Situation Room

Mind your duration

- **Mind your duration**. One of the consequences of the big decline in interest rates last year was a significant extension in IG corporate duration (see "In for the long haul" in Credit Market Strategist 06 December 2019). Hence ICE BofA US Corporate Index duration increased by 0.8 since December 2018 to 7.6 currently. On the high yield side the impact was even more dramatic – but in the opposite direction. High yield Index duration dropped by 1.0 over the same period to 3.2. High yield bonds are typically callable, and the decline in yields means they are more likely to be called and refinanced earlier. In bond math terms convexity is positive in IG and negative in HY.

- These dramatic shifts in duration, in turn, made high yield appear artificially rich relative to high grade. Simply comparing benchmark index spreads results in the ratio of BBs to BBBs that is near historical lows. But all of this richness is explained by the recent duration moves. Instead grouping bonds by duration shows that BB spreads are actually close to historical averages, or even a bit on the wider side, relative to BBBs. – *Hans Mikkelsen, Yuri Seliger*

- **Update on broad positioning**. With a signed phase 1 trade deal between the US and China expected tomorrow, and the associated expected positive impact on global PMIs, we continue to prefer industrials over financials. Within industrials we still buy only BBBs, as there is limited downside and even upside risk to fundamentals – unlike for their A- or higher rated counterparts. Although the back end has performed we still like the value remaining in the 30-year sector and especially off-the-runs that have not performed. With the collapse in recession risk and recent outperformance of HY there are few remaining excuses for these sectors not to perform. – *Hans Mikkelsen, Yunyi Zhang*

- **Daily supply update**. US IG new issuance totaled $5.2bn across 6 deals today, bringing us to $13.5bn WTD. The average new issue concession improved to 2.2bps today from 3.7bps yesterday, and the average break performance improved to 4.3bps tighter today from 1.4bps tighter yesterday. This week's new issues are trading 2.9bps tighter on average from pricing. Nippon Life announced global fixed income investor calls with potential issuance to follow. Equities closed down 0.15%, 10-year Treasury yields declined 3bps, CDX IG widened 0.50bps, and CDX HY dropped $0.12pt. Dealer inventories declined by $750mn today as of the time of this writing. Liquid cash bond spreads performed in line with CDX with US banks and TMT flat to 2bps wider, consumer retail 1bps tighter to 2bps wider, healthcare and energy 1-4bps wider, and industrials mostly flat on the day. – *Yunyi Zhang*

- **Daily foreign demand tracker**. – *Yuri Seliger, Yunyi Zhang*

- **Other reports include:** 1) BofA on USA: A good December, 2) Dec China trade rebound beat expectations, 3) Core US CPI points to soft December core PCE.

14 January 2020

Credit Strategy
United States
Cross Product

Hans Mikkelsen
Credit Strategist
BofAS
+1 646 855 6468
hans.mikkelsen@bofa.com

Yuri Seliger
Credit Strategist
BofAS
+1 646 855 7209
yuri.seliger@bofa.com

Yunyi Zhang, CFA
Credit Strategist
BofAS
+1 646 855 8696
yunyi.zhang@bofa.com

Credit Strategy
BofAS

Economics
Michelle Meyer
US Economist
BofAS
+1 646 855 6261
mmeyer2@bofa.com

Helen Qiao
China & Asia Economist
Merrill Lynch (Hong Kong)
+852 3508 3961
helen.qiao@bofa.com

Joseph Song
US Economist
BofAS
+1 646 855 8138
jsong5@bofa.com

Alexander Lin, CFA
US Economist
BofAS
+1 646 855 6499
alexander.lin@bofa.com

See Team Page for List of Analysts

Research Overview — The Situation

Hans Mikkelsen
Credit Strategist
BofAS
+1 646 855 6468
hans.mikkelsen@bofa.com

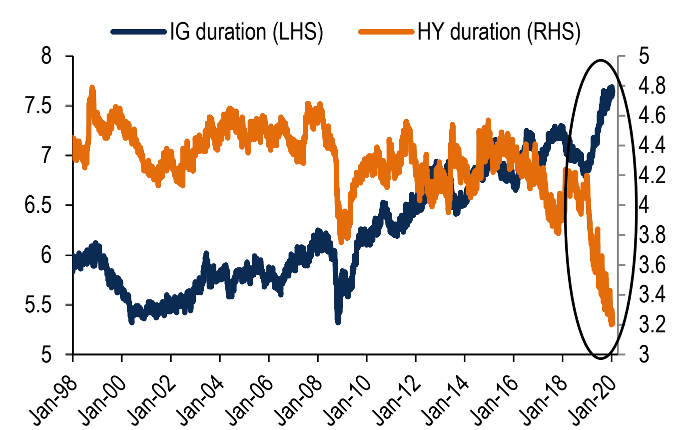
Yuri Seliger
Credit Strategist
BofAS
+1 646 855 7209
yuri.seliger@bofa.com

Mind your duration

One of the consequences of the big decline in interest rates last year was a significant extension in IG corporate duration (see "In for the long haul" in Credit Market Strategist 06 December 2019). Hence ICE BofA US Corporate Index duration increased by 0.8 since December 2018 to 7.6 currently. On the high yield side the impact was even more dramatic – but in the opposite direction. High yield Index duration dropped by 1.0 over the same period to 3.2 (Figure 1). High yield bonds are typically callable, and the decline in yields means they are more likely to be called and refinanced earlier. In bond math terms convexity is positive in IG and negative in HY.

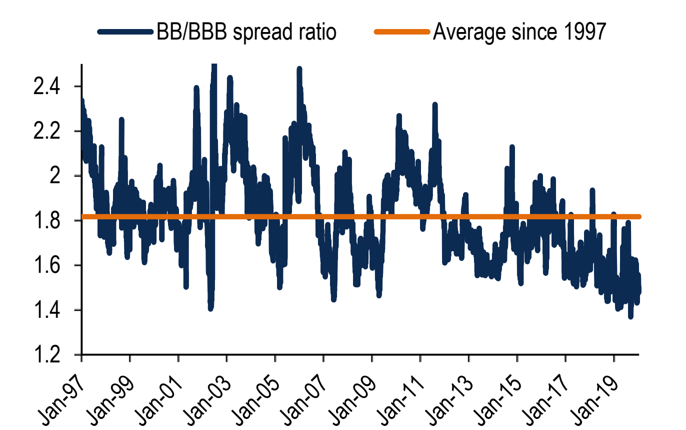
These dramatic shifts in duration, in turn, made high yield appear artificially rich relative to high grade. Simply comparing benchmark index spreads results in the ratio of BBs to BBBs that is near historical lows (Figure 2). But all of this richness is explained by the recent duration moves. Instead grouping bonds by duration shows that BB spreads are actually close to historical averages, or even a bit on the wider side, relative to BBBs (Figure 3, Figure 4, Figure 5).

Figure 1: Duration higher for IG, lower for HY



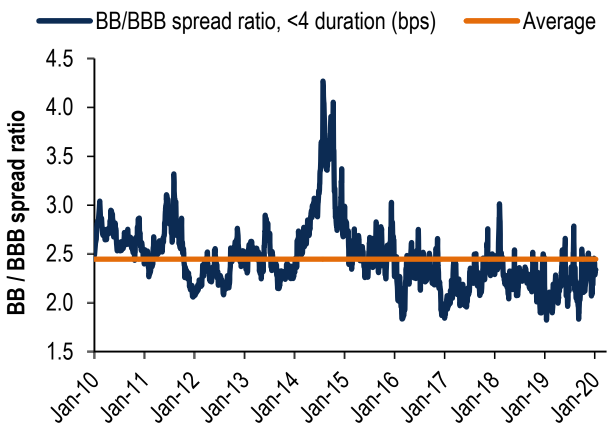
Source: ICE Data Indices, LLC

Figure 2: BB spreads are near the tights relative to BBB



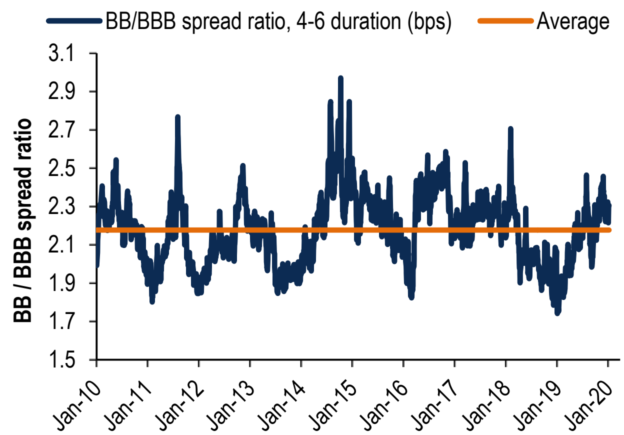
Source: BofA Global Research, ICE Data Indices, LLC

Figure 3: BB/BBB spread ratio: <4 duration



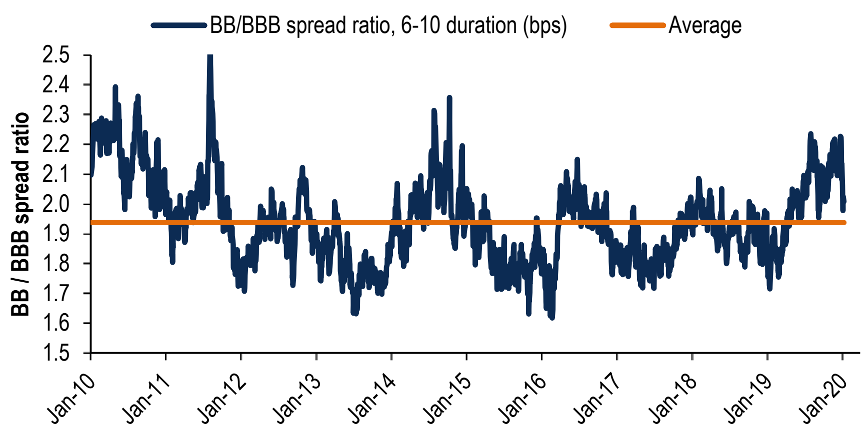
Note: based on DM industrial bonds only.
Source: BofA Global Research, ICE Data Indices, LLC

Figure 4: BB/BBB spread ratio: 4-6 duration



Note: based on DM industrial bonds only.
Source: BofA Global Research, ICE Data Indices, LLC

Figure 5: BB/BBB spread ratio: 6-10 duration



Note: based on DM industrial bonds only.
Source: BofA Global Research, ICE Data Indices, LLC

Credit Strategy

Hans Mikkelsen
Credit Strategist
BofAS
+1 646 855 6468
hans.mikkelsen@bofa.com

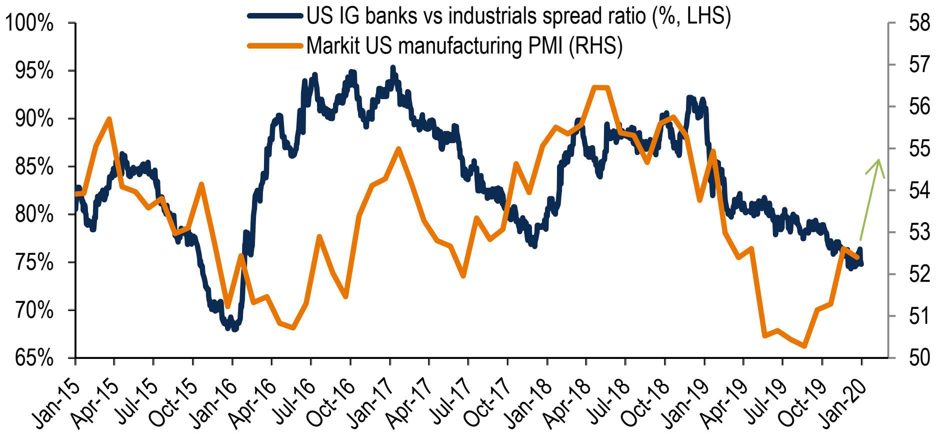
Yunyi Zhang, CFA
Credit Strategist
BofAS
+1 646 855 8696
yunyi.zhang@bofa.com

Update on broad positioning

With a signed phase 1 trade deal between the US and China expected tomorrow, and the associated expected positive impact on global PMIs, we continue to prefer industrials over financials (Figure 6). Within industrials we still buy only BBBs, as there is limited downside and even upside risk to fundamentals – unlike for their A- or higher rated counterparts. Although the back end has performed we still like the value remaining in the 30-year sector (Figure 7) and especially off-the-runs that have not performed (Figure

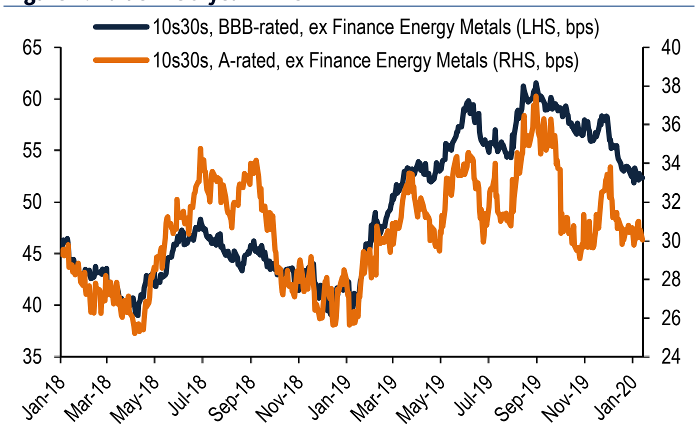
8). With the collapse in recession risk and recent outperformance of HY there are few remaining excuses for these sectors not to perform.

Figure 6: US Manufacturing PMI vs. US IG banks vs industrials spread ratio



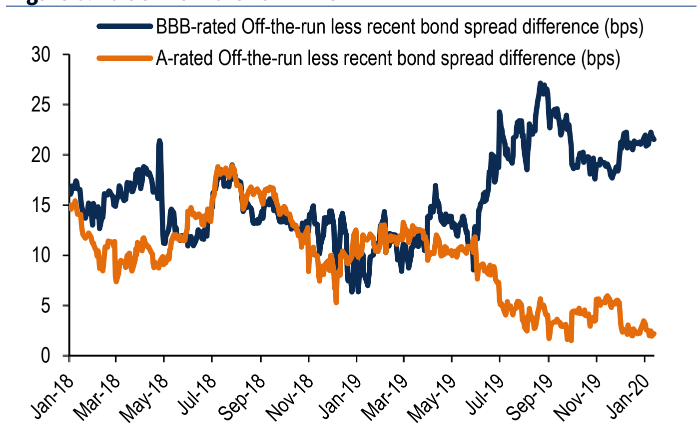
Source: IHS Markit, ICE Data Indices, LLC, BofA Global Research

Figure 7: Value in 30-year BBBs



Note: Spread curve calculation restricted to US IG non-Finance, Energy and Metals issuers with bonds outstanding for both tenors. For spread levels we use only on-the-run bonds (one for each tenor), outstanding for at most three years. The aggregate market spread curve is a simple average of individual issuer curves.
Source: ICE Data Indices, LLC, BofA Global Research

Figure 8: Value in off-the-run BBBs



Note: DM industrial bonds only, ex. GE. Off the run bonds are those issued more than 3 years prior. Recent bonds are those issued at most a year earlier.

Source: ICE Data Indices, LLC, BofA Global Research

Yunyi Zhang, CFA
Credit Strategist
BofAS
+1 646 855 8696
yunyi.zhang@bofa.com

Daily supply update

US IG new issuance totaled $5.2bn across 6 deals today, bringing us to $13.5bn week-to-date (Figure 9). The average new issue concession improved to 2.2bps today from 3.7bps yesterday, and the average break performance improved to 4.3bps tighter today from 1.4bps tighter yesterday. This week's new issues are trading 2.9bps tighter on average from pricing. In addition, Nippon Life has announced global fixed income investor calls with potential issuance to follow.

Equities closed down 0.15%, 10-year Treasury yields declined 3bps, CDX IG widened 0.50bps, and CDX HY dropped $0.12pt. While dealer inventories declined by $750mn today as of the time of this writing, liquid cash bond spreads performed in line with CDX with US banks and TMT flat to 2bps wider, consumer retail 1bps tighter to 2bps wider, healthcare 1-3bps wider, energy 1-4bps wider, and industrials mostly flat on the day.

Figure 9: Recent new issue pricing and new issue concessions

Date	Ticker	Name	Tenor	Size ($mm)	Moody's/S&P Rating	Coupon (%)	Px Spread (bps)	New Issue Conc. (bps)	* Break performance	Current spread (bps)
2020-01-13	ACAFP	Credit Agricole Corporate and Investment Bank/NY	18m	250	Aa3/A+	FRN	3mL+21	n.a.	n.a.	n.a.
2020-01-13	DT	Deutsche Telekom AG	30	1,250	Baa1/BBB+	3.625	138	n.a.	-2	136
2020-01-13	FEMSA	Fomento Economico Mexicano SAB de CV	30	1,500	NA/A-	3.5	130	n.a.	0	128
2020-01-13	PERTIJ	Pertamina Persero PT	10	500	Baa2/BBB	3.1	126	9	n.a.	n.a.
2020-01-13	PERTIJ	Pertamina Persero PT	30	1,000	Baa2/BBB	4.175	188	2	n.a.	n.a.
2020-01-13	POHANG	POSCO	3	500	Baa1/BBB+	2.375	83	-3	n.a.	n.a.
2020-01-13	POHANG	POSCO	5	440	Baa1/BBB+	2.5	98	2	n.a.	n.a.
2020-01-13	POR	Portland General Electric Co	30	110	A1/A	3.34	n.a.	n.a.	n.a.	n.a.
2020-01-13	POR	Portland General Electric Co	30	160	A1/A	3.34	n.a.	n.a.	n.a.	n.a.
2020-01-13	RY	Royal Bank of Canada	3	850	A2/A	FRN	3mL+36	n.a.	n.a.	n.a.
2020-01-13	RY	Royal Bank of Canada	3	1,000	A2/A	1.95	38	6	-1	36
2020-01-13	TOMARI	Reliance Standard Life Global Funding II	3	350	A2/A+	2.15	58	6	-2	56
2020-01-13	TOMARI	Reliance Standard Life Global Funding II	7	350	A2/A+	2.75	103	n.a.	-3	100
2020-01-14	ANZ	Australia & New Zealand Banking Group Ltd	11	1,250	Aa3/AA-	2.95	133	n.a.	n.a.	n.a.
2020-01-14	GUARDN	Guardian Life Insurance Co of America/The	50	300	A1/AA-	3.7	147	n.a.	n.a.	n.a.
2020-01-14	MQGAU	Macquarie Bank Ltd	5	1,250	A2/A+	2.3	70	0	n.a.	n.a.
2020-01-14	NYLIFE	New York Life Global Funding	5	650	AAA/AA+	2	45	4	-3	42
2020-01-14	OWLRCK	Owl Rock Capital Corp	6	500	Baa3/BBB-	3.75	220	3	-6	214
2020-01-14	PRXNA	Prosus NV	10	1,250	Baa3/BBB-	3.68	185	n.a.	n.a.	n.a.

Note: We calculate new issue concessions by estimating the difference between new issue bond spread and interpolated G spread from comparable liquid secondary bonds of the same issuer prior to the new issue deal announcement, adjusted for the spread impact of dollar prices deviating from par. Break performance is computed as the difference between new issue pricing and secondary closing spread on the first day of trading.
Source: BofA Global Research

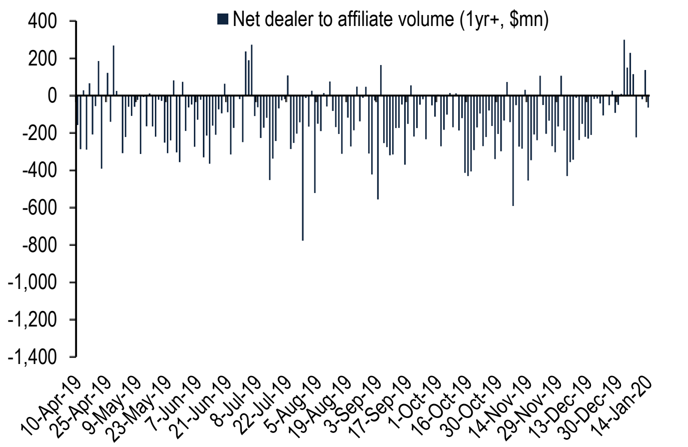
Yuri Seliger
Credit Strategist
BofAS
+1 646 855 7209
yuri.seliger@bofa.com

Yunyi Zhang, CFA
Credit Strategist
BofAS
+1 646 855 8696
yunyi.zhang@bofa.com

Daily foreign demand tracker

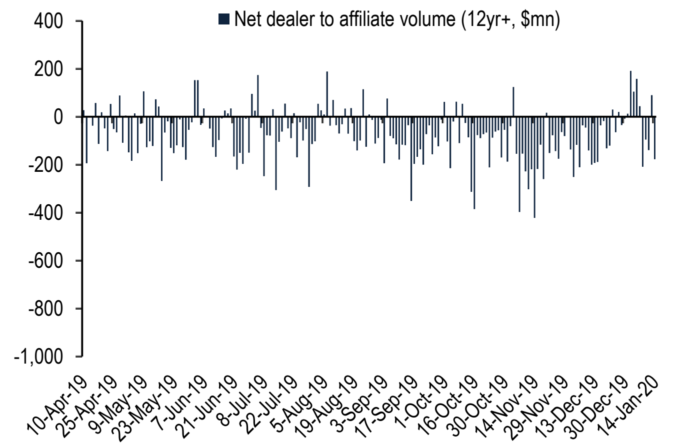
We believe net dealer-to-affiliate volumes from Trace are correlated with foreign buying of US HG corporate bonds - i.e., negative numbers mean foreign investor buying (US dealers taking down inventory in favor of foreign affiliates). For supporting material see our "primer" on tracking foreign inflows (See: Credit Market Strategist: One year round-trip in spreads 15 July 2016). Figure 10 shows the overall daily dealer-to-affiliate volumes while Figure 11, Figure 12 and Figure 13 show subsets of this data. In particular Figure 11 shows net dealer-to-affiliate volumes for longer maturity (12+ years) bonds, Figure 12 displays volumes reported to Trace before 8am NY time (biased toward Asian buying) and Figure 13shows the subset of net trades reported between 8am and noon (biased toward European buying). Figure 10 and Figure 11 include data from today, whereas Figure 12 and Figure 13 run through the previous business day.

Figure 10: Net dealer buying from affiliate (1yr+)



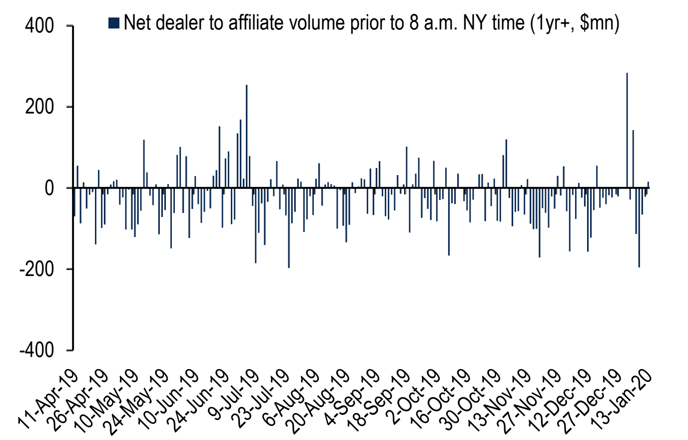
Note: Net dealer-to-affiliate volumes are correlated with foreign buying/selling. Negative numbers indicate foreign buying.
Source: Bloomberg, TRACE

Figure 11: Net dealer buying from affiliate (12yr+)



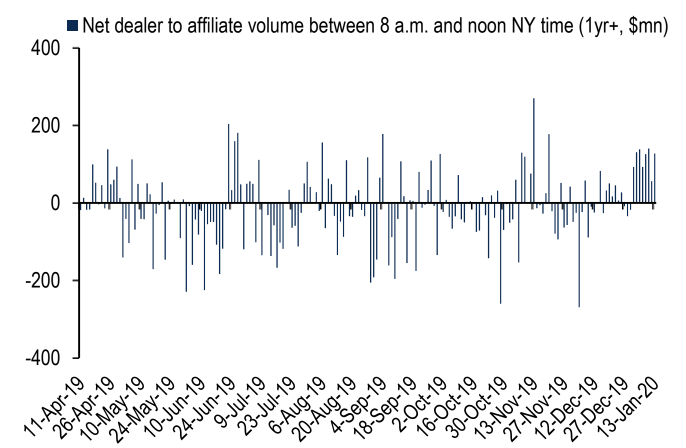
Note: Net dealer-to-affiliate volumes are correlated with foreign buying/selling. Negative numbers indicate foreign buying.
Source: Bloomberg, TRACE

Figure 12: Net dealer-to-affiliate trading volumes before 8 a.m. NY time



Note: Morning share of daily trading volume is correlated with secondary market activity of foreign investors due to different time zones.
Source: BofA Global Research, TRACE

Figure 13: Net dealer-to-affiliate trading volumes 8 a.m. - noon NY time



Note: Morning share of daily trading volume is correlated with secondary market activity of foreign investors due to different time zones.
Source: BofA Global Research, TRACE

Economics

Michelle Meyer
US Economist
BofAS
+1 646 855 6261
mmeyer2@bofa.com

Joseph Song
US Economist
BofAS
+1 646 855 8138
jsong5@bofa.com

Anna Zhou
US Economist
BofAS
+1 646 855 9002
anna.zhou@bofa.com

Previously published here
[BofA on USA: A good December... what a difference from 2018 14 January 2020]

BofA on USA: A good December

Expect 2019 holiday sales to be up nearly 5%

Retail sales ex-autos, as measured by BAC aggregated credit and debit card data, increased 0.3% month-over-month (mom) seasonally adjusted (sa) in December. Given that last December was so weak, this reveals a dramatic acceleration in the year-over-year (yoy) pace to 3.2% from 1.8% in November (Chart of the month). Assuming our forecast is correct, Census Bureau holiday sales, which are defined as retail ex auto & gas for November and December combined, would reveal a 4.7% yoy gain. The consumer was happy to spend at the end of 2019, kicking off 2020 on a good note.

In order to understand the reasons behind the dramatic pickup in the yoy rate of growth for retail sales, we need to dig into the dynamics in December 2018. Back then, the consumer was reacting strongly to the negative wealth shock from the sharp selloff in the stock market along with the government shutdown. According to the BAC data, retail sales ex-autos tumbled 1.0% mom in December 2018. Census data revealed an even more severe drop of 2.8%. The weakness was concentrated in online retailers. So to no surprise, online spending witnessed an impressive recovery in 2019. This offers an important lesson. In our view, discretionary spending is largely done online which means investors should focus on online retailers to understand the propensity for fluctuations in spending.

We also take another look at how retail spending fared by income cohort in 2019. We saw a differentiation by income group where the lower income population was able to witness stronger spending than the higher income cohort. This was a trend that started in 2018 and persisted through 2019. We believe the reason for this split is simple - lower income consumers saw faster wage growth with a more significant tightening of the labor force among this demographic group. It will be interesting to see if this continues in 2020 or if the higher income cohort increases spending given the positive wealth effects resulting from the S&P 500 reaching new highs.

Helen Qiao
China & Asia Economist
Merrill Lynch (Hong Kong)
+852 3508 3961
helen.qiao@bofa.com

Xiaoqing Pi
Economist
Merrill Lynch (Hong Kong)
+852 3508-6584
xiaoqing.pi@bofa.com

Miao Ouyang
China Economist
Merrill Lynch (Hong Kong)
+852 3508 6745
miao.ouyang@bofa.com

Previously published here
[China Economic Watch: Dec trade rebound beat expectations 14 January 2020]

Dec China trade rebound beat expectations

Figure 14: Announced: Tuesday, 14 January 2020

December, in USD terms	Actual	Previous	Consensus	BofA Global Research
Exports (% yoy)	7.6	-1.3	2.9	2.1
Imports (% yoy)	16.3	0.8	9.6	11.5
Trade balance (USD bn)	46.8	37.6	45.7	42.7

Source: BofA Global Research, China Customs, Bloomberg consensus

Upside surprise aided by the low-base effect

In Dec, export growth rose to 7.6% yoy from -1.3% in Nov, beating both the market consensus of 2.9% and our expectation of 2.1%. Meanwhile, imports increased by 16.3% yoy after rising 0.8% in Nov, exceeding the market expectation of 9.6% and our forecast of 11.5%. The trade surplus widened to US$46.8bn from US$37.6bn.

Partially helped by a low base effect, the contraction in exports to the US narrowed to -14.6% yoy from -23.0% in Nov. Meanwhile, export growth to the rest of the world (ROW) rose to 12.6% yoy from 4.4%. Also with the help of base effects, imports from the US continued to rise, by 7.8% yoy in Dec (vs. 2.7% in Nov). Import growth from ROW accelerated notably to 16.9% yoy from 0.7% in Nov. The trade surplus with the US narrowed to US$23.2bn from US$24.6bn in Nov.

Both exports and imports had broad-based rebounds

Export growth rebounded in Dec on both hi-tech products (30% of total exports) and traditional labor-intensive consumer goods (about 20%). Hi-tech exports increased by 0.6% yoy after falling 1.5% in Nov. Within hi-tech products, export growth of electronic integrated circuits (IC) accelerated to 34.8% yoy from 24.7% in Nov while that of automatic data processing machines (ADP) fell to -8.2% yoy from -4.2%. Traditional labor-intensive exports strengthened across the board, with clothing, footwear and textile exports expanding by 5.4%, 11.0% and 11.4% yoy respectively.

The rise in Dec imports was also broad-based. Growth in hi-tech imports accelerated (such as electronic IC and ADP, rising 30.2% and 32.7% yoy respectively), and agricultural imports recorded a rapid gain (+37.9% yoy). Import growth of some major commodities, such as crude oil and iron ore, improved as well.

Trade likely to bottom out in 2020

Sentiment among exporters started to improve before the scheduled signing of the US-China "phase-one" trade deal. A more favorable comparison base, frontloaded shipments ahead of an earlier Lunar New Year, and a recovery in the technology processing trade have also supported the trade rebound. Looking ahead, we think the likelihood of exports bottoming out in 2020 has increased with the ceasefire, during which we expect no more new tariffs and a partial rollback of the remaining tariffs. Still, lacking a more meaningful improvement in global demand, we think the pace of this recovery will likely be moderate. In addition, we forecast a 2.5% yoy gain in imports this year, in particular due to an acceleration of inbound shipments from the US.

Alexander Lin, CFA
US Economist

Michelle Meyer
US Economist

BofAS
+1 646 855 6499
alexander.lin@bofa.com

BofAS
+1 646 855 6261
mmeyer2@bofa.com

Previously published here
US Economic Watch: Core CPI points to soft December core PCE 14 January 2020

Core US CPI points to soft December core PCE

CPI misses forecast

The December CPI report came in softer than expected as headline grew 0.2% (0.22% unrounded) mom and core inched up 0.1% (0.11% unrounded) mom. On a % yoy basis, both settled at 2.3% yoy, the former rising from 2.1% in November and the latter holding steady.

Looking at the components, shelter prices underwhelmed growing 0.2% mom. Both owners' equivalent rent (OER) and rent of primary residence rose 0.2%, and lodging away from home slid -1.8% (Table 1, Table 2). Medical care services held steady at 0.4% mom relative to the last report. There was weakness in some of the more volatile categories of used cars (-0.8% mom) and airline fares (-1.6% mom), though apparel picked up modestly to 0.4% mom and medical care commodities jumped 1.5% mom.

The CPI and PPI data help us predict how core PCE will come out. The PPI report has not been released yet, thus we compute a preliminary forecast by assuming the prior 3-month average for PPI-related core PCE components. We estimate a soft December core PCE reading of 0.1% (0.14% unrounded) mom, with risk of rounding up to 0.2%. The % yoy inflation rate should be unchanged at 1.6% (1.57% unrounded). We will provide an update to the forecast should the PPI data released on January 15 move the needle.

Overall, the December inflation data suggest price pressures remain relatively contained, which should leave the Fed comfortably on hold. A return to target inflation is of course a big focus for the Fed, especially given the drift lower in inflation expectations over this expansion.

Disclosures

Important Disclosures

Due to the nature of strategic analysis, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities.
BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.
BofA Securities fixed income analysts regularly interact with sales and trading desk personnel in connection with their research, including to ascertain pricing and liquidity in the fixed income markets.

Other Important Disclosures

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for the purpose of any recommendation in relation to: (i) an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report; or (ii) a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.
The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

This report may refer to fixed income securities that may not be offered or sold in one or more states or jurisdictions. Readers of this report are advised that any discussion, recommendation or other mention of such securities is not a solicitation or offer to transact in such securities. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor for information relating to fixed income securities.
Rule 144A securities may be offered or sold only to persons in the U.S. who are Qualified Institutional Buyers within the meaning of Rule 144A under the Securities Act of 1933, as amended.
SECURITIES DISCUSSED HEREIN MAY BE RATED BELOW INVESTMENT GRADE AND SHOULD THEREFORE ONLY BE CONSIDERED FOR INCLUSION IN ACCOUNTS QUALIFIED FOR SPECULATIVE INVESTMENT.
The securities discussed in this report may be traded over-the-counter. Retail sales and/or distribution of this report may be made only in states where these securities are exempt from registration or have been qualified for sale.
Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.
This report, and the securities discussed herein, may not be eligible for distribution or sale in all countries or to certain categories of investors.
Information relating to Affiliates of BofAS, MLPF&S and Distribution of Affiliate Research Reports:
BofA Global Research policies relating to conflicts of interest are described at https://rsch.baml.com/coi
"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.
BofAS and/or Merrill Lynch, Pierce, Fenner & Smith ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF); BAMLI DAC (Milan): Bank of America Merrill Lynch International DAC, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Investment Industry Regulatory Organization of Canada; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; Merrill Lynch (Japan): Merrill Lynch Japan Securities Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; DSP Merrill Lynch (India): DSP Merrill Lynch Limited, regulated by the Securities and Exchange Board of India; Merrill Lynch (Indonesia): PT Merrill Lynch Sekuritas Indonesia, regulated by Otoritas Jasa Keuangan (OJK); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (Russia): OOO Merrill Lynch Securities, Moscow, regulated by the Central Bank of the Russian Federation; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Spain): Merrill Lynch Capital Markets Espana, S.A.S.V., regulated by Comisión Nacional del Mercado De Valores; Merrill Lynch (Brazil): Bank of America Merrill Lynch Banco Multiplo S.A., regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.
This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by Merrill Lynch (Japan), a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSFC; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by DSP Merrill Lynch (India); and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Bank of America N.A., Australian Branch (ARBN 064 874 531), AFS License 412901 (BANA Australia) and Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distribute this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of BANA Australia, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. Bank of America Merrill Lynch International DAC, Frankfurt Branch (BAMLI DAC (Frankfurt)) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BAMLI DAC and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please use this link http://www.bankofamerica.com/emaildisclaimer for further information.
This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients

of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

This report may contain a trading idea or recommendation which highlights a specific identified near-term catalyst or event impacting a security, issuer, industry sector or the market generally that presents a transaction opportunity, but does not have any impact on the analyst's particular "Overweight" or "Underweight" rating (which is based on a three month trade horizon). Trading ideas and recommendations may differ directionally from the analyst's rating on a security or issuer because they reflect the impact of a near-term catalyst or event.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned in this report. Investors in such securities and instruments effectively assume currency risk.

UK Readers: The protections provided by the U.K. regulatory regime, including the Financial Services Scheme, do not apply in general to business coordinated by BofA Securities entities located outside of the United Kingdom.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

Copyright and General Information:

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.

Research Analysts

Hans Mikkelsen
Credit Strategist
BofAS
+1 646 855 6468
hans.mikkelsen@bofa.com

Yuri Seliger
Credit Strategist
BofAS
+1 646 855 7209
yuri.seliger@bofa.com

Yunyi Zhang, CFA
Credit Strategist
BofAS
+1 646 855 8696
yunyi.zhang@bofa.com