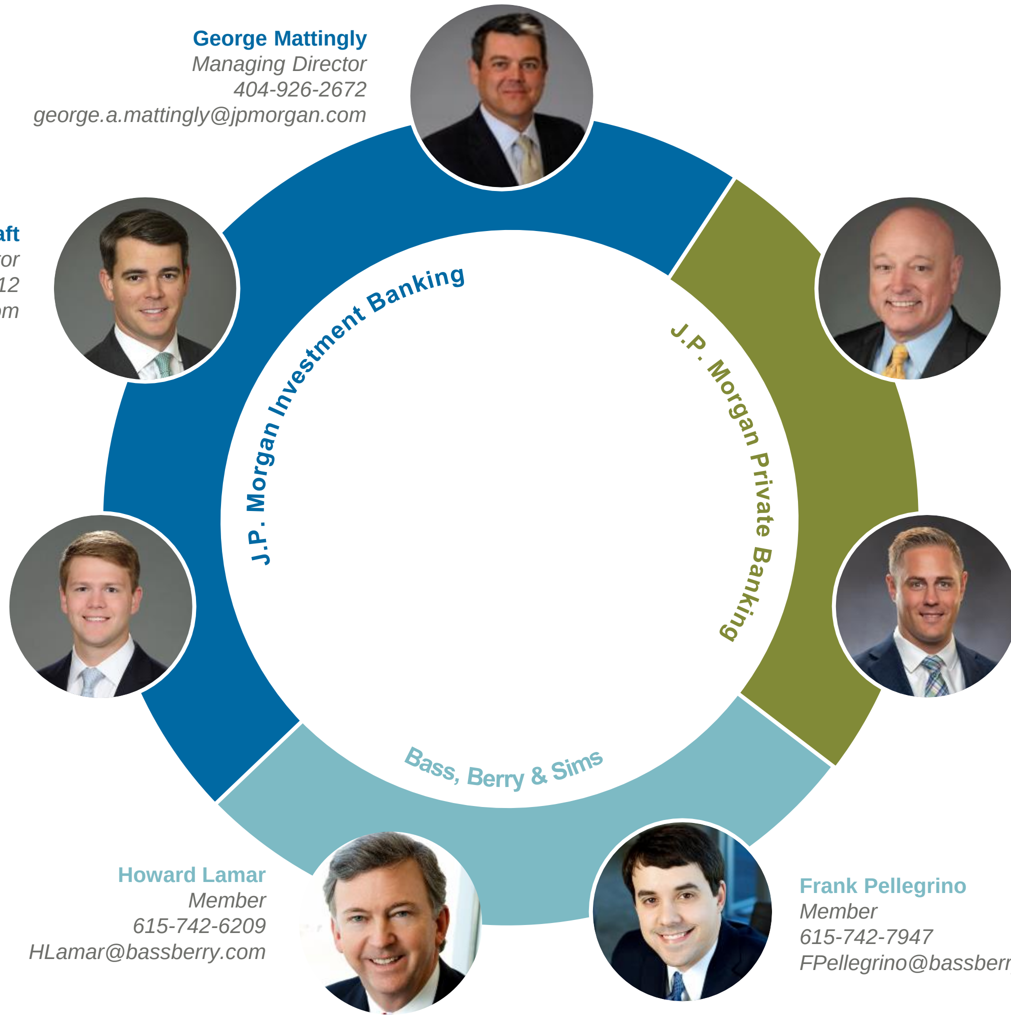
State of the markets

June 10, 2020

J.P.Morgan

Today's presenters



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Agenda

As the COVID-19 outbreak continues, economists are downgrading GDP estimates for 2020, forecasting a particularly sharp decline in Q2

Denotes max
Denotes min

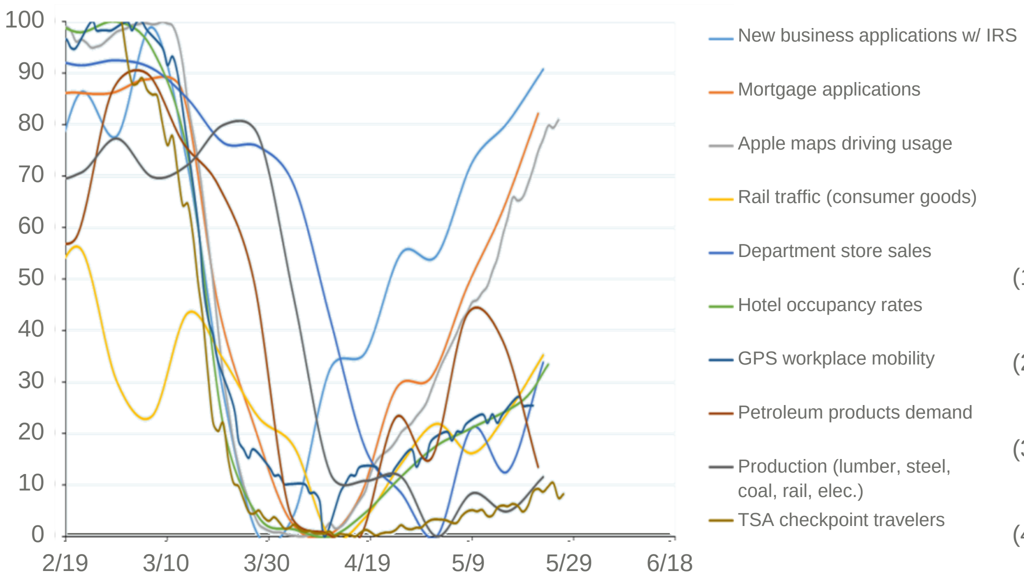
		Reported Q1 20	Q2 20	Q3 20	Q4 20	FY 2020	FY 2021
Median		**(4.8%)**	**(34.2%)**	**15.0%**	**7.9%**	**(5.7%)**	**3.9%**
vs. Median as of 05/15/20			*(0.7%)*	*0.0%*	*0.4%*	*0.0%*	*(0.1%)*
Top half median (75th percentile)			(29.4%)	23.0%	10.5%	(4.9%)	5.2%
Bottom half median (25th percentile)			(39.0%)	6.1%	5.0%	(6.9%)	3.0%
Mean		**(4.8%)**	**(33.5%)**	**15.8%**	**8.9%**	**(5.9%)**	**4.1%**
vs. Mean as of 05/15/20			*(0.5%)*	*0.3%*	*(0.1%)*	*(0.1%)*	*(0.0%)*
Top half mean			(27.2%)	25.4%	13.8%	(4.6%)	5.4%
Bottom half mean			(40.0%)	6.0%	3.9%	(7.1%)	2.7%
Select contributors	**Date**						
J.P.Morgan	05/29/20		(40.0%)	23.0%	10.0%	(6.6%)	3.7%
BARCLAYS	05/29/20		(40.0%)	25.0%	8.0%	(6.5%)	3.6%
UBS	05/29/20		(35.2%)	2.0%	5.5%	(7.6%)	3.1%
Bank of America Merrill Lynch[1]	05/29/20		(30.0%)	(1.0%)	25.0%	(8.0%)	4.0%
RBC	05/28/20		(28.0%)	37.0%	1.0%	(2.5%)	5.2%
Goldman Sachs	05/18/20		(39.0%)	29.0%	11.0%	(6.5%)	6.1%
citi	05/15/20		(27.4%)	22.2%	9.9%	(3.3%)	4.2%
Deutsche Bank	05/15/20		(38.7%)	15.0%	6.5%	(7.1%)	2.6%
TD	05/15/20		(41.4%)	25.1%	16.1%	(6.4%)	6.6%
WELLS FARGO	05/15/20		(24.7%)	6.7%	4.4%	(4.6%)	1.2%

Source: Bloomberg; Current data used includes estimates that economists have updated on or after 04/24/2020 (total of 63 contributors for quarterly data and 78 contributors for annual data); Note: [1] Quarterly estimates as of 05/15/2020

Tracking the US recovery

High frequency US data tracker

Index, with 0 = lowest observed value and 100 = highest observed value Jan. 1, 2020 to present



Spending recovery

National credit and debit card spending trends – all transactions, spending change 2020 vs 2019, 7 day smoothing

Source: Internal chase data. JP MAM. May 25, 2020

US is seeing rapid rebounds in spite of worst pandemic in decades

Source: WWPA, EIA, AISI, EEI, AAR, Redbook, Census Bureau, TSA.gov., Apple, Smith Travel, MBA, Google, JPMAM, May 29, 2020

Equity markets have rebounded sharply from March lows

2020 Equity market performance

	2020 YTD	Pre COVID-19 volatility 1/1 – 2/21	COVID-19 market impact 2/24 – 3/20	Recent recovery Since 3/23
S&P 500	(1%)	+3%	(29%)	+43%
S&P 400	(7%)	+1%	(38%)	+57%
Russell 2000	(10%)	+1%	(38%)	+50%
Industrials[1]	+2%	+2%	(37%)	+42%
VIX (avg.)	33	18	14	25[3]

Near-term market insights

- **Most acute phase of the Coronavirus is over** and **S&P 500 has recovered** off of March lows
  - However, the **gap between momentum and value continues**, with growth stocks outperforming cyclicals
- **Key macro narratives** driving S&P rebound and bolstered investor sentiment:
  - Optimism around reopening economy
  - Signs of economic trough
  - Significant fiscal / monetary stimulus globally
  - Increased hopes of a near-term treatment and a medium-term vaccine
- Beyond ongoing COVID-19 updates and reopening headlines, **investors will be focused on**:
  - Q2 earnings season
  - U.S. / China tensions
  - U.S. elections

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Source: FactSet as of 6/5/20
[1] Industrials refers to the S&P 500 Industrials
[3] VIX as of 6/5/20

S&P 500: COVID-19 Recession, Great Recession, and Great Depression

Source: Factset as of 6/5/2020

Across industries, those companies most affected by current market uncertainty have withdrawn guidance and taken defensive measures

Note: Dividend decreases, buyback suspensions, and credit downgrades are only for firms that have withdrawn guidance

Corporate actions for firms that have withdrawn guidance in 2020

		Guidance suspensions		Shareholder distributions		
	% change from S&P peak [1]	Count	% of total constituents	Dividend decreases [2]	Buyback suspensions	Credit downgrades [3]
S&P 500	(5.7%)	218	43.6%	31	47	38
Consumer Discretionary	0.2%	45	71.4%	14	19	18
Industrials	(11.0%)	43	62.3%	5	8	9
Information Technology	(1.1%)	29	41.4%	1	5	0
Health Care	(0.8%)	27	44.3%	2	5	1
Consumer Staples	(6.8%)	17	51.5%	2	5	2
Real Estate	(10.3%)	17	54.8%	2	0	0
Materials	(1.3%)	15	51.7%	1	0	4
Financials	(15.7%)	10	15.2%	0	3	1
Communication Services	(4.0%)	9	40.9%	0	1	1
Energy	(18.3%)	5	17.9%	4	1	2
Utilities	(13.0%)	1	3.6%	0	0	0

In sectors where guidance withdrawal has been more prominent, firms have also taken actions to preserve liquidity

Source: J.P. Morgan Corporate Finance Advisory, Bloomberg, FactSet, Moody's, S&P Capital IQ; Data as of Jun-05, 2020
Note: Sample set consists of firms in the S&P 500 as of 1/1/2020 that have withdrawn guidance in 2020; [1] % change from Feb-19, 2020 to Jun-05, 2020; [2] Includes both dividend cuts and dividend eliminations; [3] Includes corporate rating downgrades at Moody's and/or S&P

Investor sentiment will depend on a number of critical events in the coming weeks and months

Reopening the economy

- Any perspective from companies in affected industries such as **airlines and brick-and-mortar retail** that indicate reopening patterns for the economy
- **Airlines** such as DAL, LUV and UAL have reported **mild improvements in bookings/cancellations**, although revenue is still being guided down

COVID-19 statistics and Vaccine developments

- Given incubation period, **might not see** an increase in cases/hospitalizations right away
- Data released on a potential vaccine has been low, but **investors are eager** for details in the coming weeks and months

U.S. / China trade

- The relationship between the U.S. and China **will most likely remain tense,** with the market focused on any new developments
- It is **unlikely** meaningful policy action, such as repealing the 'phase one' trade agreement, **will take place before the election**

5th stimulus bill

- It is **likely that Trump will review a 5th stimulus bill**, but the process will not be as smooth as March and April
- The Democrats' $3T proposal is "DOA" with Republicans – the final price tag will **most likely be half that amount**

The Federal Reserve

- While the Fed has helped stabilize credit markets, Powell hopes the ***Secondary Market Corporate Credit Facility* ("junk bond facility") is enough to keep the markets afloat**
- The Fed most likely will **not launch any incremental liquidity facilities**, but they might look to formalize a **purchase schedule** in coming quarters

U.S. elections

- As November approaches, **investor attention will most likely switch** to the upcoming U.S. election
- Polls currently favor Biden, but given 11/3 is further away, **investors are discounting the polls for now**

Agenda

Capital raising activity by U.S. public companies since March 2020

	Total constituents	Any capital raise since March 2020: Count	Any capital raise since March 2020: Percentage	Of companies that raised capital since March 2020: Debt[1]	Of companies that raised capital since March 2020: Equity-like[2]	Of companies that raised capital since March 2020: Both
Russell 3000	2,944	500	17%	66%	37%	3%
Russell 1000	983	339	34%	88%	16%	4%
Russell 2000	1,961	161	8%	20%	80%	1%
Russell 1000 Growth	526	175	33%	84%	22%	6%
Russell 1000 Value	754	269	36%	90%	14%	4%
S&P 500	500	250	50%	96%	7%	3%
NASDAQ 100	100	43	43%	91%	14%	5%

Large cap companies have accessed the markets more frequently and relied on the debt markets more so than growth, mid-cap, and small-cap companies

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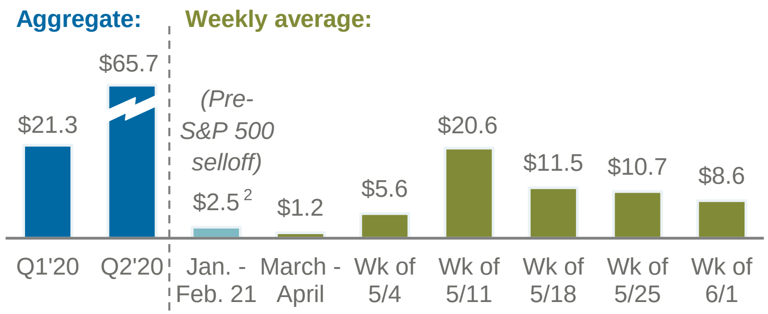
Source: J.P. Morgan Corporate Finance Advisory; Bloomberg, Bond Radar, Dealogic, PrivateRaise; Issuance data as of May-29, 2020
[1] Debt capital raise corresponds to IG and HY issuances
[2] Equity-like capital raise corresponds to equity follow-on (with primary proceeds), PIPEs, and converts

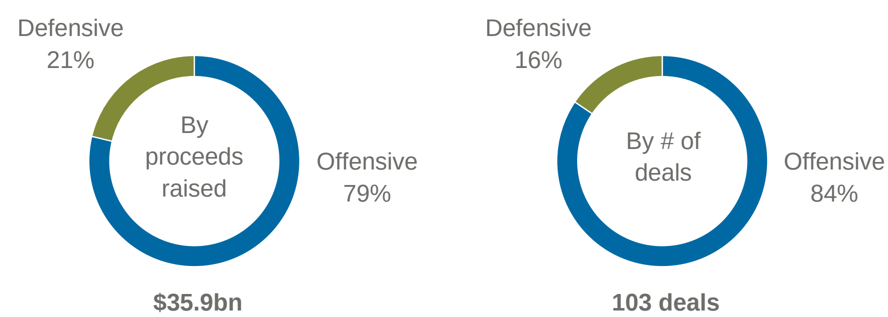
U.S. follow-on issuance snapshot since COVID-19

U.S. equity follow-on issuance volumes ($bn)



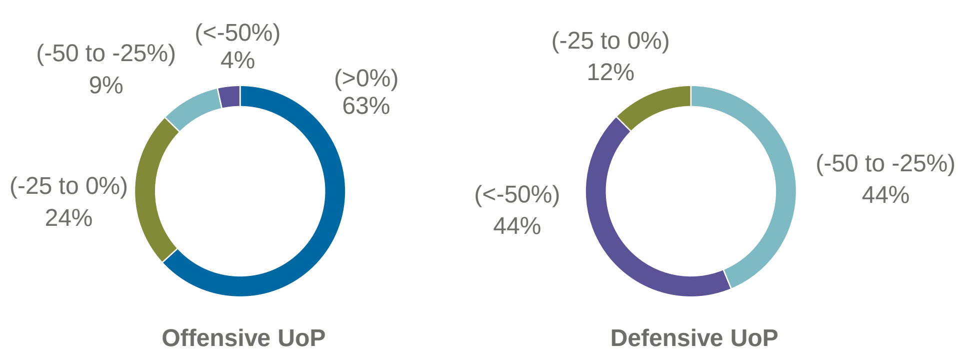
	Q1'20	Q2'20	Jan. - Feb. 21	March - April	Wk of 5/4	Wk of 5/11	Wk of 5/18	Wk of 5/25	Wk of 6/1
# of deals	74	122	9	3	14	24	24	19	21
Avg. file / offer[1]	(7.6%)	(10.1%)	(7.8%)	(8.9%)	(8.5%)	(11.3%)	(11.0%)	(8.9%)	(10.2%)
Avg. VIX	31.2	35.2	14.5	49.8	32.6	32.1	29.1	27.9	26.2

Primary follow-ons by use of proceeds (UoP)[3]

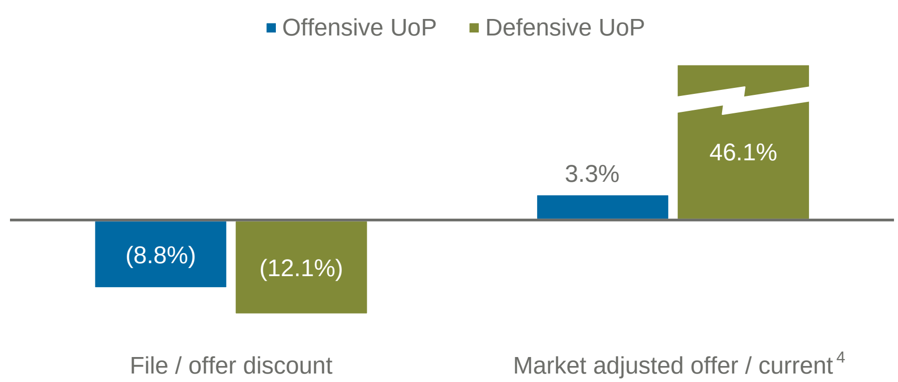


31% of defensive capital raises had a simultaneous convertible offering vs. 8% for offensive deals

2020YTD performance prior to launch of primary follow-ons[3]



Median price performance of primary follow-ons[3]



Source: Dealogic and company filings as of 06/05/20; excludes offerings <$50mm, SPACs and BCCs

[1] Excludes bought offerings

[2] Through S&P 500 all-time high on 02/19/20

[3] Includes 100% primary follow-ons during COVID-19 related heightened volatility (since VIX peak on 03/16/20)

[4] Marketed adjusted to S&P 500 performance

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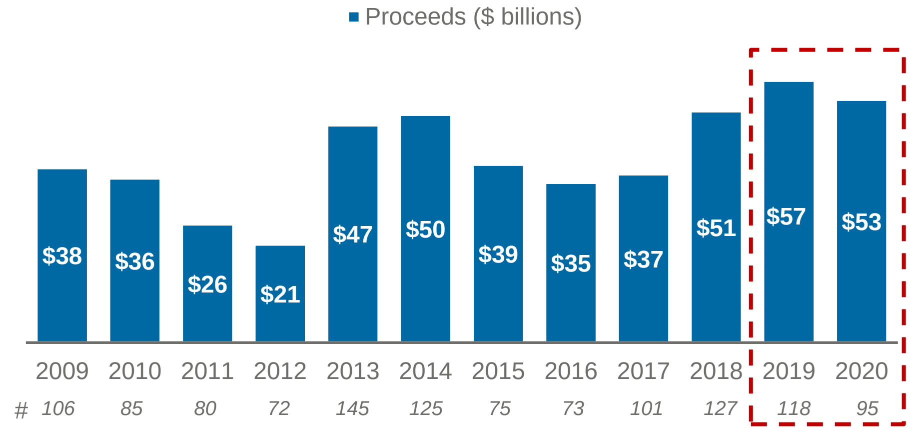
Active convert market – 2020 on track to easily outpace 2019's 10 year high of $57bn

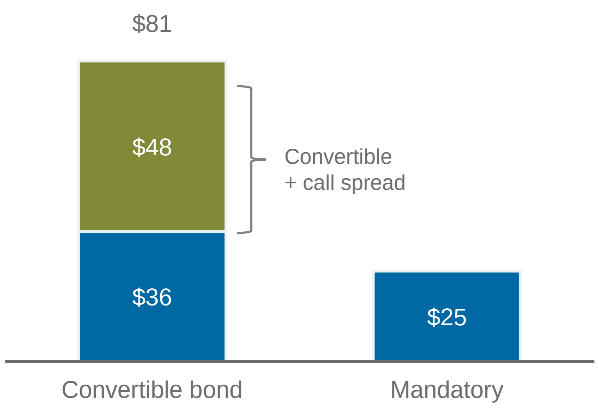
Market commentary

- **Record amount of new issuance** with $14bn of new issuance in April and $25bn of new issuance in May
- The convertible market is receptive **to both offensive and defensive capital raises**
- **Investor demand is strong** from dedicated convertible investors and crossover equity and debt investors looking for downside protection and equity upside
- **Increased coupon savings vs. straight debt** due to:
  - Dislocation in straight debt markets
  - Increased equity volatility leading to greater option value
  - Higher all-in interest rates increasing the value of the option

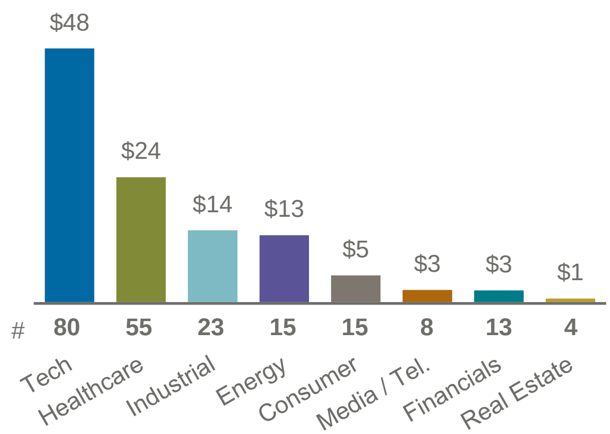
Historical equity-linked issuance volume



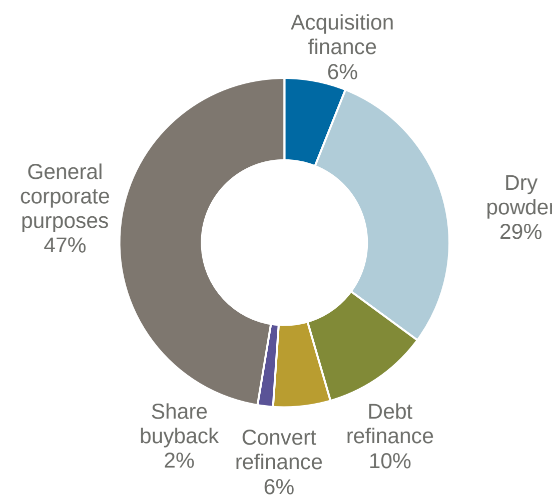
Volume by structure[1]



Volume by industry[1]



Volume by use of proceeds[1]



[1]Includes deals 2019 – 2020YTD

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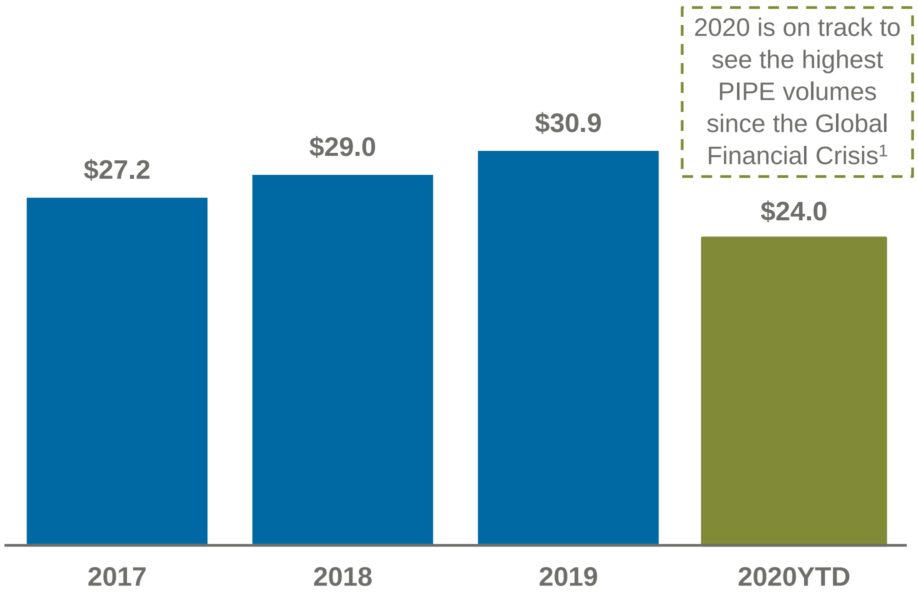
The PIPE market remains robust as issuers increasingly navigate the private markets to raise capital

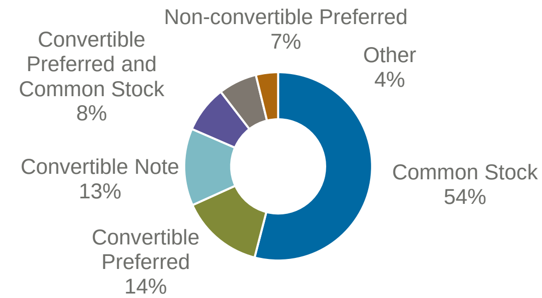
PIPE issuance volumes since 2017 by closing date ($bn)



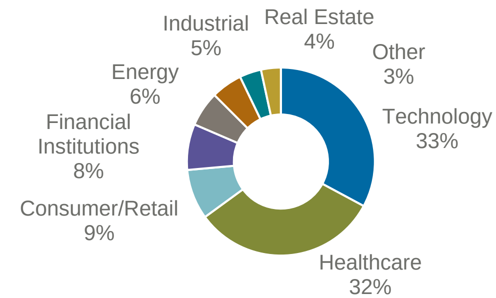
	2017	2018	2019	2020YTD
# of deals	98	113	91	73
Avg. % mkt cap	24.8%	34.3%	52.2%	25.4%
Convertible Preferred				
Avg. dividend	7.6%	8.3%	6.7%	7.2%
Avg. conversion premium	16.7%	21.1%	34.2%	30.0%
Convertible Debt				
Avg. coupon	4.5%	4.3%	4.0%	4.0%

Source: PrivateRaise as of 06/05/20; includes U.S. Deals >$50mm; excludes Reg S deals
[1] Aggregate PIPE proceeds during the Global Financial Crisis: $65.9bn

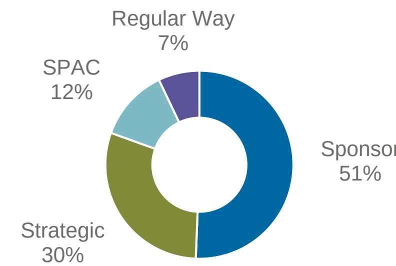
Breakdown of volume by security type – 2020YTD



Breakdown of volume by sector – 2020YTD



Breakdown of volume by deal type – 2020YTD



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Evolution of the syndicated loan market since COVID-19

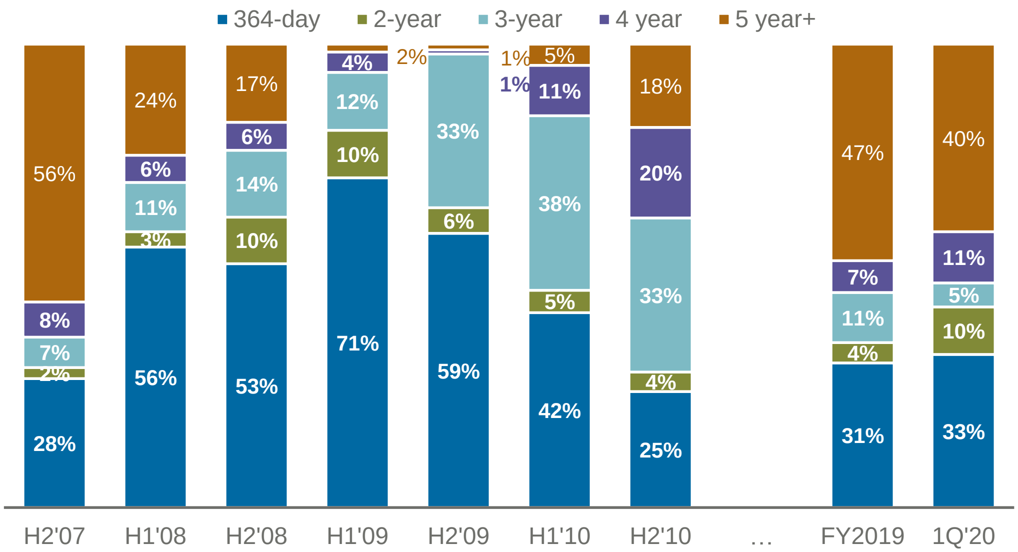
Market overview

- Economic uncertainty from COVID-19 had a sharp impact on the syndicated loan market in YTD '20, but we have begun to see signs of recovery
  - While the majority of facilities in market continue to have 364-day tenors, recent transactions have shown a selective re-emergence of one-year extensions to arrive at an overall two-year tenor
  - Pricing remains elevated as US banks continue to experience growth in their C&I loan balances, albeit at a much slower pace compared to March and April
    - Upfront fees continue to be common on 364-day facilities across rating profiles
    - Undrawn fees and drawn spreads remain at elevated levels, albeit showing positive signs of tightening as lenders gradually face less pressure from capital constraints
    - LIBOR floors of 75-100 bps continue to be introduced in numerous transactions
    - US Banks recorded C&I loan growth of $625bn from March 11th to April 22nd, with such growth slowing to $41bn MoM as of May 20th due to slower demand for incremental liquidity credit facilities, and paydown of corporate revolvers[1]
- Banks remain strongly capitalized, highly liquid, and well positioned to meet commercial loan demand

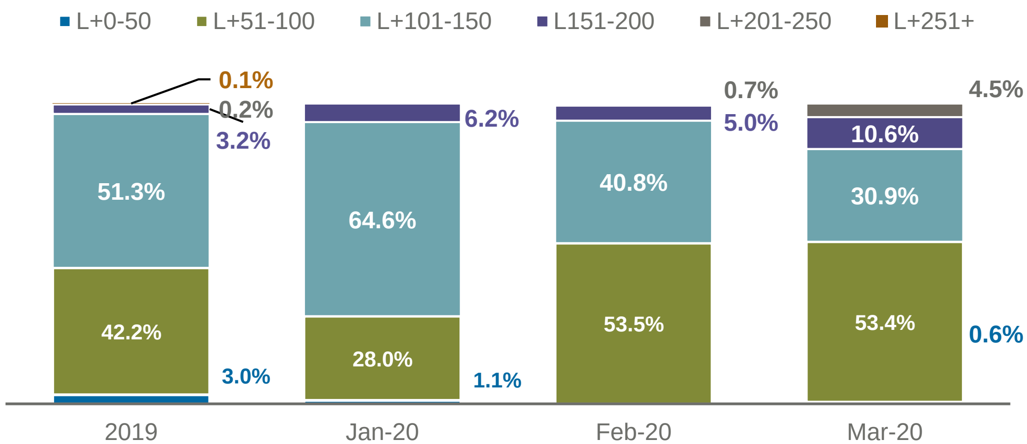
Lender behavior

- Lenders remain focused on RWA impact, albeit to a lesser extent in recent weeks given that the demand for incremental liquidity facilities has begun to taper
- Syndication and execution strategies have adapted to the volatile market
  - Banks continue to largely commit to facilities on a buy-and-hold basis
  - Approval timelines remain elongated due to stringent capital and credit committee review processes
  - Hit rates remain below pre-COVID-19 levels as banks re-evaluate client relationships and credit appetite
  - Select banks continue to be constrained by issues such as regulatory limits, stricter credit policies, and the increased cost of foreign currency funding

Tenor mix takes time to normalize after a crisis



Borrowing costs in the bank market are starting to rise



[1] Federal Reserve data
[2] S&P 500 peak date of February 19, 2020
Source: Dealogic

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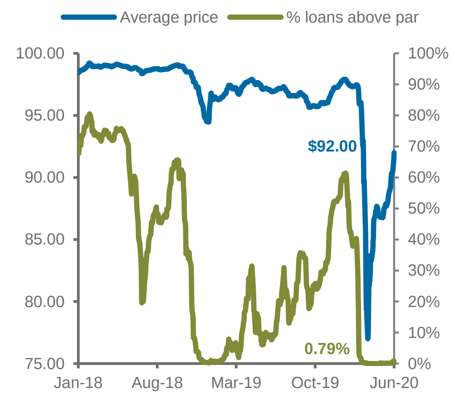
The leveraged loan market has been slow to recover, but is picking up momentum

Key themes

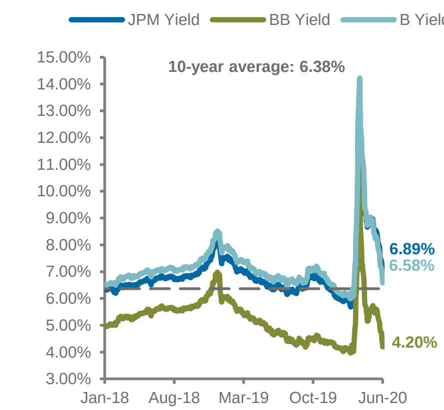
- ***The leverage loan market has been much more sluggish since the COVID-19 outbreak in the U.S. with only $18bn pricing since the beginning of March***
- Why has leveraged loan issuance lagged while high yield has reached near-record levels?
  - Loan secondary prices remain in the high 80s
  - Lack of call protection / pre-payability of leveraged loans caps the amount of upside available to lenders
  - MFN protection in existing loans
- Importantly, the composition of the leveraged loan buyer base has evolved in recent years, with retail funds now representing ~5% of the buyer base and CLOs representing ~60% of all loan buyers
  - Widespread ratings downgrades have put pressure on CLO funds, who have Weighted-Average-Rating-Factor ("WARF") tests that limit the amount of CCC paper that can be held in the vehicle
- ***In recent weeks, leveraged loans have started to see signs of the return toward normalcy***

JPM LL index trading prices



Source: JPMLLI (as of 6/5/2020)

JPM LL index yields (3yr)



Source: JPMLLI (as of 6/5/2020)

Recent trends

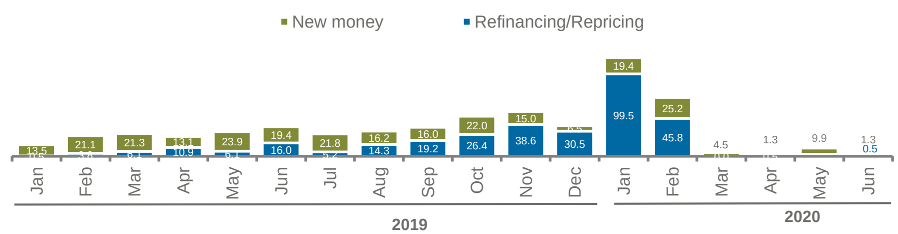
LL demand ($bn)

	YTD		FY	
	'20	'19	'19	'18
Flows	(20.4)	(20.1)	(38.3)	(4.7)
CLOs	51.6	60.5	161.7	277.6

New issue volume ($bn)

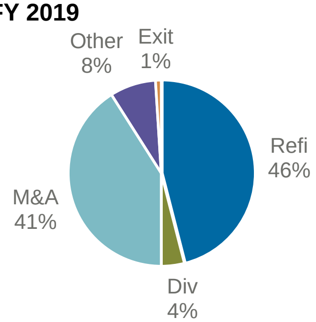
	YTD		FY	
	'20	'19	'19	'18
Refi	148.5	27.5	178.3	401.0
Ex-Refi	66.6	95.1	210.7	306.1
Total	**215.1**	**122.6**	**389.0**	**707.1**

Monthly leveraged loan new issuance ($bn)

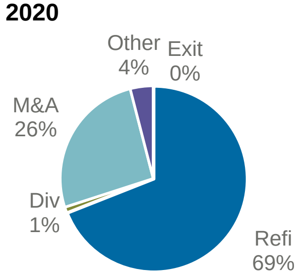


Use of proceeds

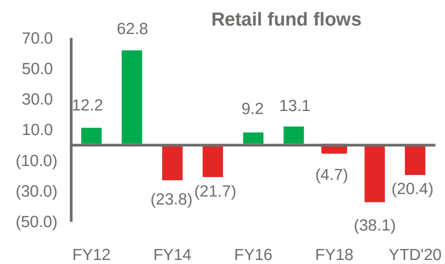
FY 2019

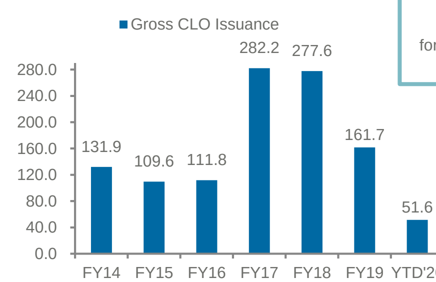


YTD 2020



LL demand ($bn)





2020 US net CLO issuance forecast: $90-$100bn

Source: Lipper (as of week ending 6/3/2020)

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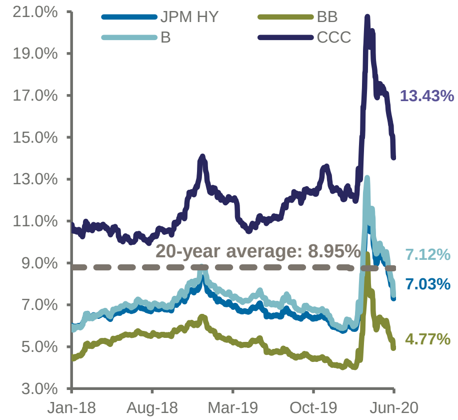
The high yield market has seen heightened activity in recent weeks

Key themes

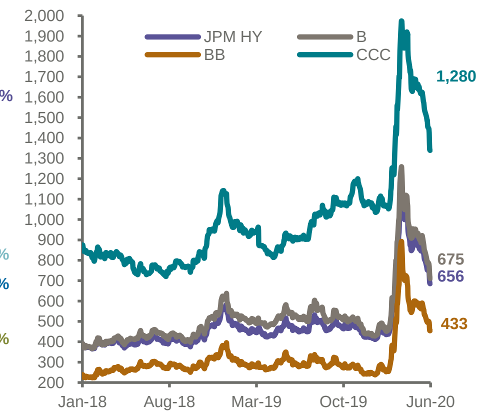
- ***The high yield market has been strong in 2020 with YTD issuance of $183bn***
- The re-opening of the market followed a fairly standard sequence of events
  - Investment Grade ("IG") demonstrated their market was open
  - High quality names were the first to issue, beginning with YUM! Brands on March 30th
  - New issues traded well in the secondary market, helping drive new issue premiums tighter and greater investor receptivity for a broader set of ratings and industries
  - Key issuance themes have included secured bonds, 5yr or shorter tenors, and a high amount of new money
- The severe decrease in WTI has weighed on high yield, where energy represents ~10% of the index
- Fallen Angels (IG issuers downgraded into HY) are a key focus for the market
  - Ford Motor Company represents the largest Fallen Angel on record ($51.7bn). The Company has since issued $8bn of additional HY debt
  - JPM Research forecasts a record $215bn of Fallen Angel volume in 2020

JPM high yield YTW index



Source: JPMHYI (as of 6/5/2020)

JPM high yield STW index



Source: JPMHYI (as of 6/5/2020)

Recent trends

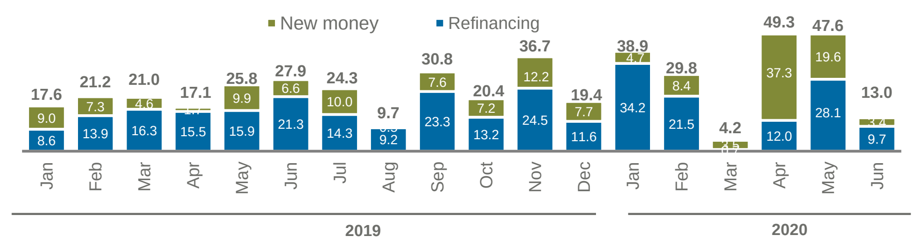
HY fund flows ($bn)

	YTD		FY	
	'20	'19	'19	'18
AMF	10.9	7.4	4.8	(35.3)
ETF	12.1	9.5	14.1	(11.6)
Total	**23.0**	**16.9**	**18.9**	**(46.9)**

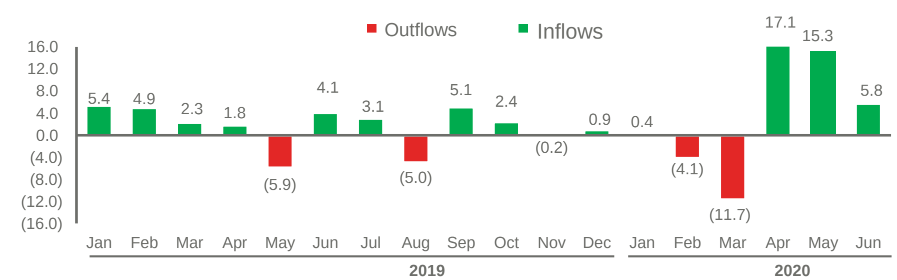
New issue volume ($bn)

	YTD		FY	
	'20	'19	'19	'18
Refi	106.1	72.7	187.5	105.2
Ex-Refi	76.8	32.5	84.4	68.2
Total	**182.9**	**105.3**	**271.9**	**173.4**

Monthly high yield new issuance ($bn)



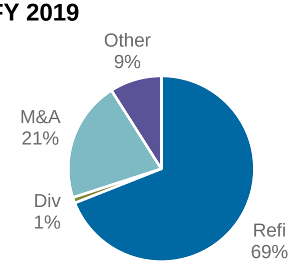
HY fund flows ($bn)



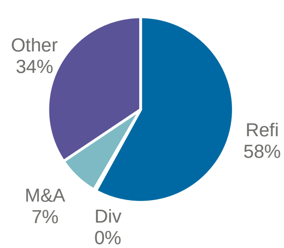
Source: Lipper (as of week ending 6/3/2020)

Use of proceeds

FY 2019



YTD 2020



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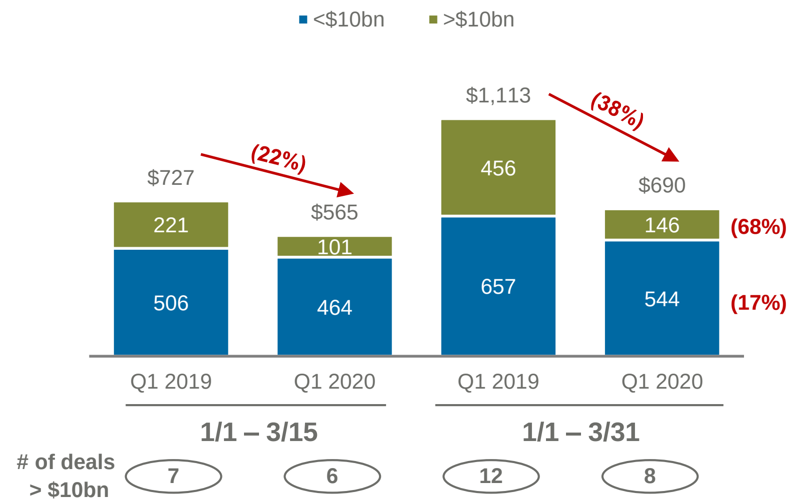
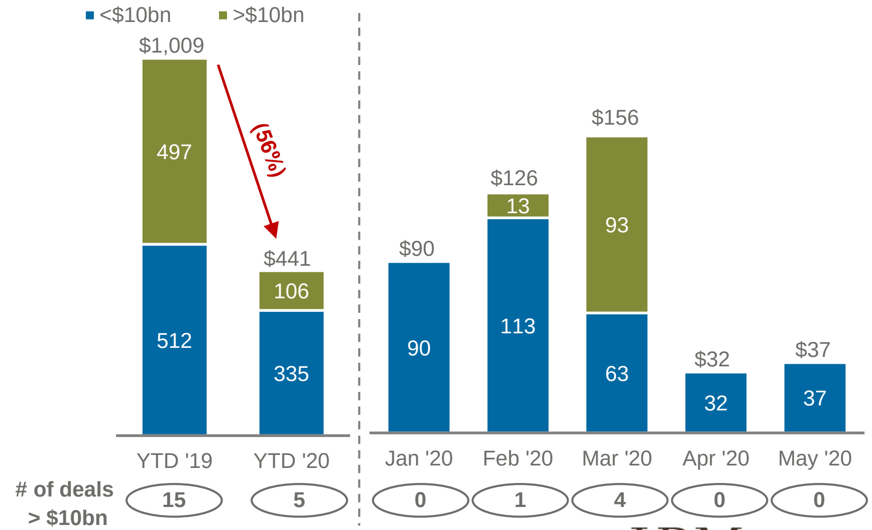
Global M&A activity was starting to slow down ahead of the COVID-19 crisis

- Global M&A activity was already **down 22% Y-o-Y through mid-March**, mostly driven by decline in large deals (>$10bn)
  - **Moderate decline of 8% Y-o-Y** in global M&A excluding large deals (<$10bn) through mid-March
- While Global M&A deal count was **down 9%** Y-o-Y through mid-March, **North America deal count was up 6%**
  - Largely driven by mid sized deals - $1bn - $10bn transactions **up 29%** through mid-March
- M&A activity **stalled in Mid-March**
  - The impact of COVID-19 exaggerated the decline in global M&A activity in Q1 2020 – resulting in 38% decline Y-o-Y for Q1
- YTD through May, **North America M&A volume is down 56%** vs. YTD 2019
  - M&A volume in May 2020 was 77% below the monthly average for the year, and **down 79% Y-o-Y**

Global M&A volume – Q1 2020 vs. Q1 2019 ($bn)



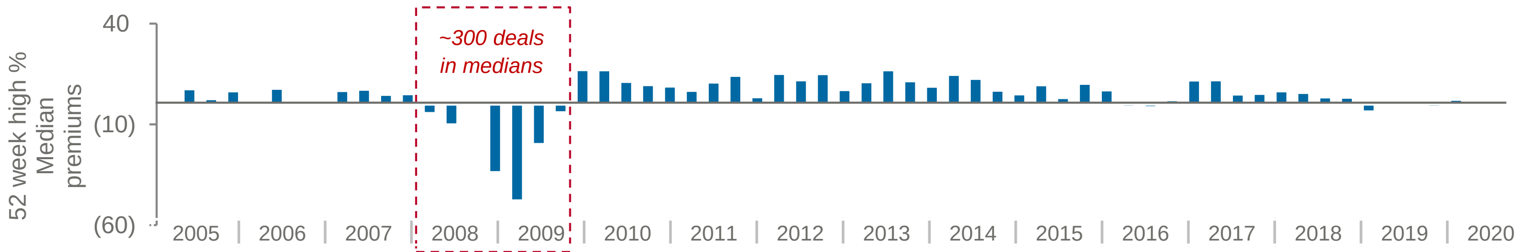
North America M&A volume – YTD 2020 ($bn)



Source: Dealogic (M&A Analytics) as of 05/31/2020; Excludes deals below $10mm value

COVID-19's impact on the U.S. M&A market

Processes on hold / waiting to launch	■ Many process that are in the preparation phase are adopting a "slow burn" approach which allows them to advance internal work while sellers assess whether to launch and the right timing ■ A number of in-market processes have gone on hold, but others are proceeding cautiously and with a more customized format (e.g. by testing a narrow group of potential buyers to see if there is interest before deciding next steps)
Financing uncertainty	■ Certainty on financing is critical for sellers as leveraged finance markets have slowed down – as a result some PE buyers are offering full equity backstops ■ There has also been some M&A financing activity in the direct lender market, albeit at worse terms ■ Increased focus on PIPE and other minority investments which some sellers may use as a bridge to a full sale after markets normalize
Potential valuation reset	■ During the financial crisis, premiums to 52 week highs fell meaningfully below 0%:
Activism	■ Significant new campaigns likely will be limited as markets trade on fear rather than fundamentals and activists are unable to identify a floor, and gain support from traditional institutional investors ■ There will be some activists who view current equity prices as an opportunity, particularly those with longer average holding periods –strong companies disproportionately sold-off may see activist accumulations ■ A number of companies have put in place or are considering adopting short term shareholder rights plans to protect against opportunistic takeovers, with openness from institutional shareholders for these short term "poison pills"



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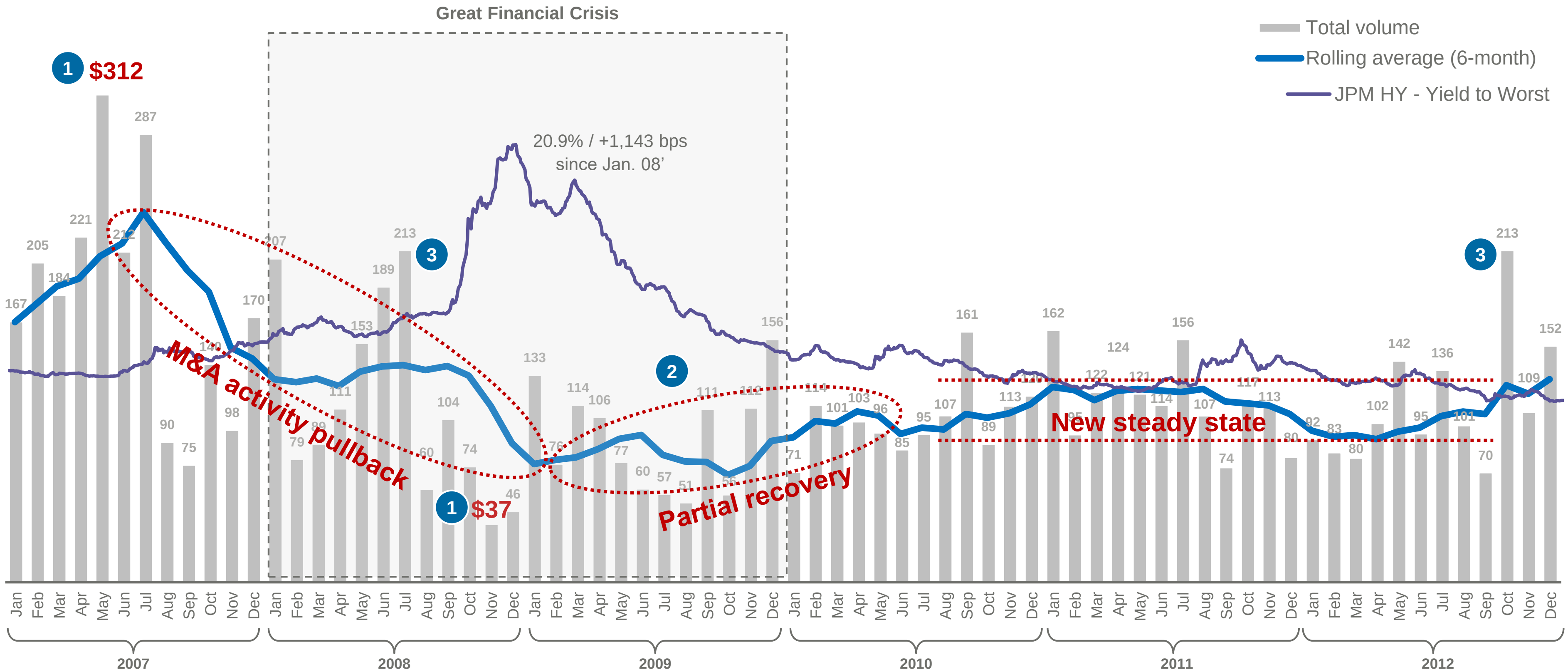
Source: Factset; Premiums analysis comprised of transactions over $10mm, US public targets where initial stake is <50% and final stake is >51% and all consideration types (>2,000 transactions)

After the Global Financial Crisis pullback, it took ~18 months for the M&A market to recover to ~50% of peak level

North America monthly deal volume (2007-2012) ($bn)



1 **Single month M&A activity peak-to-trough – (88%) decline in 18 months**

2 **Rolling monthly average recovered to ~50% of peak level activity in Q1 2010, and remained at that level for 3 years (2010-2012)**

3 **It took 4+ years (Oct 2012) for monthly volumes to cross again the $200bn level lastly achieved in July 2008**

Source: Dealogic

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Expected forces driving potential near-term M&A activity

Improved visibility & stability	✓ Improved visibility into the impact of COVID-19: macro level and industry / business-specific ✓ **Reduced equity volatility** and fully **functioning credit markets** ✓ **Restored confidence** at both the **consumer and C-suite** levels ✓ Expect **medical updates** (reduction in cases / treatment / vaccine) to catalyze broader improvement
Liquidity / balance sheet cure	✓ **Divestitures as a source of liquidity** vs. conditional CARES Act funds, limited / expensive debt or equity issuance ✓ **Minority stake** sales (PIPE, etc.) to provide **capital infusion** ✓ Outright sale as a potential **alternative to restructuring / bankruptcy filing** in distressed situations
Strategic	✓ M&A remains a key **strategy for driving growth** while **quality assets continue to be in demand** ✓ **Consolidation** as an antidote to fundamental pressures, with expected increase in **stock-for-stock mergers** ✓ More significantly impaired businesses seek to **diversify** while more resilient businesses **strengthen the core**
Opportunistic	✓ **Stronger companies** can become **aggressive acquirers of undervalued assets** ✓ Significant amount of **dry powder** still needs to be deployed across the financial buyer community (~$1tn at buyout funds)
Defense	✓ **Risk of aggressive tactics** including acquiring debt at discount to par, “toehold” position and / or unsolicited approach ✓ Depressed share prices may be **opportunity for activist accumulations** ▪ Expect further adoption of **limited duration shareholder rights plans**

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Performance drivers across S&P 500 sectors

Price return decomposition into P/E and EPS changes

		% Change from Feb-19, 2020		
	NTM P / E	Price	NTM P/E	NTM EPS
Consumer Discretionary	42.5x	0.2%	73.3%	(42.2%)
Industrials	25.7x	(11.0%)	39.6%	(36.3%)
Information Technology	24.1x	(1.1%)	3.5%	(4.5%)
Materials	22.9x	(1.3%)	21.3%	(18.6%)
Communication Services	22.9x	(4.0%)	14.6%	(16.3%)
S&P 500	22.5x	(5.7%)	17.8%	(19.9%)
Real Estate	20.9x	(10.3%)	(1.3%)	(9.1%)
Consumer Staples	20.3x	(6.8%)	(1.8%)	(5.1%)
Utilities	18.6x	(13.0%)	(13.1%)	0.2%
Health Care	17.0x	(0.8%)	2.1%	(2.8%)
Financials	16.0x	(15.7%)	22.3%	(31.1%)
Energy	NM	(18.3%)	NM	(88.4%)

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Source: J.P. Morgan Corporate Finance Advisory; FactSet, Data as of Jun-05, 2020
Note: Consensus EPS numbers are computed bottom up as mean of Broker Estimates and are updated on up to 1 business day lag; S&P 500 and sector level constituents are based on current members only

2020 Sector outlook changes due to COVID-19

Moody's

Region	Sector	2019Q4	2020	Commentary
Banking & Financial Institutions				
Global	Aircraft Lessors	Positive	Stable	▪ Moderate revenue losses over the next two quarters ▪ Further operational disruptions if government or industry acts more broadly in curtailing flights
Global	Asset Managers	Stable	Negative	▪ Extreme market volatility in March will have a material impact on AUM, revenues and cash flows in Q2 and through the rest of 2020 ▪ If market conditions persist, expect AUM to shift toward safer strategies, EBITDA declines and elevated leverage
U.S.	Banking	Stable	Negative	▪ Fed's decision to cut interest rates to nearly zero will compress net interest margins ▪ Banks will likely increase loan loss provisions in response to the economic slowdown
U.S.	Business Development Companies	Stable	Negative	▪ Expectation for deterioration in asset quality, profitability and capital in 2020 ▪ Liquidity and debt maturity profiles keep debt-repayment risk low for many IG-rated BDCs
Global	Money Market Funds	Stable	Negative	▪ Considerable stress on U.S. prime funds' liquidity and NAV from COVID-19 market dislocation ▪ Despite pressures on funds, duration and credit profiles remain solid
U.S.	Life Insurance	Stable	Negative	▪ Expectation for weakened profitability due to lower interest rates reducing net investment income ▪ Declining rates and equity markets could impact industry capital adequacy despite a median RBC ratio above 450%
Business & Consumer Services				
U.S.	Higher Education	Stable	Negative	▪ Universities response to the outbreak will immediately reduce revenue and drive expenses higher ▪ For 2021, uncertainty and weaknesses in enrollment, revenue generation and strength of balance sheets
U.S.	Nonprofit Organizations	Positive	Stable	▪ Most immediate impact to cultural institutions and museums due to closures that will result in lost revenue and reserves ▪ Outlook may vary with the nature of the institutions, i.e. social services, museum, research organization, independent schools, etc.
Consumer Products & Retail				
Global	Beverages	Stable	Negative	▪ Expectation for operating profits to grow 2.0-4.0% over next 12-18 mo. vs. prior 5.5-6.0% forecasts ▪ Demand expected to remain intact, however closures of restaurants and other venues could hurt fountain and food service business
U.S.	Consumer Durables	Stable	Negative	▪ Operating profits decline in the mid-to-high single digit percentage rage ▪ Pullback in consumption in 1H20 followed by a moderate recovery
U.S	Restaurants	Stable	Negative	▪ Operating profit could decline by 10% (base case) and potentially 20% (downside case), vs. previous 2-4% growth for 2020 ▪ Casual dining segment is expected to be most impacted due to restricted hours and closures
Diversified Industries / Transportation				
Global	Aerospace & Defense	Stable	Negative	▪ Expectation for airlines and aircraft lessors to delay deliveries of commercial aircraft to lessen strain on balance sheets ▪ Passenger volumes expected to fall 25-35% in 2020 from 2019, with deep reductions and full or partial groundings in Q2
U.S.	Airports	Stable	Negative	▪ Expectation for enplanement losses for the year to exceed 20%, previously expected 3.4% growth ▪ If U.S. government imposes regional or domestic travel bans, losses to exceed 33% following 9/11
Global	Passenger Airlines	Stable	Negative	▪ Estimated operating margin < 5% for 2020 (vs. pre-COVID-19 expectation of ~9%) ▪ Anticipation for operating profits to decline more than 20%

Note: The following sector outlooks were negative pre-COVID-19 outbreak: Global Auto Manufacturers, N.A. & EMEA Auto Part Suppliers, Global Manufacturing, N.A. Railroads, N.A. & EMEA Chemicals, Global & U.S. Steel, U.S. Coal, Global Paper & Forest Products, U.S. Telecom

Positive Stable Negative

Source: Moody's; Information as of Apr-23, 2020

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2020 Sector outlook changes due to COVID-19 (cont'd)

Moody's

Region	Sector	2019Q4	2020	Commentary
Diversified Industries / Transportation				
U.S.	Ports	Stable	Negative	■ TEU throughput will decline 15-20% in Q1 2020; expectation for TEU growth of 1-5% in Q2 given increase in Chinese operations ■ Expectation for container volume to be below previous 2-3% 2020 estimates, with a downside case of declining 5-10% growth
Global	Shipping	Stable	Negative	■ EBITDA for rated companies to decline by 6-10% ■ Potential for EBITDA to decline by 25-30% if conditions worsen
U.S.	Toll Roads	Stable	Negative	■ 10-20% traffic decline expected to increase with shelter-in-place directives, vs. prior 0.5-1.5% growth ■ Revenue will decline in the first half of 2020
Health Care				
U.S.	For-Profit Hospitals	Stable	Negative	■ Expectation for EBITDA to contract by a low-to-mid single-digit rate over 12-18 mo., vs previous 3-4% growth ■ Cancellation of more profitable elective procedures and increased costs will hurt profitability
U.S.	Not-For-Profit & Public Health Care	Stable	Negative	■ Moody's did not provide a cash flow estimate; previous 2020 growth estimate of 2-3% ■ Cancellation of more profitable elective procedures and increased costs will hurt profitability
U.S	Medical Products & Devices	Positive	Stable	■ Lowering EBITDA growth forecast to 2-4% (from previous 5-6%) ■ Forecast incorporates pullback in consumption in 1H20 followed by a moderate recovery
Homebuilding & Construction				
Global	Construction	Stable	Negative	■ Expectation for aggregate average revenue for rated construction companies (excluding M&A) to decline in 2020 ■ Book-bill ratios reflective of new orders signed vs. revenue is less relevant given the unlikelihood of order executions
U.S.	Homebuilding	Stable	Negative	■ Expectation for a slowdown in home sales to result in revenue decline of 10% or more vs. 3% growth in 2019 ■ Gross margins expected to weaken to 19% in 2020 vs. prior 20% average in 2019
U.S.	Building Materials	Stable	Negative	■ Operating income growth will contract by at least 3% in 2020, vs. prior 5-7% growth ■ Private residential construction to decline ~15% and nonresidential ~3% by Q3 2020, followed by low-single digit growth in 2021
Hotel, Gaming & Leisure				
U.S.	Gaming & Casinos	Stable	Negative	■ EBITDA decline of 60-70% for the 12 months through March 2021 from previous 3.5% growth projections for 2020 ■ Forecasts of pre-COVID-19 EBITDA recovery of ~30% and ~60%, will likely take 12 and18 months, respectively
U.S.	Lodging & Cruise	Stable	Negative	■ Sharp earnings decline vs. prior expectation of 4-5% growth ■ Potential for earnings to decline to levels last seen in 2012
Metals & Mining				
Global	Base Metals	Positive	Stable	■ Weakening macroeconomic indicators raises concerns over demand for and prices of base metals ■ Improved industry supply/demand fundamentals since 2015 trough will limit the degree of a fall in prices
Oil & Gas				
U.S.	Midstream	Stable	Negative	■ Expectation for negligible EBITDA growth ■ Throughput to align with E&P production cuts in volume; size of reductions dependent on depth and duration of current environment

Note: The following sector outlooks were negative pre-COVID-19 outbreak: Global Auto Manufacturers, N.A. & EMEA Auto Part Suppliers, Global Manufacturing, N.A. Railroads, N.A. & EMEA Chemicals, Global & U.S. Steel, U.S. Coal, Global Paper & Forest Products, U.S. Telecom

Positive Stable Negative

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Source: Moody's; Information as of Apr-23, 2020

2020 Sector outlook changes due to COVID-19 (cont'd)

Region	Sector	2019Q4	2020	Commentary
Oil & Gas				
U.S.	Exploration & Development	Stable	Negative	▪ Expectation for 20-40% EBITDA decline in 2020 from 2019 levels amid plunging oil demand and decades-low crude prices ▪ Steep 70% drop is crude oil prompted cost reductions; ~30-35% reduction to capital spending for large E&P companies
U.S.	Integrated O&G	Stable	Negative	▪ 2020 EBITDA to decline by more than 30%, vs. previous forecast of ~5% growth ▪ Companies are likely to have negative free cash flow in 2020, despite immediate measures to protect cash flows
U.S.	Refining & Marketing	Stable	Negative	▪ EBITDA will decline by more than 10% through 2020 to mid-2021 from 2019 levels ▪ Refiners expected to produce lower volumes and generate lower profit margins in 2020
U.S.	Oil Field Services	Stable	Negative	▪ Aggregate OFS EBITDA for 2020 will fall by more than 40% from 2019 levels ▪ N.A. E&P capital budgets will decline by ~35-40% from 2019 spending
Utilities				
U.S.	Unregulated Utilities & Power	Stable	Negative	▪ Declining power demand from businesses and natural gas oversupply will pressure power prices and operating margins in 2020 ▪ Expectation for power demand to decline 4-8% across almost all unregulated power markets

Note: The following sector outlooks were negative pre-COVID-19 outbreak: Global Auto Manufacturers, N.A. & EMEA Auto Part Suppliers, Global Manufacturing, N.A. Railroads, N.A. & EMEA Chemicals, Global & U.S. Steel, U.S. Coal, Global Paper & Forest Products, U.S. Telecom

Positive   Stable   Negative

Source: Moody's; Information as of Apr-23, 2020