manufacturing PMIs in China surprise to the downside and decline below 50, potentially contributing to concerns about global growth. German Bund, UK Gilt and US Treasury 10y yields decline significantly. US 2s10s and 2s30s curves flatten. US 10y yield declines 6.4bp to 2.62%.

Government bond yields in the US, Germany, UK and Canada declined significantly to start the new year despite rebounds in both oil prices and US equity markets during the US session as concerns about both global growth and Chinese growth potentially weighed on markets. Overnight, China's Caixin manufacturing PMI surprised to the downside and fell below 50, to 49.7, meaning that both reported manufacturing PMIs in China surprised to the downside and fell below 50 during the month of December. Following the US equity market close, concerns about Chinese growth potentially resurfaced and contributed to a late-day rally in the treasury market after a large US company cut Q1 guidance noting an unforeseen slowdown in China as one of the catalysts. One notable move worth highlighting after hours was the Japanese yen rallied more than 3% versus the US dollar shortly after 5:30pm New York time, declining from about 109 to as low as 105.

Consistent with the decline in China's PMI was a drop in both the global and developed market manufacturing PMIs in December, to their lowest respective levels since September 2016. Broadly speaking, the message from global manufacturing PMIs for the month of December in front of tomorrow's ISM manufacturing index release, was that weakness appeared to be increasing over the last month with a greater number of countries experiencing PMIs below 50.

With 31 of the headline manufacturing PMIs we track having already been reported for the month of December, 10 now have headline manufacturing PMIs below 50. This represents the largest outright number of the manufacturing PMIs below 50 that we track since August 2016. Some of the countries where PMIs fell, or remained, below 50 included but were not limited to China, France, Italy, Mexico, Poland, Czech Republic, South Korea, Taiwan and Malaysia. The forward-looking new orders sub-index for the global manufacturing PMI declined to 51.25, its lowest level since August 2016. Looking forward to tomorrow's ISM manufacturing index release, our US economics team is forecasting a decline in the index to 55.6 versus a Bloomberg consensus estimate of 57.5. Interestingly, all 5 regional manufacturing prints in the US (Empire, Philly Fed, Kansas City, Dallas and Richmond) materially missed the consensus estimate in December and declined noticeably versus levels seen in November, but the Chicago PMI surprised materially to the upside and remained well above 60 after barely

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Robert Rosener and Molly Wharton are Economists and are not opining on any securities.

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falling in December relative to November.

Periphery spreads ended the session wider on the day coincident with the risk-off tone in European equity indices and the strong rally in German Bunds, as Italian bonds outperformed the broader periphery. The Italian, Spanish, Portuguese, Greek and French 10y spreads to 10y German Bunds widened 2.7bp, 6.2bp, 6.7bp, 6.7bp and 1.7bp, respectively. Today's widening in 10y spreads to 10y Bunds was not enough to push outright levels of periphery yields higher as 10y yields ended the day lower across all countries to varying degrees. In particular, the Italian 10y yield declined 5bp to 2.692%, the lowest level for the on-the-run 10y yield since late July 2018. A portion of today's widening in Spain may have been concession-related activity in front of tomorrow's expected auctions. Curves in the semi-core and periphery were mixed. 5s30s curves in Spain and Belgium flattened 1.9bp and 2bp, respectively, while 5s30s curves in France and Italy steepened 0.6bp and 2.4bp, respectively.

German Bund yields began the session lower in yield and continued to decline significantly for the majority of the session, led by outperformance in the 10y and longer maturity part of the curve. The German 10y yield finished the session down 7.7bp to 0.165%, which represented the lowest close for the on-the-run 10y Bund yield since April 2017. Today's 7.7bp decline in the German 10y yield represented about a 1.8 standard deviation decline when analyzing daily yield moves since 2000. A portion of today's rally in Bunds may have been in reaction to the rally in treasuries on Monday when Eurex was closed, although the poor open for risk markets, softer global PMI data led by concerns in China, large bund option buying in favor of long duration early in the session and a lack of EGB supply outside of Spain to the start the year may have also contributed to today's significant yield decline. The outperformance of the long end during today's rally in Bunds resulted a 1.6bp flattening in the German 5s30s curve to 117bp. The German 2y breakeven narrowed 4bp to -0.18%, its lowest closing level since mid-2016, despite the decline in the EUR and rebound in oil prices. Since early October the German 2y breakeven has declined almost 140bp. UK Gilt yields declined significantly today coincident with the move in Bund yields, led by outperformance in the intermediate part of the curve. **Today's** upside surprise in the UK manufacturing PMI to its strongest level since June 2018, at 54.2, that occurred despite increased Brexit uncertainty, did not appear to materially impact outright levels of UK yields. The 10y yield finished the session down 6.8bp to 1.209%, while the UK 5s30s curve steepened 2.2bp to 94bp.

US treasury yields began the European session lower in yield with a flattening bias to the curve coincident with the significant declines in German Bund and UK Gilt yields as well as declines in US equity futures and a softer open for European equity indices. However, treasury yields began to stabilize and eventually bottom shortly after 8am New York time as equity futures began climbing off of their lows of the day and even despite the continued gradual push lower in Bund and Gilt yields. The 10y yield declined to as low as 2.645% in early US trading but climbed back to as high as 2.6775% shortly after 11am New York time as equity markets accelerated off of their morning lows and oil prices climbed. The move higher in yield during the latter part of the US morning would prove short lived, though, and treasury yields began declining into



midday. Shortly before 3pm New York time, treasury yields resumed their declines coincident with a brief move lower in equity markets back into negative territory, but the move lower was not reversed as equity markets rallied to finish positive on the day in the last 20 minutes of the session. After the equity market close, a cut in revenue guidance from a large US company coincided with a push lower in treasury yields into the close. Focus tomorrow in the US will shift to the release of the ISM manufacturing index before payrolls on Friday.

The 10y Treasury yield finished the session down 6.4bp to 2.62%, its lowest yield level of the day, while the 2y underperformed all other points on the curve, declining 2bp to 2.467%. Today's closing level for the US 10y yield represented the lowest yield close since January 2018. Both the 2s10s and 2s30s curves were flatter on the day coincident with the underperformance for the 2y and significant outperformance in the 30y. The 2s10s curve flattened 4.2bp to 48.4bp, while the 2s10s curve flattened 4.3bp to 15.3bp. Following today's move, the 2s30s curve closed back below the 200-day moving average; however, it remains above both the 50- and 100-day moving averages. Effective fed funds remained at 2.40% today. Assuming that effective remains flat to IOER, Fed funds futures continue to price next to no Fed action in 2019 with only 3.5bp of hikes priced by the end of July 2019 and 1bp of cuts priced by the end of January 2020.

The TIPS breakeven curve twist flattened today as the 2y breakeven widened coincident with a rebound in oil prices while intermediate and longer-maturity breakevens narrowed perhaps in part due to the strong rally in nominals. The 10y breakeven narrowed 2.5bp, to 1.688%, while the 2y breakeven narrowed 2.7bp 0.682%. The 2s10s breakeven curve flattened 5.2bp to 100bp. Daily national average gasoline prices declined to their lowest level since July 2017, at \$2.253/gallon. Daily national average gasoline prices have now fallen more than 65 cents since early October 2018.

US equity markets finished the day up modestly across major indices led by outperformance in the Russell 2k. However, equity futures were lower after the cash close. The S&P 500 climbed 0.13% to 2510, while the VIX index declined 2.20 points, to 23.2. The on-the-run 5y CDX HY spread widened 10.3bp, to 459.4bp. The US dollar (DXY) rebounded from some of its recent weakness due mostly to strong gains versus both the EUR and GBP.

Tactical Trading Model Signals - Currently Active Strategies

G4 10y Futures Smarter (beta) Trading Strategy - A "Smarter" (beta) Way to Trade G4 10y Futures Duration? (please see Exhibit 13found later in this publication for detailed breakdown)

- **US 10y** Futures Exposure: Total 0%, Trade Longs Only 0%, Fade Shorts Portfolio: 0%.
- **German 10y** Futures Exposure: Total 0%, Trade Longs Only 0%, Fade Shorts Portfolio: 0%.
- **Japan 10y** Futures Exposure: Total 0%, Trade Longs Only 0%, Fade Shorts Portfolio: 0%.
- **UK 10y** Futures Exposure: Total 100%, Trade Longs Only 0%, Fade Shorts Portfolio: 100%.



Trading Notes: there are no trades scheduled for execution tomorrow.

US Holiday Trading Strategy - Trading 10y Treasury Futures Around US Holidays

The US Holiday Trading Strategy is currently Active. Today, January 2, 2019, the US Holiday trading strategy bought the actively traded US 10y treasury future (TYH9) at 3pm New York time one business day after the New Years Holiday. It will sell/close that position on January 7, 2019 at 3pm New York time four business days after New Year's holiday. Per the strategy trading rules, the US Holiday Trading Strategy will buy/go long US 10y treasury futures on the first business day of the New Year at 3pm New York time and sell/exit that position on the 4th business day of the New Year at 3pm New York time.

At 3:00 PM New York, Treasury yields finished mixed Wednesday. The 2y yield rose 0.9bp to 2.502%, the 3y rose 1.2bp to 2.472%, the 5y fell 0.9bp to 2.500%, the 7y fell 2.5bp to 2.560%, the 10y fell 2.9bp to 2.660%, and the 30y fell 3.8bp to 2.981%..

Market-implied probabilities for a hike at the Fed's March FOMC meeting decreased on Wednesday to 2% from 4%. Over the next 12 months, the market is pricing -9.2bp of cumulative cuts..

TIPS breakevens finished higher led by the 2y BEI. The 2y BEI rate rose 2.7bp to 0.68%, the 5y fell 1.2bp to 1.48%, the 10y fell 2.5bp to 1.69%, and the 30y fell 2.2bp to 1.79%. **TIPS** real yields ended lower led by the 2y TIPS. The 2y TIPS real yield fell 4.7bp to 1.84%, the 5y fell 3.8bp to 0.96%, the 10y fell 4.0bp to 0.93%, and the 30y fell 4.2bp to 1.16%..

Swap spreads closed higher Wednesday led by the 30y sector. 2y spreads fell 0.9bp to 17.4bp, 3y spreads fell 1.2bp to 13.2bp, 5y spreads rose 0.9bp to 7.2bp, 7y spreads rose 2.5bp to 4.8bp, 10y spreads rose 2.9bp to 3.0bp, and 30y spreads rose 3.8bp to -17.0bp..

Please click here if you would like to receive our weekly strategic advice on global interest rates: the Global Interest Rate Strategist.

US Treasury cash and futures pivot points

Exhibit 1 and Exhibit 2 display daily pivot points, support, and resistance levels for each benchmark Treasury and front Treasury futures contract. We explain our methodology and include weekly pivot points, support, and resistance levels inside the report.

Exhibit 1: US Treasury benchmark daily pivots, support, and resistance levels

	UST 2y	UST 3y	UST 5y	UST 7y	UST 10y	UST 30y
Daily resistance 3	2.544	2.506	2.549	2.624	2.720	3.048
Daily resistance 2	2.525	2.484	2.523	2.594	2.691	3.020
Daily resistance 1	2.520	2.470	2.507	2.576	2.674	3.003
Daily pivot high	2.489	2.448	2.481	2.546	2.645	2.976
Daily pivot low	2.480	2.443	2.475	2.539	2.639	2.970
Daily Support 1	2.461	2.426	2.454	2.516	2.617	2.948
Daily Support 2	2.455	2.412	2.438	2.497	2.599	2.931
Daily Support 3	2.440	2.400	2.424	2.480	2.583	2.916



Exhibit 2: US Treasury futures daily pivots, support, and resistance levels

	TU1	FV1	TY1	UXY1	US1	WN1
Daily resistance 3	106-081	115-025	122-280	131-121	148-140	163-215
Daily resistance 2	106-071	114-31+	122-22+	131-042	148-00+	163-05+
Daily resistance 1	106-066	114-301	122-193	130-313	147-23+	162-267
Daily pivot high	106-048	114-242	122-082	130-145	146-256	161-236
Daily pivot low	106-043	114-225	122-05+	130-105	146-190	161-155
Daily Support 1	106-033	114-19+	122-000	130-026	146-05+	160-31+
Daily Support 2	106-028	114-181	121-287	129-297	145-28+	160-207
Daily Support 3	106-021	114-152	121-235	129-218	145-14+	160-043

Source: Morgan Stanley Research

GDP tracking

We continue to track 4Q GDP at 3.6%.

Economic data preview

The first data releases of the year are due out tomorrow. Most important is the ISM manufacturing report (10am), which we expect to surprise consensus to the downside. Elsewhere, we await a number of labor market-related releases, including Challenger job cuts (7:30am), the ADP employment report (8:15am), and initial jobless claims (8:30am). Finally, the results of December motor vehicle sales will trickle in throughout the day. Note that the release of the November construction spending report, originally scheduled for tomorrow, has been postponed due to the government shutdown.

As the key release tomorrow, the **ISM manufacturing survey** will likely have heightened market significance, especially on the back of a record decline in the Richmond Fed's survey last week. We are looking for a below-consensus decline of 3.7 points to a reading of 55.6 (vs. consensus for a smaller drop to 57.5). Driving our forecast is a weaker set of regional manufacturing surveys in December, all five of which declined on an ISM-adjusted basis with especially large drops in the Richmond (-7.2 points) and Kansas City (-5.9 points) surveys.

For some context, the ISM survey has averaged a reading of around 54 during expansions since its inception in 1948. A cooling off in line with our expectations from record highs earlier this year, having hit a cyclical max of 61.3 in August, resembles a reversion to more normal readings. The index would still be running at a healthy level, well above the average reading during recessions of around 43. Still, further declines should be watched closely.

Aside from the ISM survey, we'll be receiving several data points related to the labor market ahead of Friday's payrolls report. First is the Challenger Survey at 7:30am, where we'll get a count of **job cut announcements** for December from the private outsourcing firm Challenger, Gray & Christmas. So far this year, Challenger has announced a total of 494,775 job cuts, already above the full year total of 418,770 job cuts in 2017.

At 8:15am, the **ADP** Research Institute will release its **jobs report** for December. Consensus expects private payroll growth of 180,000 following a similarly sized gain in the previous month. Though this comes a bit above our forecast for net private job growth of 162,000 in the official employment report on Friday, we have not found the ADP report to be particularly useful in forecasting the official data—since altering their methodology in 2016, the report has had a mean absolute error of around 60k. Still, the details of the report give us useful data on hiring trends by firm size, showing the breakdown in hiring among small,



medium, and large businesses.

Last on the labor market front are **initial jobless claims** data at 8:30am. For tomorrow's report, which covers the week ending December 29, consensus looks for claims to rise to 220,000 from 216,000 in the prior week. Jobless claims appear to have stabilized in recent weeks after some volatility in November. The average level of claims since September is 215,000, so at 216,000 in the latest reading claims are running just about right in line with their recent trend. Other employment data received in recent weeks has had a generally positive tone – in particular, out of the December regional manufacturing surveys released thus far it is notable that broad softening did not include employment indices which remained positive.

Finally, data on **motor vehicle sales** in December will be released throughout the day so that by late afternoon we will have the overall pace for the month. Auto sales have held up stronger than expected in recent months, likely boosted in part by motor vehicle replacement following the September hurricanes. In November, motor vehicle sales were running at a 17.4 million-unit pace, above the average of 17.2 million in 2017. Consensus expects vehicle sales to slow just slightly in December to a pace of 17.22 million. Further ahead, we expect spending on autos to moderate in 2019 as Fed rate hikes begin to bite into the interest-rate sensitive sector.

Tactical Trading Model Signals - Currently Inactive Strategies

US Payroll Trading Strategy - Buy 10y Treasury Futures on a Strong Payroll Beat

The US Payroll Trading Strategy will Buy the actively traded US 10y Treasury future (TY) at 3pm New York time on the day of the payroll release and hold for 5 business days before closing the position at 3pm New York time, when US Nonfarm Payrolls beat the consensus estimate by 20,000 or greater.

Auction Outlook - An American Auction Tail

Our next Auction Preview will take place on January 7, in advance of the 3-year auction on January 8.

Additional content inside

- Event calendar
- Pivot Points
- Technical Analysis
- Cyclical and Secular Trends
- G4 Smarter (beta) Trading Strategy
- Holiday Trading Strategy
- Market data



• In case you missed it

Exhibit 3: Treasury market closes

Maturity	3PM YTM (%)	1d ∆ (bp)	5PM YTM (%)	3~5PM ∆ (bp)
2y	2.502	0.9	2.468	-3.4
3у	2.472	1.2	2.429	-4.3
5у	2.500	-0.9	2.458	-4.2
7у	2.560	-2.5	2.520	-4.1
10y	2.660	-2.9	2.620	-3.9
30y	2.981	-3.8	2.952	-2.9

Source: Morgan Stanley Research, Bloomberg Note: All times listed in the Treasury Market Commentary are New York time.



Event Calendar

Exhibit 4: Upcoming events

			Auctions		Economic Data		Federal Reserve
	Date	NY Time		NY Time		NY Time	Event
Γhu	3-Jan	11:30	8-Week Bills	7:00 8:15 8:30 10:00 10:00	MBA Mortgage Applications ADP Employment Change Initial Jobless Claims Construction Spending MoM ISM Manufacturing		
Fri	4-Jan			8:30 8:30	Change in Nonfarm Payrolls Unemployment Rate	10:15 10:15	Fed Chair Powell plus Bernanke and Yellen interviewed at AEA Fed's Bostic Speaks at AEA in Atlanta
Mon	7-Jan	11:30 11:30	3-Month Bills 6-Month Bills	10:00 10:00	Factory Orders Durable Goods Orders	12:40	Fed's Bostic Speaks to Rotary Club of Atlanta
Tue	8-Jan	13:00	3-Year Notes	8:30	Trade Balance		
Wed	9-Jan	13:00	10-Year Notes Reopening	7:00	MBA Mortgage Applications	8:20 11:30 14:00	Fed's Bostic Speaks in Chattanooga on Economic Outlook Fed's Rosengren Speaks on the Economic Outlook FOMC Meeting Minutes
Thu	10-Jan	11:30 11:30	8-Week Bills 4-Week Bills	8:30 10:00	Initial Jobless Claims Wholesale Inventories MoM	12:30 17:30	Fed's Bullard Speaks on Economy and Monetary Policy
Fri	11-Jan			8:30	CPI MoM		
Mon	14-Jan	11:30 11:30	3-Month Bills 6-Month Bills				
Tue	15-Jan			8:30 8:30	Empire Manufacturing PPI Final Demand MoM	13:00	Fed's George Speaks on Economy and Monetary Policy Outlook
Wed	16-Jan			7:00 8:30	MBA Mortgage Applications Retail Sales Advance MoM	18:30	Fed's Kashkari Speaks on Panel About Financial Crisis

Source: Morgan Stanley Research, Bloomberg



Pivot Points

Pivot points are charting levels used by day traders to determine market direction, support, and resistance levels. We calculate daily pivot points using the previous day's open, high, low, and closing levels. We calculate weekly pivot points using the previous week's open, high, low, and closing levels.

Exhibit 5: US Treasury benchmark daily pivots, support, and resistance levels

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Daily Support 1	106-033	114-19+	122-000	130-026	146-05+	160-31+
Daily Support 2	106-028	114-181	121-287	129-297	145-28+	160-207
Daily Support 3	106-021	114-152	121-235	129-218	145-14+	160-043



Technical Analysis

Exhibit 7: US Treasury cash

HOT 2	Year Yield	•				1D	ATR	SMA	SMA	RSI	%R	Highs	Candle	
Day	Date	Open	High	Low	Close	Chq	(14)	(8)	(21)	(14)	/0 K (14)	Lows	Pattern	
Wed	2-Jan	2.453	2.518	2.453	2.468	(2.0)	5.9	2.565	2.673	25	-96	LH , LL	Inverted Hammer	
Mon	31-Dec	2.565	2.565	2.484	2.488	(2.8)	5.8	2.587	2.689	26	-99	LH	Long Black	
Fri	28-Dec	2.565	2.581	2.512	2.516	(4.6)	5.6	2.607	2.704	28	-99	LH	Zong Didon	
Thu	27-Dec	2.611	2.615	2.542	2.563	(5.3)	5.6	2.628	2.718	31	-87	LH	Inside Day	
Wed	26-Dec	2.554	2.625	2.538	2.615	5.6	5.4	2.650	2.731	35	-70		Inside Day	
Weu	20 Dec	2.004	2.023	2.330	2.013	3.0	J. 4	2.000	2.731	33	70		maide Day	<u>.</u>
UST 3-	Year Yield					1D	ATR	SMA	SMA	RSI	%R	Highs	Candle	
Day	Date	Open	High	Low	Close	Chg	(14)	(8)	(21)	(14)	(14)	Lows	Pattern	
Wed	2-Jan	2.467	2.487	2.429	2.429	(2.8)	6.3	2.546	2.665	23	-100	LH,LL		
Mon	31-Dec	2.545	2.545	2.448	2.456	(3.9)	6.3	2.570	2.682	24	-98	LH,LL	Long Black	
Fri	28-Dec	2.556	2.572	2.490	2.495	(6.4)	6.0	2.591	2.700	26	-98	LL	,	
Thu	27-Dec	2.600	2.606	2.526	2.559	(4.7)	5.9	2.615	2.717	30	-87	LL		
Wed	26-Dec	2.551	2.617	2.526	2.606	5.2	5.7	2.635	2.731	34	-73	LL	White Engulfing	
									-					
IIST 5-	Year Yield					1D	ATR	SMA	SMA	RSI	%R	Highs	Candle	
Day	Date	Open	High	Low	Close	Chg	(14)	(8)	(21)	(14)	(14)	Lows	Pattern	
Wed	2-Jan	2.516	2.526	2.458	2.458	(5.3)	6.3	2.584	2.675	25	-100	LH,LL	Long Black	
Mon	31-Dec	2.570	2.570	2.496	2.511	(4.4)	6.3	2.604	2.692	28	-95	LII , LL	Long Didok	
Fri	28-Dec	2.613	2.627	2.550	2.555	(6.2)	6.2	2.621	2.708	31	-98			
Thu	27-Dec	2.662	2.665	2.581	2.617	(3.2)	6.1	2.639	2.723	35	-71			
Wed	26-Dec	2.574	2.655	2.552	2.648	6.9	5.9	2.653	2.723	38	-62		White Engulfing	
weu	20 Dec	2.374	2.000	2.332	2.040	0.9	0.9	2.000	2.730	30	02		Willie Linguining	
IICT 7-	Year Yield					1D	ATR	SMA	SMA	RSI	%R	Highs	Candle	
Day	Date	Open	High	Low	Close	Chg	(14)	(8)	(21)	(14)	(14)	Lows	Pattern	
Wed	2-Jan	2.576	2.598	2.520	2.520	(6.6)	6.4	2.655	2.744	25	-100	LH,LL	rattern	
Mon	31-Dec	2.662	2.662	2.573	2.586	(4.2)	6.3	2.676	2.762	28	-95	LH	Long Black	
Fri	28-Dec	2.677	2.692	2.618	2.628	(4.2)	6.1	2.694	2.779	31	-96	LII	Long black	Y T
Thu	27-Dec	2.725	2.730	2.646	2.676	(5.7)	6.0	2.712	2.779	34	-81		Inside Day	_ T
Wed	26-Dec	2.723	2.740	2.637	2.733	7.7	5.8	2.712	2.794	39	-55		Outside Day	
weu	20-Dec	2.001	2.740	2.037	2.733	1.1	3.0	2.720	2.000	39	-33		Outside Day	
IIST 10)-Year Yield					1D	ATR	SMA	SMA	RSI	%R	Highs	Candle	
Day	Date	Open	High	Low	Close	Chg	(14)	(8)	(21)	(14)	(14)	Lows	Pattern	
Wed	2-Jan	2.684	2.695	2.620	2.620	(6.4)	6.0	2.742	2.826	25	-100	LH,LL	Long Black	
Mon	31-Dec	2.725	2.743	2.677	2.684	(3.4)	5.9	2.742	2.844	29	-97	LH	Long Diack	f
Fri	28-Dec	2.765	2.743	2.711	2.718	(4.8)	5.8	2.775	2.860	31	-97	LII		
Thu	27-Dec	2.703	2.779	2.711	2.716		5.7	2.773	2.876	34	-97 -76		Inside Day	
						(4.1)							•	
Wed	26-Dec	2.749	2.813	2.719	2.808	7.0	5.6	2.808	2.890	38	-56		Outside Day	
UST 30)-Year Yield					1D	ATR	SMA	SMA	RSI	%R	Highs	Candle	
Day	Date	Open	High	Low	Close	Chg	(14)	(8)	(21)	(14)	(14)	Lows	Pattern	
Wed	2-Jan	3.012	3.024	2.952	2.952	(6.3)	5.7	3.023	3.093	29.8	-100	LUWS	Long Black	
Mon	31-Dec	3.039	3.024	3.003	3.015	(0.8)	5.6	3.026	3.110	34.6	-73	LII	Long Diack	┤││ [†]
Fri	28-Dec	3.039	3.051	3.003	3.015	(3.4)	5.0	3.020	3.110	35.3	-73 -69		Inside Day	
EH	ZO-DEC	J.U4/	3.004	5.019	3.UZ/	10.41	0.7	a.ua.i	3.124	30.3	-09		IIISIUE DAV	_

(3.4) (0.8)

7.1

5.7 5.8

3.033

3.044

3.055

3.124

3.140

3.152

-69 -56

-53

НН

Inside Day

Outside Day

35.3

38.2

Source: Morgan Stanley Research, Bloomberg

3.047

3.055

3.004

3.064

3.074

3.019

3.002

2.974

3.022

3.056

3.065

28-Dec

27-Dec

26-Dec

Fri

Thu

Wed

2.90



Exhibit 8: UST Futures

ΓU Futu	Iro					1D	ATR	SMA	SMA	RSI	%R	Highs	Candle	
Day	Date	Open	High	Low	Close	Chq	(14)	(8)	(21)	(14)	%к (14)	Lows	Pattern	
Ned	2-Jan	106-03+	106-06+	106-026	106-040	-0-010	0-032	106-006	105-263	72	-13	LUWS	Falleili	
Mon	31-Dec	105-300	106-007	105-320	106-050	0-022	0-032	105-318	105-205	75	4			
ri -ri	28-Dec	105-300	106-042	105-300	106-036	0-022	0-032	105-318	105-237	73	-9		Outside Day	
ιι Γhu	27-Dec	106-00+	106-042	106-00+	106-020	0-012	0-030	105-308	105-243	73 71	- 7	HL	Inside Day	
Ned	26-Dec	106-00+	106-020	106-001	105-306	-0-022	0-026	105-297	105-237	68	-22	HH, HL	iliside Day	-
veu	20-Dec	100-02+	100-02+	100-000	105-300	-0-022	0-020	105-265	105-230	00	-22	пп,п∟		
V Futu	ıre					1D	ATR	SMA	SMA	RSI	%R	Highs	Candle	
ay	Date	Open	High	Low	Close	Chq	(14)	(8)	(21)	(14)	(14)	Lows	Pattern	
Ved	2-Jan	114-172	114-290	114-170	114-220	0-000	0-071	114-102	113-266	77	-14	HH	Outside Day	ı
/lon	31-Dec	114-18+	114-186	114-18+	114-220	0-06+	0-066	114-076	113-242	77	8	HL		
ri -ri	28-Dec	114-166	114-170	114-156	114-15+	0-030	0-070	114-045	113-216	75	-4	_		
hu .	27-Dec	114-090	114-106	114-08+	114-12+	0-090	0-072	114-015	113-19+	73	6			_
Ved	26-Dec	114-100	114-106	114-020	114-03+	-0-052	0-072	113-30+	113-172	69	-20		Outside Day	
										.,			2 2 2 2 2 4 7	
Y Futu	ıre					1D	ATR	SMA	SMA	RSI	%R	Highs	Candle	
)ay	Date	Open	High	Low	Close	Chg	(14)	(8)	(21)	(14)	(14)	Lows	Pattern	
Ved	2-Jan	121-260	122-16+	121-260	122-060	0-05+	0-152	121-155	120-318	76	-16	HH, HL		
⁄lon	31-Dec	121-21+	122-040	121-180	122-00+	0-12+	0-145	121-11+	120-283	74	-6	HL		
ri	28-Dec	121-12+	121-260	121-090	121-200	0-030	0-143	121-082	120-246	70	-14			
'hu	27-Dec	120-310	121-190	120-30+	121-170	0-160	0-142	121-055	120-216	69	-9		Inside Day	
Ved	26-Dec	121-170	121-20+	120-280	121-010	-0-120	0-136	121-023	120-185	63	-46		Black Engulfing	
					a l	1D	ATR	SMA	SMA	RSI	%R	Highs	Candle	
ay	Date	Open	High	Low	Close	Chg	(14)	(8)	(21)	(14)	(14)	Lows	Candle Pattern	
Day Ved	Date 2-Jan	129-280	130-26+	129-250	130-12+	Chg 0-100	(14) 0-200	(8) 129-160	(21) 128-252	(14) 100	(14) -17	Lows HH, HL		
Ved Von	Date 2-Jan 31-Dec	129-280 129-210	130-26+ 130-08+	129-250 129-15+	130-12+ 130-02+	Chg 0-100 0-150	(14) 0-200 0-188	(8) 129-160 129-107	(21) 128-252 128-200	(14) 100 100	-17 -10	Lows		
Day Ved Mon Fri	Date 2-Jan 31-Dec 28-Dec	129-280 129-210 129-09+	130-26+ 130-08+ 129-270	129-250 129-15+ 129-04+	130-12+ 130-02+ 129-19+	0-100 0-150 0-02+	0-200 0-188 0-18+	(8) 129-160 129-107 129-065	(21) 128-252 128-200 128-148	100 100 100 100	-17 -10 -15	Lows HH, HL	Pattern	• · · · · · · · · · · · · · · · · · · ·
Ned Mon Fri	2-Jan 31-Dec 28-Dec 27-Dec	129-280 129-210 129-09+ 128-270	130-26+ 130-08+ 129-270 129-210	129-250 129-15+ 129-04+ 128-26+	130-12+ 130-02+ 129-19+ 129-170	0-100 0-150 0-02+ 0-18+	0-200 0-188 0-18+ 0-182	(8) 129-160 129-107 129-065 129-027	(21) 128-252 128-200 128-148 128-10+	(14) 100 100 100 100	-17 -10 -15 -16	Lows HH, HL	Pattern Inside Day	*
Ned Mon Fri	Date 2-Jan 31-Dec 28-Dec	129-280 129-210 129-09+	130-26+ 130-08+ 129-270	129-250 129-15+ 129-04+	130-12+ 130-02+ 129-19+	0-100 0-150 0-02+	0-200 0-188 0-18+	(8) 129-160 129-107 129-065	(21) 128-252 128-200 128-148	100 100 100 100	-17 -10 -15	Lows HH, HL	Pattern	p () () ()
Ned Mon Fri Thu Ved	2-Jan 31-Dec 28-Dec 27-Dec 26-Dec	129-280 129-210 129-09+ 128-270	130-26+ 130-08+ 129-270 129-210	129-250 129-15+ 129-04+ 128-26+	130-12+ 130-02+ 129-19+ 129-170	Chg 0-100 0-150 0-02+ 0-18+ -0-150	0-200 0-188 0-18+ 0-182 0-17+	(8) 129-160 129-107 129-065 129-027 128-298	128-252 128-200 128-148 128-10+ 128-057	100 100 100 100 100 100	-17 -10 -15 -16 -48	Lows HH, HL HL	Pattern Inside Day Black Engulfing	* (
lay Ved Mon ri hu Ved	2-Jan 31-Dec 28-Dec 27-Dec 26-Dec	129-280 129-210 129-09+ 128-270 129-200	130-26+ 130-08+ 129-270 129-210 129-25+	129-250 129-15+ 129-04+ 128-26+ 128-240	130-12+ 130-02+ 129-19+ 129-170 128-30+	Chg 0-100 0-150 0-02+ 0-18+ -0-150	0-200 0-188 0-18+ 0-182 0-17+	(8) 129-160 129-107 129-065 129-027 128-298	(21) 128-252 128-200 128-148 128-10+ 128-057	(14) 100 100 100 100 100	(14) -17 -10 -15 -16 -48	Lows HH, HL HL	Pattern Inside Day Black Engulfing Candle	# () () ()
lay Ved Mon ri hu Ved S Futu	Date 2-Jan 31-Dec 28-Dec 27-Dec 26-Dec	129-280 129-210 129-09+ 128-270 129-200	130-26+ 130-08+ 129-270 129-210 129-25+ High	129-250 129-15+ 129-04+ 128-26+ 128-240	130-12+ 130-02+ 129-19+ 129-170 128-30+	Chg 0-100 0-150 0-02+ 0-18+ -0-150 1D Chg	(14) 0-200 0-188 0-18+ 0-182 0-17+ ATR (14)	(8) 129-160 129-107 129-065 129-027 128-298 SMA (8)	(21) 128-252 128-200 128-148 128-10+ 128-057 SMA (21)	(14) 100 100 100 100 100 RSI (14)	-17 -10 -15 -16 -48 %R (14)	Lows HH, HL HIghs Lows	Pattern Inside Day Black Engulfing	p () () ()
Ved Ved Mon Thu Ved Ved Ved	2-Jan 31-Dec 28-Dec 27-Dec 26-Dec ure Date	129-280 129-210 129-09+ 128-270 129-200 Open 145-230	130-26+ 130-08+ 129-270 129-210 129-25+ High 147-140	129-250 129-15+ 129-04+ 128-26+ 128-240 Low 145-190	130-12+ 130-02+ 129-19+ 129-170 128-30+ Close 146-240	0-100 0-150 0-02+ 0-18+ -0-150 1D Chg	0-200 0-188 0-18+ 0-182 0-17+ ATR (14) 1-041	(8) 129-160 129-107 129-065 129-027 128-298 SMA (8) 145-14+	(21) 128-252 128-200 128-148 128-10+ 128-057 SMA (21) 144-095	(14) 100 100 100 100 100 RSI (14)	(14) -17 -10 -15 -16 -48 %R (14) -16	HH, HL Highs Lows HL	Pattern Inside Day Black Engulfing Candle	p d d d d
Ved Mon Fri Thu Ved JS Futu Day Ved Mon	2-Jan 31-Dec 28-Dec 27-Dec 26-Dec ure Date 2-Jan 31-Dec	129-280 129-210 129-09+ 128-270 129-200 Open 145-230 145-210	130-26+ 130-08+ 129-270 129-210 129-25+ High 147-140 146-090	129-250 129-15+ 129-04+ 128-26+ 128-240 Low 145-190 145-070	130-12+ 130-02+ 129-19+ 129-170 128-30+ Close 146-240 146-000	0-100 0-150 0-02+ 0-18+ -0-150 1D Chg 0-240 0-150	0-200 0-188 0-18+ 0-182 0-17+ ATR (14) 1-041 1-023	(8) 129-160 129-107 129-065 129-027 128-298 SMA (8) 145-14+ 145-075	(21) 128-252 128-200 128-148 128-10+ 128-057 SMA (21) 144-095 144-002	(14) 100 100 100 100 100 100 RSI (14) 77	(14) -17 -10 -15 -16 -48 %R (14) -16	Lows HH, HL HIghs Lows	Pattern Inside Day Black Engulfing Candle	
JXY Fut Day Wed Mon Fri Thu Wed JS Futu Day Wed Mon Fri	2-Jan 31-Dec 28-Dec 27-Dec 26-Dec are Date 2-Jan 31-Dec 2-Jan 31-Dec 28-Dec	129-280 129-210 129-09+ 128-270 129-200 Open 145-230 145-210 145-020	130-26+ 130-08+ 129-270 129-210 129-25+ High 147-140 146-090 145-280	129-250 129-15+ 129-04+ 128-26+ 128-240 Low 145-190 145-070 144-260	130-12+ 130-02+ 129-19+ 129-170 128-30+ Close 146-240 146-000 145-170	0-100 0-150 0-02+ 0-18+ -0-150 1D Chg 0-240 0-150 0-000	0-200 0-188 0-18+ 0-182 0-17+ ATR (14) 1-041 1-023 1-023	(8) 129-160 129-107 129-065 129-027 128-298 SMA (8) 145-14+ 145-075 145-020	(21) 128-252 128-200 128-148 128-10+ 128-057 SMA (21) 144-095 144-002 143-23+	(14) 100 100 100 100 100 100 RSI (14) 77 74 72	(14) -17 -10 -15 -16 -48 %R (14) -16 -9 -19	HH, HL Highs Lows HL	Inside Day Black Engulfing Candle Pattern	
Day Wed Mon Fri Fhu Wed JS Futu Day Wed Mon Fri Fhu	2-Jan 31-Dec 28-Dec 27-Dec 26-Dec are Date 2-Jan 31-Dec 2-Jan 31-Dec 28-Dec 27-Dec	129-280 129-210 129-09+ 128-270 129-200 Open 145-230 145-210 145-020 144-160	130-26+ 130-08+ 129-270 129-210 129-25+ High 147-140 146-090 145-280 145-280	129-250 129-15+ 129-04+ 128-26+ 128-240 Low 145-190 145-070 144-260 144-150	130-12+ 130-02+ 129-19+ 129-170 128-30+ Close 146-240 146-000 145-170	0-100 0-150 0-02+ 0-18+ -0-150 1D Chg 0-240 0-150 0-000 0-250	0-200 0-188 0-18+ 0-182 0-17+ ATR (14) 1-041 1-023 1-023 1-023	(8) 129-160 129-107 129-065 129-027 128-298 SMA (8) 145-14+ 145-075 145-020 144-27+	(21) 128-252 128-200 128-148 128-10+ 128-057 SMA (21) 144-095 144-002 143-23+ 143-152	(14) 100 100 100 100 100 100 RSI (14) 77 74 72 72	(14) -17 -10 -15 -16 -48 %R (14) -16 -9 -19	HH, HL Highs Lows HL	Inside Day Black Engulfing Candle Pattern Inside Day	
Ned Mon Fri Thu Ned JS Futu Day Wed Mon Fri Thu	2-Jan 31-Dec 28-Dec 27-Dec 26-Dec are Date 2-Jan 31-Dec 2-Jan 31-Dec 28-Dec	129-280 129-210 129-09+ 128-270 129-200 Open 145-230 145-210 145-020	130-26+ 130-08+ 129-270 129-210 129-25+ High 147-140 146-090 145-280	129-250 129-15+ 129-04+ 128-26+ 128-240 Low 145-190 145-070 144-260	130-12+ 130-02+ 129-19+ 129-170 128-30+ Close 146-240 146-000 145-170	0-100 0-150 0-02+ 0-18+ -0-150 1D Chg 0-240 0-150 0-000	0-200 0-188 0-18+ 0-182 0-17+ ATR (14) 1-041 1-023 1-023	(8) 129-160 129-107 129-065 129-027 128-298 SMA (8) 145-14+ 145-075 145-020	(21) 128-252 128-200 128-148 128-10+ 128-057 SMA (21) 144-095 144-002 143-23+	(14) 100 100 100 100 100 100 RSI (14) 77 74 72	(14) -17 -10 -15 -16 -48 %R (14) -16 -9 -19	HH, HL Highs Lows HL	Inside Day Black Engulfing Candle Pattern	
Ved Ved Von Fri Thu Ved Ved Ved Von Fri Thu Ved Ved Ved Ved Ved	2-Jan 31-Dec 28-Dec 27-Dec 26-Dec Tre Date 2-Jan 31-Dec 2-Jan 31-Dec 28-Dec 27-Dec 26-Dec	129-280 129-210 129-09+ 128-270 129-200 Open 145-230 145-210 145-020 144-160	130-26+ 130-08+ 129-270 129-210 129-25+ High 147-140 146-090 145-280 145-280	129-250 129-15+ 129-04+ 128-26+ 128-240 Low 145-190 145-070 144-260 144-150	130-12+ 130-02+ 129-19+ 129-170 128-30+ Close 146-240 146-000 145-170	0-100 0-150 0-02+ 0-18+ -0-150 1D Chg 0-240 0-150 0-000 0-250	0-200 0-188 0-18+ 0-182 0-17+ ATR (14) 1-041 1-023 1-023 1-023	(8) 129-160 129-107 129-065 129-027 128-298 SMA (8) 145-14+ 145-075 145-020 144-27+	(21) 128-252 128-200 128-148 128-10+ 128-057 SMA (21) 144-095 144-002 143-23+ 143-152	(14) 100 100 100 100 100 100 RSI (14) 77 74 72 72	(14) -17 -10 -15 -16 -48 %R (14) -16 -9 -19	HH, HL Highs Lows HL	Inside Day Black Engulfing Candle Pattern Inside Day	
Ned	2-Jan 31-Dec 28-Dec 27-Dec 26-Dec Tre Date 2-Jan 31-Dec 2-Jan 31-Dec 28-Dec 27-Dec 26-Dec	129-280 129-210 129-09+ 128-270 129-200 Open 145-230 145-210 145-020 144-160	130-26+ 130-08+ 129-270 129-210 129-25+ High 147-140 146-090 145-280 145-280	129-250 129-15+ 129-04+ 128-26+ 128-240 Low 145-190 145-070 144-260 144-150	130-12+ 130-02+ 129-19+ 129-170 128-30+ Close 146-240 146-000 145-170	Chg 0-100 0-150 0-02+ 0-18+ -0-150 1D Chg 0-240 0-150 0-000 0-250 -0-220	(14) 0-200 0-188 0-18+ 0-182 0-17+ ATR (14) 1-041 1-023 1-023 1-023 1-015	(8) 129-160 129-107 129-065 129-027 128-298 SMA (8) 145-14+ 145-075 145-020 144-27+ 144-190	(21) 128-252 128-200 128-148 128-10+ 128-057 SMA (21) 144-095 144-002 143-23+ 143-066	(14) 100 100 100 100 100 RSI (14) 77 74 72 72 68	(14) -17 -10 -15 -16 -48 %R (14) -16 -9 -19 -19 -42	HH, HL Highs Lows HL HL	Pattern Inside Day Black Engulfing Candle Pattern Inside Day Black Engulfing	
Ned Mon Fri Thu JS Futu JS Futu Mon Fri Thu Wed Mon Fri Thu Wed WWN Futu Day	2-Jan 31-Dec 28-Dec 27-Dec 26-Dec Tre Date 2-Jan 31-Dec 2-Jan 31-Dec 28-Dec 27-Dec 26-Dec	129-280 129-210 129-09+ 128-270 129-200 Open 145-230 145-210 145-240	130-26+ 130-08+ 129-270 129-210 129-25+ High 147-140 146-090 145-280 146-030	129-250 129-15+ 129-04+ 128-26+ 128-240 Low 145-190 145-070 144-260 144-150 144-130	130-12+ 130-02+ 129-19+ 129-170 128-30+ Close 146-240 146-000 145-170 145-170 144-240	Chg 0-100 0-150 0-02+ 0-18+ -0-150 1D Chg 0-240 0-150 0-0250 -0-220	(14) 0-200 0-188 0-18+ 0-182 0-17+ ATR (14) 1-041 1-023 1-023 1-015	(8) 129-160 129-107 129-065 129-027 128-298 SMA (8) 145-14+ 145-075 145-020 144-27+ 144-190 SMA	(21) 128-252 128-200 128-148 128-10+ 128-057 SMA (21) 144-095 144-092 143-23+ 143-152 143-066	(14) 100 100 100 100 100 100 RSI (14) 77 74 72 68 RSI	(14) -17 -10 -15 -16 -48 %R (14) -16 -9 -19 -19 -42	Lows HH, HL HIGHS Lows HL HL	Pattern Inside Day Black Engulfing Candle Pattern Inside Day Black Engulfing Candle	
Day Wed Mon Fri Thu Wed JS Futu Day Wed WN Futu WN Futu WN Futu WN Futu WN Futu	2-Jan 31-Dec 28-Dec 27-Dec 26-Dec Tre Date 2-Jan 31-Dec 2-Jan 31-Dec 28-Dec 27-Dec 26-Dec	129-280 129-210 129-09+ 128-270 129-200 Open 145-230 145-210 145-220 144-160 145-240	130-26+ 130-08+ 129-270 129-210 129-25+ High 147-140 146-090 145-280 145-280 146-030	129-250 129-15+ 129-04+ 128-26+ 128-240 Low 145-190 145-070 144-260 144-150 144-130	130-12+ 130-02+ 129-19+ 129-170 128-30+ Close 146-240 146-000 145-170 145-170 144-240	Chg 0-100 0-150 0-02+ 0-18+ -0-150 1D Chg 0-240 0-150 0-000 0-250 -0-220 1D Chg	(14) 0-200 0-188 0-18+ 0-182 0-17+ ATR (14) 1-041 1-023 1-023 1-023 1-015	(8) 129-160 129-107 129-065 129-027 128-298 SMA (8) 145-14+ 145-020 144-27+ 144-190 SMA (8)	(21) 128-252 128-200 128-148 128-10+ 128-057 SMA (21) 144-095 144-002 143-23+ 143-152 143-066 SMA (21)	(14) 100 100 100 100 100 RSI (14) 77 74 72 68 RSI (14)	(14) -17 -10 -15 -16 -48 %R (14) -16 -9 -19 -19 -42 %R (14)	Highs Lows HH, HL Highs Lows HL HL	Pattern Inside Day Black Engulfing Candle Pattern Inside Day Black Engulfing Candle	
Ved Volume Volume Volume Volume Volume Volume VVN Futu VVN Futu	2-Jan 31-Dec 28-Dec 27-Dec 26-Dec Tre Date 2-Jan 31-Dec 2-Jan 31-Dec 2-Jan 28-Dec 27-Dec 26-Dec ure Date 2-Jan	129-280 129-210 129-09+ 128-270 129-200 Open 145-230 145-210 145-220 144-160 145-240 Open 160-120	130-26+ 130-08+ 129-270 129-210 129-25+ High 147-140 146-090 145-280 146-030 High 162-160	129-250 129-15+ 129-04+ 128-26+ 128-240 145-190 145-070 144-260 144-130 144-130	130-12+ 130-02+ 129-19+ 129-170 128-30+ Close 146-240 146-000 145-170 145-170 144-240 Close 161-210	Chg 0-100 0-150 0-02+ 0-18+ -0-150 1D Chg 0-240 0-150 0-000 0-250 -0-220 1D Chg	(14) 0-200 0-188 0-18+ 0-182 0-17+ ATR (14) 1-041 1-023 1-023 1-015 ATR (14) 1-166	(8) 129-160 129-107 129-065 129-027 128-298 SMA (8) 145-14+ 145-020 144-27+ 144-190 SMA (8) 160-186	(21) 128-252 128-200 128-148 128-10+ 128-057 SMA (21) 144-095 144-095 143-23+ 143-152 143-066 SMA (21) 158-305	(14) 100 100 100 100 100 100 RSI (14) 77 74 72 72 68 RSI (14) 72	(14) -17 -10 -15 -16 -48 %R (14) -16 -9 -19 -42 %R (14) -17	Highs Lows HH, HL Highs Lows HL HL	Pattern Inside Day Black Engulfing Candle Pattern Inside Day Black Engulfing Candle	
Day Ned Mon Fri Thu Ned JS Futu Day Ned Mon Fri	2-Jan 31-Dec 28-Dec 27-Dec 26-Dec Date 2-Jan 31-Dec 28-Dec 2-Jan 31-Dec 28-Dec 27-Dec 26-Dec ure Date 2-Jan 31-Dec	129-280 129-210 129-09+ 128-270 129-200 Open 145-230 145-210 145-220 144-160 145-240 Open 160-120 160-100	130-26+ 130-08+ 129-270 129-210 129-25+ High 147-140 146-090 145-280 146-030 High 162-160 161-060	129-250 129-15+ 129-04+ 128-26+ 128-240 145-190 145-070 144-260 144-130 144-130 144-130	130-12+ 130-02+ 129-19+ 129-170 128-30+ Close 146-240 146-000 145-170 145-170 144-240 Close 161-210	Chg 0-100 0-150 0-02+ 0-18+ -0-150 1D Chg 0-240 0-150 0-0250 -0-220 1D Chg 1-000 0-190	(14) 0-200 0-188 0-18+ 0-182 0-17+ ATR (14) 1-041 1-023 1-023 1-015 ATR (14) 1-166 1-151	(8) 129-160 129-107 129-065 129-027 128-298 SMA (8) 145-14+ 145-020 144-27+ 144-190 SMA (8) 160-186	(21) 128-252 128-200 128-148 128-10+ 128-057 SMA (21) 144-095 144-095 143-23+ 143-152 143-066 SMA (21) 158-305 158-178	(14) 100 100 100 100 100 RSI (14) 77 74 72 68 RSI (14) 72 68	(14) -17 -10 -15 -16 -48 %R (14) -16 -9 -19 -19 -42 %R (14) -17 -35	Highs Lows HH, HL Highs Lows HL HL	Pattern Inside Day Black Engulfing Candle Pattern Inside Day Black Engulfing Candle Pattern	

Source: Morgan Stanley Research, Bloomberg



Cyclical and Secular Trends

In The Tactical Bull Market Is Back, we discussed a simple methodology based on the Ichimoku Kinko charting technique for classifying market movements as bullish, bearish, or range bound. Then, we define whether the market movement is cyclical or secular in nature. A cyclical move is shorter term in nature, and a secular move is longer term in nature. For cyclical moves, we further divide them into tactical and strategic. We use daily data to inform tactical moves, and weekly data to inform strategic moves. We use monthly data to inform secular movements.

Exhibit 9: Summary of cyclical (tactical and strategic) and secular bull, bear, and range bound rates markets

					Cyclical	Cyclical	Secular
	Daily	Daily	Daily		Tactical	Strategic	
	Last	Cloud Lower	Cloud Upper	200d MA	Daily	Weekly	Monthly
UST 2y	2.468	2.834	2.877	2.622	Bull Market	Bear Market	Bear Market
UST 5y	2.458	2.956	2.981	2.805	Bull Market	Range bound	Bear Market
UST 10y	2.620	3.084	3.150	2.951	Bull Market	Range bound	Bear Market
UST 30y	2.952	3.268	3.360	3.133	Bull Market	Range bound	Range bound
DBR 2y	-0.614	-0.594	-0.562	-0.593	Bull Market	Bear Market	Bull Market
DBR 5y	-0.371	-0.196	-0.129	-0.175	Bull Market	Bull Market	Range bound
DBR 10y	0.165	0.392	0.462	0.418	Bull Market	Bull Market	Range bound
DBR 30y	0.800	1.038	1.088	1.083	Bull Market	Bull Market	Bull Market
UKT 2y	0.715	0.760	0.809	0.776	Bull Market	Bear Market	Bear Market
UKT 5y	0.837	1.016	1.102	1.066	Bull Market	Range bound	Range bound
UKT 10y	1.209	1.461	1.551	1.399	Bull Market	Bull Market	Bull Market
UKT 30y	1.777	1.924	1.953	1.835	Bull Market	Bull Market	Bull Market
JGB 10y	0.003	0.118	0.129	0.077	Bull Market	Bull Market	Bull Market
JGB 20y	0.494	0.647	0.657	0.574	Bull Market	Bull Market	Bull Market
JGB 30y	0.719	0.876	0.897	0.795	Bull Market	Bull Market	Range bound
JGB 40y	0.852	1.038	1.045	0.938	Bull Market	Bull Market	Range bound
ACGB 2y	1.900	2.042	2.043	2.025	Bull Market	Bull Market	Range bound
ACGB 5y	1.906	2.223	2.250	2.263	Bull Market	Bull Market	Bull Market
ACGB 10y	2.318	2.668	2.687	2.657	Bull Market	Bull Market	Bull Market
ACGB 20y	2.682	3.071	3.095	3.047	Bull Market	Bull Market	Bull Market
NZGB 2y	1.699	1.790	1.873	1.807	Bull Market	Bull Market	Bull Market
NZGB 5y	1.854	2.039	2.108	2.126	Bull Market	Bull Market	Bull Market
NZGB 10y	2.367	2.658	2.700	2.700	Bull Market	Bull Market	Bull Market
NZGB 20y	2.695	2.991	3.011	3.081	Bull Market	Bull Market	Bull Market
CAN 2y	1.840	2.243	2.256	2.051	Bull Market	Range bound	Bear Market
CAN 5y	1.838	2.336	2.371	2.189	Bull Market	Bull Market	Bear Market
CAN 10y	1.901	2.402	2.469	2.293	Bull Market	Bull Market	Bear Market
CAN 30y	2.120	2.447	2.471	2.349	Bull Market	Bull Market	Range bound

Source: Morgan Stanley Research, Bloomberg



Holiday Trading Strategy

Combining the individual trading signals based on 10y Treasury future (TY) price patterns before and after US holidays has generated an annual strategy with no down years since 1987. See Trading 10y Treasury Futures Around US Holidays for more information.

Using historical data since 1983, we created a trading strategy using 10y Treasury futures (TY) that trades 11 times per year, either long or short, before or after the following US holidays: New Year's Day, Martin Luther King Day, Presidents' Day, Good Friday, Memorial Day, Independence Day, Labor Day, Columbus Day, Thanksgiving, and Christmas. Exhibit 10 displays the trading rules:

Exhibit 10: Trading rules for US holiday trading model using US 10y futures contracts (TY)

Holiday	Day of Week	Direction	Before/After Holiday	Trading Rule (business days, 3pm NY unless specified)	Trade Entry (business days)	Trade Exit (business days)
New Year's Day	Rotates	Long TY	After	Buy TY New Years +1, Sell TY New Years +4	New Year + 1	New Year + 4
Martin Luther King Day 1	Monday	Long TY	Before	Buy TY Tuesday before MLK, Sell Friday before MLK	MLK - 4	MLK - 1
Martin Luther King Day 2	Monday	Short TY	After	Sell TY Tuesday after MLK, Buy Friday after MLK	MLK + 1	MLK + 4
President's Day	Monday	Long TY	After	Buy TY Tuesday after Pres. Day, Sell TY Friday after Pres. Day	Pres. Day + 1	Pres. Day + 4
Good Friday	Friday	Long TY	After	Buy TY Monday after Good Friday, Sell TY Friday after Good Friday	Good Friday + 1	Good Friday + 5
Memorial Day	Monday	Long TY	After	Buy TY Tuesday after Mem. Day, Sell TY Friday after Mem. Day	Mem. Day + 1	Mem. Day + 4
Independence Day (July 4th)	Rotates	Long TY	After	Buy TY Independence Day + 2, Sell TY Independence Day + 4	Ind. Day + 2	Ind. Day + 4
Labor Day	Monday	Long TY	Before	Buy TY Monday before Labor Day, Sell TY Thursday before Labor Day	Labor Day - 4	Labor Day - 2
Columbus Day	Monday	Short TY	Before	Sell TY Monday before Col. Day, Buy TY Thursday before Col. Day	Colum. Day - 5	Colum. Day - 2
Thanksgiving	Thursday	Long TY	Before	Buy TY Friday before Thanksgiving, Sell TY Tuesday before Thanksgiving	Thanksgiving - 4	Thanksgiving - 2
Christmas	Rotates	Short TY	Before	Sell TY Christmas Day - 4, Buy TY Christmas Day - 1	Christmas - 4	Christmas - 1



G4 Smarter (beta) Trading Strategy

Enhancements to a G4 10y government bond futures momentum strategy have produced higher Sharpe ratios and stronger returns, relative to total return government bond indices for the G4, US, Germany, Japan, and the UK since 2000. See A "Smarter" (Beta) Way to Trade G4 10y Futures Duration? for more information on these strategies.

Trading Strategy 1 – "Trade Longs/Fade Shorts"

When the 5-day moving average crosses above the 20-day moving average, buy the futures contract (long duration) and hold for a 25 business day period. When the 5-day moving average crosses below the 20-day moving average, buy the futures contract and hold for a 25 business day period. In short, this strategy buys futures when the Simple Moving Average Crossover (SMAX) generates both a long and a short signal, given the historical outperformance of long signals traded long and underperformance of short signals traded short. Given that the SMAX could generate both a long and a short signal within the predefined holding period, an investor may have a 200% long position since each of the two signals would be traded in separate portfolio sleeves.

Trading Strategy 2 - Trade "Longs Only"

When the 5-day moving average crosses above the 20-day moving average, buy the futures contract (long duration) and hold for a 25 business day period. When the 5-day moving average crosses below the 20-day moving average, do nothing. In short, an investor ONLY trades long signals initiated by the SMAX given their historical precedent to outperform.

Exhibit 11: Trading Signals for G4 Smarter (beta) Trading Strategy

Current Risk, G4 10y Futures	G4 Strategy Weight	Trade Longs Portfolio	Fade Shorts Portfolio	Total Risk Trade Longs Only	Total Risk Trade Longs/Fade Shorts (max 200%)	Trade Longs Portfolio Entry Date	Trade Longs Portfolio Exit Date	Fade Shorts Portfolio Entry Date	Fade Shorts Portfolio Exit Date
JB 10y Future	32.50%	0%	0%	0%	0%	N/A	N/A	N/A	N/A
GE 10y Future	29.25%	0%	0%	0%	0%	N/A	N/A	N/A	N/A
US 10y Future	30.50%	0%	0%	0%	0%	N/A	N/A	N/A	N/A
UK 10y Future	7.75%	0%	100%	0%	100%	N/A	N/A	12/27/2018	2/1/2019



Market Data

Exhibit 12: US	S market data s	summary										
	UST	Treasuries					USD Swap an	nd UST Benchmar	k Swap Spread			
Maturity	3PM YTM (%)		5PM YTM (%)	3~5PM ∆ (bp)		Maturity	3PM YTM (%)	1d Δ (bp)	Spread (bp)	1d ∆ (bp)		
2y	2.502	0.9	2.468	-3.4		2y	2.675		17.4	-0.9		
3 y	2.472	1.2	2.429	-4.3		3y	2.604		13.2	-1.2		
<u>5</u> y	2.500	-0.9	2.458	-4.2		<u>5</u> y	2.572		7.2	0.9		
7y	2.560	-2.5	2.520	-4.1		.7y	2.609		4.8	2.5		
10y	2.660	-2.9	2.620	-3.9		10y	2.690		3.0	2.9		
30y	2.981	-3.8	2.952	-2.9		30y	2.811		-17.0	3.8		
UST curves	3PM Spread (bp)		5PM YTM (bp)			Swap curves	3PM Spread (bp)		Sprd Curves (bp)	1d ∆ (bp)		
2s/3s 3s/5s	-3.0 2.8	0.3	-3.9 2.9	-0.9 0.1		2s/3s 3s/5s	-7.1 -3.2	0.0 0.0	-4.1 -6.0	-0.3 2.0		
5s/3s 5s/7s	2.8 6.0	-2.0 -1.6	6.2	0.1		5s/5s 5s/7s	-3.2 3.6	0.0	-6.0 -2.4	2.0 1.6		
7s/10s	10.0	-0.4	10.1	0.2		7s/10s	8.1	0.0	-1.8	0.4		
10s/30s	32.1	-0.4	33.1	1.1		10s/30s	12.1	0.0	-20.0	0.4		
2s/3s/5s	-5.8	2.3	-6.8	-1.0	_	2s/3s/5s	-3.9	0.0	1.9	-2.3		
2s/5s/10s	-16.2	0.3	-17.3	-1.1		2s/5s/10s	-22.0	0.0	-5.9	-0.3		
5s/7s/10s	-3.9	-1.2	-3.9	0.0		5s/7s/10s	-4.5	0.0	-0.6	1.2		
5s/10s/30s	-16.1	-1.2	-16.9	-0.8		5s/10s/30s	-0.3	0.0	15.8	1.2		
			UST Futures						US TIPS - Real Yields			
Front Contract	3PM Close (32nds)	1d A (32nds)	Agg Volume	Vol 1d Δ	Vol 60d Z	Ol 1w Δ		Maturity	Real Yield (%)	1d ∆ (bp)		
TU	106-06+	0-01+	318,547	58,874	-0.51	108,453		TII 7/20	1.84	-4.7		
FV	114-220	0-000	704.642	67,147	-0.65	9,177		TII 4/23	0.96	-3.8		
TY	122-160	0-15+	1,252,514	455,017	-0.75	13,575		TII 7/28	0.93	-4.0		
UXY	130-26+	0-240	125,690	-10,511	-0.60	12,820		TII 2/48	1.16	-4.2		
US	147-130	1-130	266,807	42,065	-0.72	-1,673	·	US TII	PS - Breakeven Infl	ation		
WN	160-210	1-000	99,379	-31,647 -	-0.65	5,318		Maturity	BEI (bp)	1d ∆ (bp)		
	GCF Repo			E	urodollar Futur	res	'	TII 7/20	68.2	2.7		
Maturity	O/N (%)	1d ∆ (bp)		Pack	Rate (%)	1d ∆ (bp)		TII 4/23	148.2	-1.2		
GCF O/N	3.23	-191.8		Whites	2.69	1.4		TII 7/28	168.9	-2.5		
GCF Feb19	2.44			Reds	2.51	1.1	_	TII 2/48	179.4	-2.2		
GCF Mar19	2.45			Greens	2.45	-0.6		Mortgag	ge Performance vs.	Swans		
GCF Apr19	2.45			Blues	2.52	-2.5				•		
GCF May19	2.46		_	Golds	2.64	-2.3		Coupon	Price	1d Δ (32nds)		
GCF Jun19	2.47			Fo	rward Swap Ra	ates		FNCL 3.0	97-220	0-032		
GCF Jul19 GCF Aug19	2.47 2.47			Maturity	Data (%)	1d ∆ (bp)		FNCL 3.5 FNCL 4.0	100-020 102-000	0-022 0-012		
				1y1y	Rate (%) 2.58	1.2		FNCL 4.5	103-17+	0-012		
FOM	FOMC Meeting Pricing				2.52	0.5	•		innie/Fannie Swaps			
Meetings	Rate (bp)	Prob, 1d ∆ (%)		1y2y 2y2y	2.47	-0.7			-			
FF Effective	2.40			2y5y	2.58	-3.1		Swap	Spread (32nds)	1d Δ (32nds)		
1/30/2019	2.40	0,0		3y2y	2.52	-2.6		GN/FN 3.0	0-306	-0-006		
3/20/2019	2.41	2,-2		3y5y	2.65	-4.3		GN/FN 3.5	0-206	-0-006		
5/1/2019	2.41	4,-2		3y10y	2.81	-4.9		GN/FN 4.0	0-142	-0-006		
6/19/2019 7/31/2019	2.42 2.41	7,-2 5,-3		5y5y 5y10y	2.82 2.90	-5.6 -5.4		GN/FN 4.5	-0-00+	0-01+		
9/18/2019	2.40	0,-3		10y10y	2.96	-5.4 -5.1		(Gold/Fannie Swaps			
	IBOR Settings	<u> </u>		10y20y	2.90	-4.9		Swap	Spread (32nds)	1d Δ (32nds)		
	ibok settings		_					FG/FN 3.0	-0-006	0-000		
-		1d ∆ (bp)						FG/FN 3.5	-0-007	0-000		
Tenor	Rate (%)							FG/FN 4.0	-0-007	-0-001		
Tenor O/N	2.387	0.9						FG/FN 4.5	-0-015	0-001		
Tenor O/N 1m	2.387 2.507	0.4										
Tenor O/N 1m 3m	2.387 2.507 2.794	0.4 -1.4					•					
Tenor O/N 1m 3m 6m	2.387 2.507 2.794 2.874	0.4 -1.4 -0.2							Other Market Data	14 A		
Tenor O/N 1m 3m	2.387 2.507 2.794	0.4 -1.4						Index/Security	Other Market Data Close	1d Δ 0.12%		
Tenor O/N 1m 3m 6m	2.387 2.507 2.794 2.874	0.4 -1.4 -0.2						Index/Security S&P 500	Other Market Data Close 2,510.03	0.13%		
Tenor O/N 1m 3m 6m	2.387 2.507 2.794 2.874	0.4 -1.4 -0.2						Index/Security S&P 500 USD/JPY	Other Market Data Close 2,510.03 108.88	0.13% -0.78%		
Tenor O/N 1m 3m 6m	2.387 2.507 2.794 2.874	0.4 -1.4 -0.2						Index/Security S&P 500 USD/JPY EUR/USD	Other Market Data Close 2,510.03 108.88 1.1344	0.13% -0.78% -1.06%		
Tenor O/N 1m 3m 6m	2.387 2.507 2.794 2.874	0.4 -1.4 -0.2						Index/Security S&P 500 USD/JPY EUR/USD 10y Bund	Close 2,510.03 108.88 1.1344 0.17%	0.13% -0.78% -1.06% -7.7 bp		
Tenor O/N 1m 3m 6m	2.387 2.507 2.794 2.874	0.4 -1.4 -0.2						Index/Security S&P 500 USD/JPY EUR/USD 10y Bund 10y Gilt	Other Market Data Close 2,510.03 108.88 1.1344 0.17% 1.21%	0.13% -0.78% -1.06% -7.7 bp -6.8 bp		
Tenor O/N 1m 3m 6m	2.387 2.507 2.794 2.874	0.4 -1.4 -0.2						Index/Security S&P 500 USD/JPY EUR/USD 10y Bund	Close 2,510.03 108.88 1.1344 0.17% 1.21% 0.50%	0.13% -0.78% -1.06% -7.7 bp -6.8 bp -2.1 bp		
Tenor O/N 1m 3m 6m	2.387 2.507 2.794 2.874	0.4 -1.4 -0.2						Index/Security S&P 500 USD/JPY EUR/USD 10y Bund 10y Gilt 20y JGB	Other Market Data Close 2,510.03 108.88 1.1344 0.17% 1.21%	0.13% -0.78% -1.06% -7.7 bp -6.8 bp		

Source: Morgan Stanley Research, Bloomberg



In Case You Missed It

US Economics: The State of Play

2 Jan 2018

We finished the year strong with 4Q GDP tracking 3.6%, but tighter financial conditions and leading indicators point to slower growth ahead. We look for a material slowdown in 2019 GDP with outright growth correction by 3Q. Markets must adjust to a dimmer outlook, but recession fears are overblown.

US Economics & Rates Strategy: FOMC Reaction: Tough Love

20 Dec 2018

As expected, the FOMC raised the target range by 25bp, but the dots farther out moved down. Powell is not yet prepared to change the balance sheet runoff plan. Our rates strategists suggest UST 2s10s and 2s30s flatteners, and 5s10s TIPS breakeven flatteners.

US Interest Rate Strategy: UST Spreads into Year-End

14 Dec 2018

Net Primary Dealer UST holdings reached a record high, according to the Fed's latest data release. As a result, we turn tactically neutral on swap spreads given dealer balance sheet constraints into year-end. We remain bullish on March 2019 FRAOIS given seasonality in CP issuance and MMF flows.

Global Inflation Strategy: Can Breakevens Climb the Wall of Worry?

14 Dec 2018

Modest inflation, a hawkish Fed, falling oil prices, and poor carry have driven a capitulation in TIPS, mirrored in JGBi breakevens. A dovish FOMC tilt, and the 2014/15 precedent suggests some relief for breakevens. We take off our beta-weighted 10y TIPS breakeven short, & turn neutral on TIPS.

US Economics & Rates Strategy: FOMC Preview: All Options on the Table Next Year 13 Dec 2018

The Fed hikes in December and signals flexibility in the path ahead. A shift lower in the dots will underscore that the ultimate destination next year is unknown. Should the median remain at three hikes in 2019, our strategists expect UST 2s5s and 2s10s curves to flatten further.

Global Interest Rate Strategist: Yield Compression Has Begun

8 Dec 2018

The US and Canada shot birdies on the first hole of the Ryder Cup of Bonds. Europe plays next with the ECB ready to tee off. Financial conditions continue to tighten despite an increasingly self-proclaimed data-dependent Fed. Real yields need to fall further before détente with financial conditions.



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(as of December 31, 2018)

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STOCK RATING	COUNT	% OF	COUNT	% OF	% OF	COUNT	% OF
CATEGORY		TOTAL		TOTAL IBC	RATING		TOTAL
					CATEGORY		OTHER
							MISC
Overweight/Buy	1143	36%	282	40%	25%	540	38%
Equal-weight/Hold	1428	45%	336	47%	24%	651	46%
Not-Rated/Hold	46	1%	6	1%	13%	6	0%
Underweight/Sell	566	18%	86	12%	15%	232	16%
TOTAL	3,183		710			1429	

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