Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

MAY 2020

Real Assets Outlook

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Verus
VERUSINVESTMENTS.COM
SEATTLE 206-622-3700
LOS ANGELES 310-297-1777
SAN FRANCISCO 415-362-3484

Executive summary

Key themes for 2020

Observations driving our outlook

Coronavirus…

The ongoing impact of Covid-19 on the global economy has dramatically altered our outlook on inflation, risk and asset class returns. Going into 2020, valuations for many risk assets were rich and expected returns were low. In a matter of weeks, we've seen a broad market sell-off, improving valuations, but with an accompanying cloud of uncertainty that makes forecasting incredibly challenging. We would caution that our views expressed in this document could become dated shortly after we go to publish as markets move or new risks emerge.

Shifting investor preferences are driving significant portfolio changes within real assets

A combination of poor performance, high volatility and ESG-related concerns are driving a shift in investor preference within real assets. Over the last few years, investor appetite for natural resource investments, particularly energy-related investments, have waned. Fundraising trends across natural resources are down, while infrastructure and real estate remain popular for institutions. We expect most institutions will continue to deemphasize commodity-related investments which could result in less inflation protection and reduced diversification benefits. Some institutions will find infrastructure and real estate as suitable substitutes, while others may scale-back their target allocations within real assets.

End of the cycle in real estate will create both challenges and opportunities

The question of "what inning are we in?" within the real estate cycle has finally been answered as the game has ended and a new one has begun. The shutdowns of economies around the globe will likely have lasting impacts and create some stress and distress for affected assets and those with highly levered capital structures. Property type dispersion will likely be high as areas impacted by continued social distancing (retail, hotel/leisure) are seeing significant negative impact in public markets. There will likely be promising investment opportunities for distressed/opportunistic strategies. Additionally, fresh capital should be able to invest in high quality assets at more attractive valuations.

ESG considerations are adding to investment challenges within real assets

More institutions are adopting ESG investment policies that will impact most asset classes but, in particular, real assets. Environmental standards are pushing up against fossil fuel investments and mining projects. Infrastructure investments are scrutinized for Environmental concerns (pipelines, hydro and wind generation), Social concerns (labor contracts & public-private-partnerships) and Governance (infrastructure projects in emerging countries & private ownership of public assets). Asset owners will want to get out in front of this movement and formulate policies that address ESG issues important to their organization, if any.

U.S. economics – Inflation

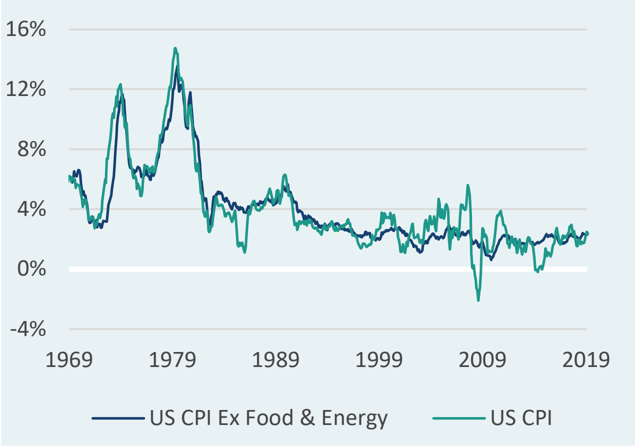
U.S. economics – Inflation

— Core CPI has hovered around the 2-2.3% range for much of the last two years, continuing a long pattern of benign inflation and modest economic growth.

— Headline CPI moved up slightly in the first two months of 2020 only to experience a month-to-month decline in March as the full impact of Covid-19 weighs on consumer goods and energy prices. The Fed's response to the economic fallout has been striking as they sought to contain the fallout and prevent an economic depression. The latest Fed program, dubbed "QE Infinity", given the Fed's statement that they have unlimited buying capacity for treasuries and mortgages, has stabilized the market though it may come at a cost of future inflationary pressure and dollar depreciation.

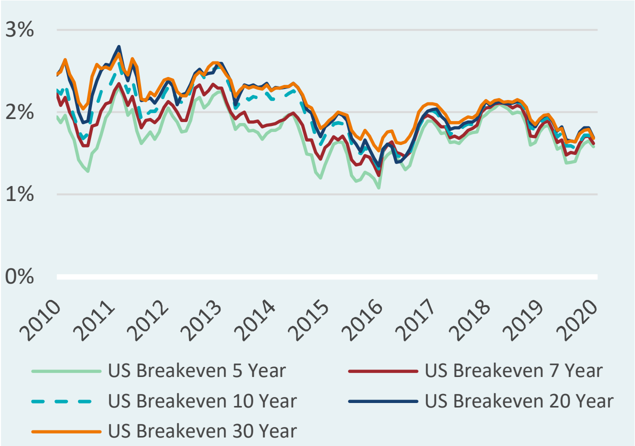
— Inflation does not appear to be an issue in the near-term and if break-even figures are to be believed, inflation won't be a problem for the next 30 years. We don't have the same level of confidence in a mild inflationary environment as break-evens would signal as the potential for unexpected inflation is likely higher today than it was prior to the coronavirus outbreak.

U.S. CPI (YOY)



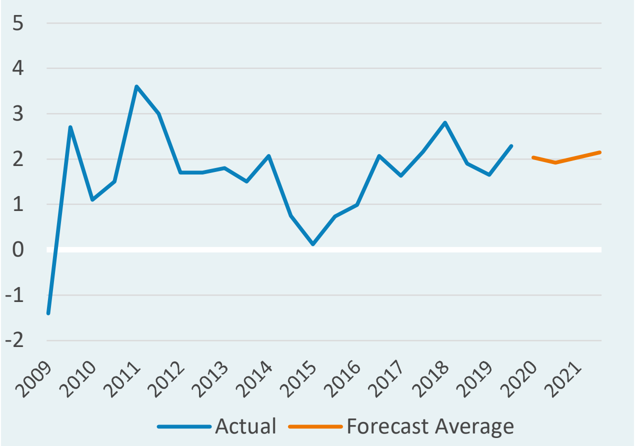
Source: FRED, as of 12/31/19

U.S. TIPS BREAKEVEN RATES



Source: FRED, as of 2/28/20

INFLATION EXPECTATIONS



Source: Wall Street Journal, 12/31/19

Outlook summary

Outlook summary

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Private Real Estate	Negative impacts from the economic slowdown caused by Covid-19 will likely take several quarters to play out in the appraisal process for existing assets. Transaction activity has come to a halt, making pricing comparisons difficult. Retail/hotel/resort/casinos will likely feel the greatest impact. Income declines are more likely than prior downturns.	— The duration of the economic slowdown will impact the degree of negative real estate performance. Core real estate returns tend to have high correlation to overall GDP growth. — A sharp rise in interest rates could lead to increased cap rates, hurting values.	Our outlook remains neutral; however we are taking a barbell approach. The lag effect of the appraisals process will create a period of several quarters where valuations are not reflective of perceived value. Redemption requests are typically met with gates or redemption restrictions. We recommend rebalancing redemptions in core real estate where possible and deploying capital in non-core strategies with fresh capital.	**Neutral**
REITs	REITs responded sharply downward in March when the severity of coronavirus forecasts filtered in. REITs were down almost 40% YTD at their nadir with some sectors such as hotels and casinos down over 70%. A sharp recovery occurred, but not all the way back. Through mid April REITs were down ~25%, but well off their lows.	— REITs have higher leverage than core real estate and have higher exposures to non-core sectors such as hotels, self-storage, for rent residential and senior/student housing. — Rising interest rates can have a negative effect on REITs and all yield-sensitive assets over short periods. — REITs are sensitive to economic decline and general equity market volatility.	We remain neutral on REITs. Although the recent decline in performance has increased discounts to NAV, the underlying NAVs have not yet adjusted. REITs can provide liquid exposure to real estate with the following caveats: high sensitivity to equity market volatility over shorter holding periods, higher leverage and higher exposures to non-core sectors such as hotels, self- storage, for-rent residential, etc.	**Neutral**
Commodities	Commodities futures have had lackluster performance over the last decade. An upward sloping futures curve for most of the last decade has created a headwind for the asset class. In 1Q, an oversupply of energy, coronavirus demand destruction, and declining inflation concerns has exacerbated performance issues.	— Oversupply issues, especially across the energy complex could have a lasting impact. — Depending on the depth of the recession, demand for energy and industrial metals could be reduced for an extended period. — Inflationary pressures remaining low would continue to be a headwind.	Commodities will likely face both supply and demand issues over the intermediate timeframe. Contango remains steep across the complexes and lower rates will keep collateral returns low. Inflation driven by excess demand is unlikely in the intermediate horizon and any inflation led by excess monetary supply is unlikely to have a direct benefit to commodities.	**Negative**

Outlook summary (continued)

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
TIPS	Declining nominal interest rates have led to positive total returns, however declining inflation has caused TIPs to underperform nominal bonds. Breakeven rates, while volatile, are down across the board.	— Decreasing inflation expectations or rising nominal interest rates would be a headwind to TIPS. — Continued low rates create a high cost of carry.	Low current yields and modest inflation expectations have led to other real assets offering higher total return potential than TIPS.	**Negative**
Private Infrastructure	Infrastructure assets have not been spared during the broad market sell-off in 2020. Coming into the year, we were especially bearish on transportation infrastructure assets (airports, toll roads, ports, etc.) due to valuations and significant GDP risk. We anticipate that Covid-19-related impacts on travel will generate more interesting deals for client capital. Power and energy-related infrastructure has also been hit hard by the economic fallout though we are cautious about taking significant commodity-price risk. Finally, the telecom/data space remains an attractive segment for infrastructure capital and we anticipate putting more money to work in this area going forward.	— Regulatory changes are creating investment challenges in parts of Europe as low interest rates are putting downward pressure on the allowed returns by investors. We are cautious on utilities where returns are set by governmental bodies. — Transportation assets are particularly vulnerable in the current environment. We may see interesting opportunities emerge from over-levered infrastructure funds, but we'd be a patient buyer.	The asset class offers a compelling return profile that aligns well with long duration pools of capital. We favor private infrastructure funds that have capabilities to improve operations and manage complex deal structures..	**Positive**
Oil & Gas	The oil & gas industry entered 2020 on shaky legs following several years of weak commodity prices. The dual impact of Covid-related demand destruction and the disintegration of OPEC+ supply controls sent oil markets into a tailspin. For independent drillers, current prices are far too low for them to operate profitably. We expect a large number of bankruptcies across the energy industry vertical and a challenging time ahead raising capital once prices stabilize.	— Slowing demand for oil, mostly driven by slowing economic growth, is a key concern for the industry. Longer-term, oil demand is expected to decline as non-carbon sources of power outcompete hydrocarbons. — Access to capital within oil & gas presents a challenge for an industry that requires large capital expenditures to grow. — Geopolitics and the tension between OPEC and non-OPEC producers presents an additional risk for investors.	We had been cautious about energy going into 2020 but industry fundamentals deteriorated far more than we would have predicted. There is too much uncertainty around oil/gas demand, access to capital, and geopolitics for us to gain comfort. We recognize that someone will likely make money from the devastation occurring in upstream energy, but we aren't willing to place bets just yet.	**Negative**

Outlook summary (continued)

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Renewables	Operating renewable energy assets remain expensive with yields in the mid-single digits. New development projects will slow down in 2020 but will likely see a rebound shortly after as solar and wind farms are now the cheapest form of new build electricity generation for over two-thirds of the global population, and countries shift their energy sources to meet pledges to become carbon neutral.	— As corporations shore up capital to preserve liquidity, capital expenditure dedicated to developing and purchasing renewable energy assets may shrink. There is also a potential for government subsidies and tax incentives to be reduced as governments are forced to dedicate resources to the current crisis as opposed to the long-term impact of climate change.	While we believe the development of solar and wind farms is an attractive investment, it is difficult to find scalable opportunities that warrant deploying capital into a dedicated renewable energy fund. Infrastructure funds with a track record of successful development projects within broader portfolios are the most effective way to gain exposure to the sector.	**Neutral**
Mining	The mining industry has not suffered quite like the oil & gas market, but it has been a weak sector for several years. Unlike oil, we see growing demand for industrial metals like copper, nickel, zinc and steel inputs as electrification takes market share from carbon-based power generation.	— Global GDP growth and the economy in China are the two biggest risks in the sector. China represents a disproportionately large buyer of industrial metals, so its economy and industrial output have a large impact on metal prices.	Longer-term, we believe the demand outlook looks favorable for several industrial metals. There will be near-term headwinds from Covid-19 but as the global economy recovers, we expect a tightening of supply/demand for mining commodities.	**Positive**
Midstream Energy / MLPs	Coming into 2020, midstream companies were trading at levels that indicated the market was skeptical about company cashflows and future earnings. Falling oil prices from the impact of Covid-19 and news that OPEC & Russia would no longer cooperate to balance the supply side of the market compounded negative sentiment. With so much uncertainty now present in the energy market, we would avoid companies exposed directly or indirectly to oil price movement.	— Falling oil/gas prices could curtail drilling programs and reduce production volumes which would hurt MLP cash flows. — Regulatory risk is low for most of the midstream space though there are pockets of risk in states like Colorado and New York where regulations could greatly impact drillers and pipeline owners.	We have shifted our outlook to negative for midstream energy given the challenges that emerged in 2020. Though prices for listed midstream stocks have plummeted, we are seeing a wave of distribution cuts that will reset the sectors income yield and depending on the duration of the oil price downturn, could see a spike in bankruptcies.	**Negative**

Outlook summary (continued)

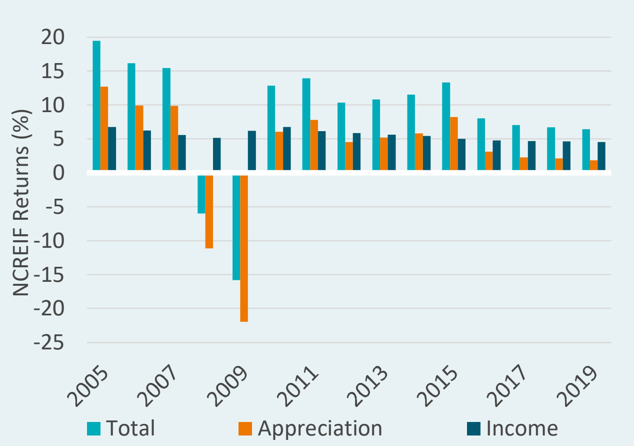
Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Timberland	Timber markets in North America continue to face challenges from excess inventory, low interest rates and unfavorable transaction market. Stumpage and lumber prices are facing near-term headwinds from Covid-19 as home building softens exports to Asia have stalled. Our outlook on timber has been negative for several years due to the headwinds the asset class has faced. Despite broadly negative sentiment towards the timber industry, we struggle to make a case for returns to reach higher than mid-single digits.	— Coming off trade war headwinds, the timber market hit another bump when Covid-19 stalled exports to Asia and home building activity declined. An already oversupplied timber market will take time to work through excess inventory. — Timber markets outside the U.S. face varying degrees of currency and political risk which in many cases has resulted in disappointing returns for investors. With few exceptions, returns do not justify the additional risk.	For most investors, high single-digit expected returns for timberland in the U.S. is too low for the illiquidity and risk assumed within the asset class. Fundraising has been slow for several years which has resulted in a slow transaction market and less competition but finding attractive deals remains elusive.	**Negative**
Agriculture	Farmland prices in the Midwest leveled off after 2014 but remain too expensive for the income and return potential. We are interested in opportunities where we can control more of the value-chain associated with food production.	— Similar to timber markets, we have concerns around valuations and the risk/return proposition for farmland investments. — The income potential within farmland is more attractive than timber and the global growth in food is a more compelling macro trend than pulp and paper but we remain bearish on the sector, in general.	Currently we find the asset class to be broadly expensive. Selectively looking at agriculture business investments where crop and land are a component of a broader value-add investment strategy.	**Negative**

Current conditions and outlooks

Real estate performance – Recent history

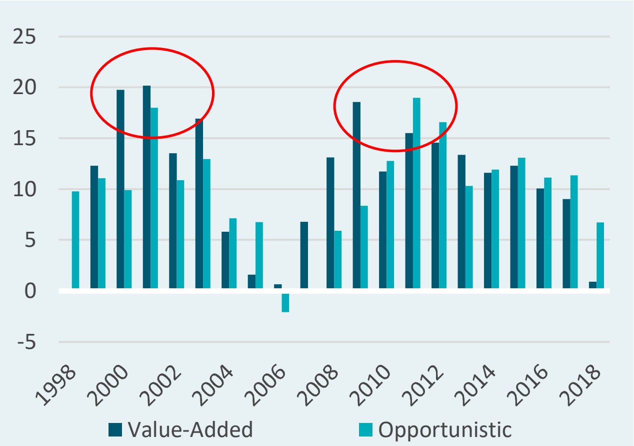
- Core real estate returns moderated over the last four years back to "normal" levels of 6-8% total returns. Appreciation slowed while income has remained near 5% for several years, becoming a larger component of total return.
- Preliminary NFI-ODCE returns for 1Q 2020 slowed to +1.0%, with the appraisal process expected to have a lag effect on valuations experienced by private market investors. REIT markets dropped as much as 40% before settling at around -20% YTD through mid April.
- Correlation between GDP growth and core real estate returns has historically been very high. In the last few quarters, GDP has ticked up slightly higher while real estate returns have moderated. Prior drawdowns in private real estate (NFI ODCE) have taken 6-16 quarters to fully recover, while public real estate has been quicker to recover.
- Non-core real estate vintage funds outperformed during recessionary years and early recovery periods (2000-2003 and 2009-2012) as market dislocations created attractive entry valuations.

NCREIF RETURNS



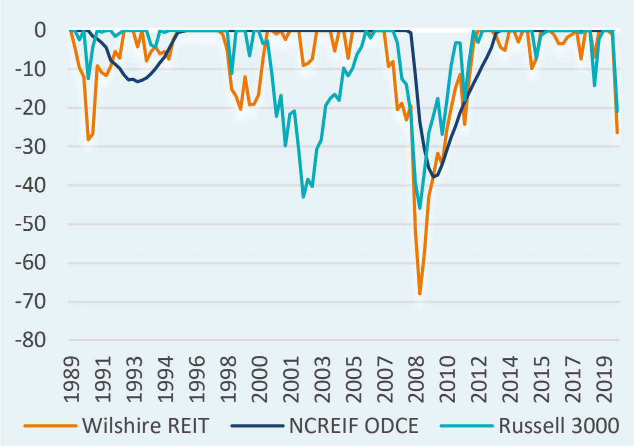
Source: NCREIF, as of 12/31/19

VINTAGE YEAR MEDIAN RETURN (%) NON-CORE REAL ESTATE



Source: Thomason Reuters, as of 9/30/19

HISTORICAL DRAWDOWNS (REITS VS PRIVATE)

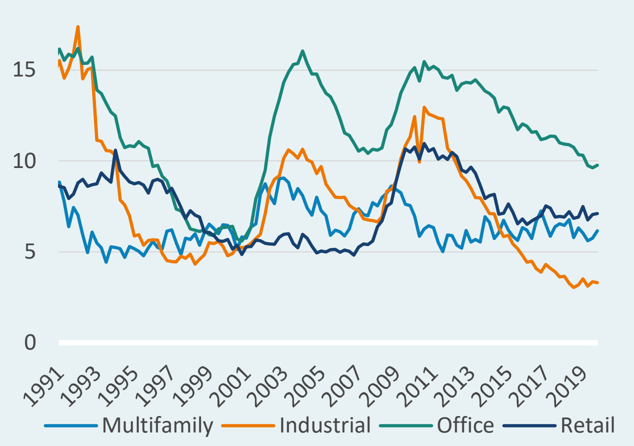


Source: eVestment, NCREIF, Adelante, as of 3/31/20

Real estate fundamentals

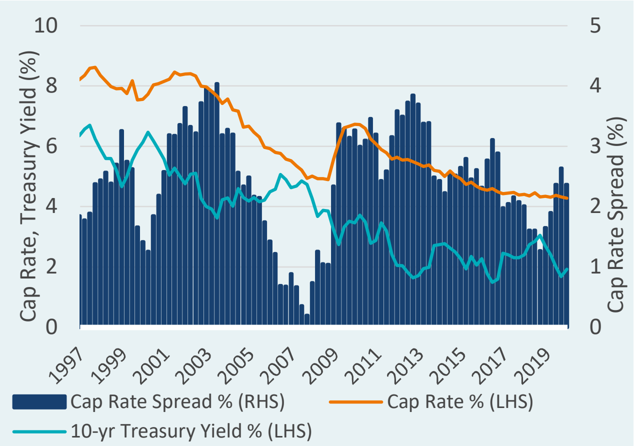
- Prior to the outbreak of Covid-19, real estate fundamentals remained fairly healthy overall. Vacancy rates had declined to cycle lows for most sectors, with retail being the notable exception.
- Cap rates had been trending steadily downward to 4.3%, while declining interest rates had kept spreads to Treasury rates at healthy levels. Cap rates will likely be on the rise, as implied cap rates in publicly listed REITs have risen 1.0 to 1.5%. Higher income levels should be a positive for real estate going forward, after the effects of any valuation impact is realized.
- Retail has been the one property type experiencing significant negative issues pre-coronavirus. Vacancy rates had been ticking slightly upward since 2015 and NOI growth has been hovering around zero.

VACANCY BY PROPERTY TYPE



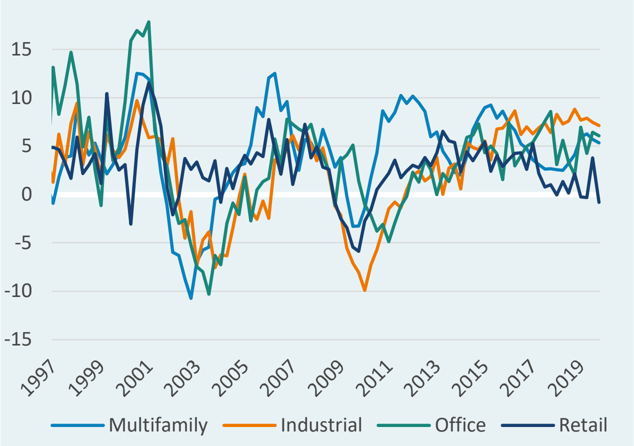
Source: NCREIF, as of 12/31/19

CAP RATE SPREADS



Source: FRED, NCREIF, as of 12/31/19

4-QTR ROLLING NOI GROWTH (%) BY PROPERTY TYPE



Source: NCREIF, as of 12/31/19

Real estate fundamentals – likely sector impacts due to coronavirus

- **Retail** is likely to feel the biggest impact in the near-term. The sector was already under pressure from shifting trends in consumer purchasing and ecommerce headwinds, so this will only hasten the downturn. Large dispersion between retail is likely with experiential retail such as malls, fitness, entertainment and restaurants likely to have the biggest impact while necessity retail such as grocery, drug and banks will fare better.

- **Office** will be affected in the normal course of a recession, although its impact will greatly depend on the length and severity of the downturn. Energy-related companies in Houston will be hurt so there will be fallout in the office market in and around Houston. One long-term trend that may emerge from the need to work from home is that companies realize they don't need to staff offices full-time. We may see companies downsizing office footprint as working from home becomes a viable option. The ability to work remotely could also impact core gateway markets as more workers choose to live in secondary cities with a lower cost of living.

- **Multi-family** has historically held up best during a downturn. The sector has been hot over the last decade which has encouraged new supply to hit the market. Whether or not we see fewer renters in the market, is hard to say. Right now, we'd assume multi-family holds up well among the key real estate sectors but there is likely to be areas that were overbuilt in hot markets. As in office, the ability to work remotely could result in a population shift away from expensive gateway markets and towards secondary cities like Nashville, Charlotte, Austin, etc.

- **Industrial** should perform well as consumers are forced to do more shopping online which will increase usage among the network of industrial warehouses for online shopping. Data centers and cell towers should be beneficiaries of work-from-home trends.

- **Hotels/Gaming** will see a large short-term impact though they are a small component of the commercial real estate market.

Real estate – New supply and absorption

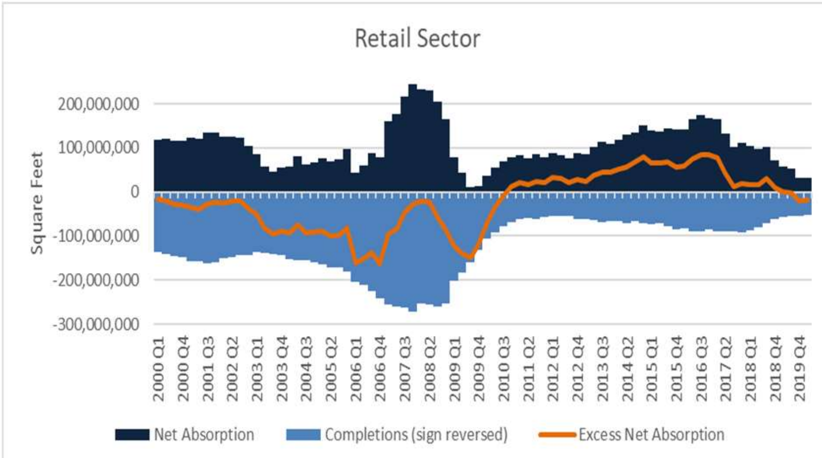
Overall, new supply/construction remained below peak levels of 2007-08

New supply has remained moderate in both office and retail, both well below prior peak levels.

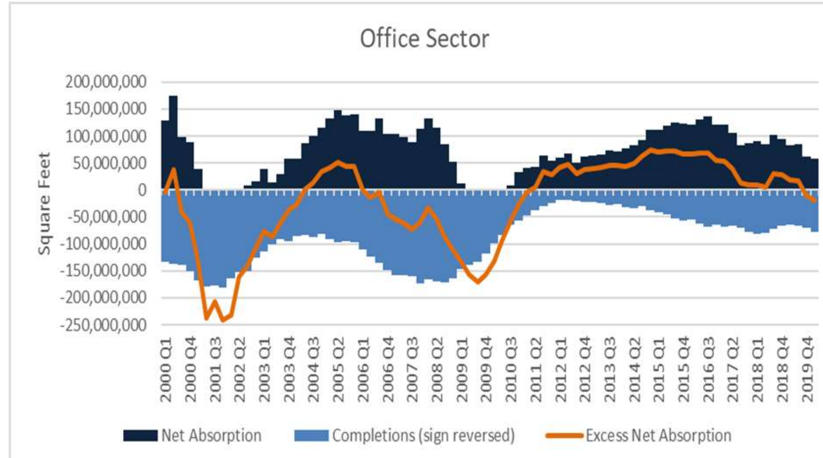
Industrial supply has been increasing to near peak levels, although just now starting to catch up to the strong demand driven by ecommerce trends.

Multifamily supply has hit record new highs the last several years, although declining home ownership and favorable demographic trends have kept demand in line with new supply.

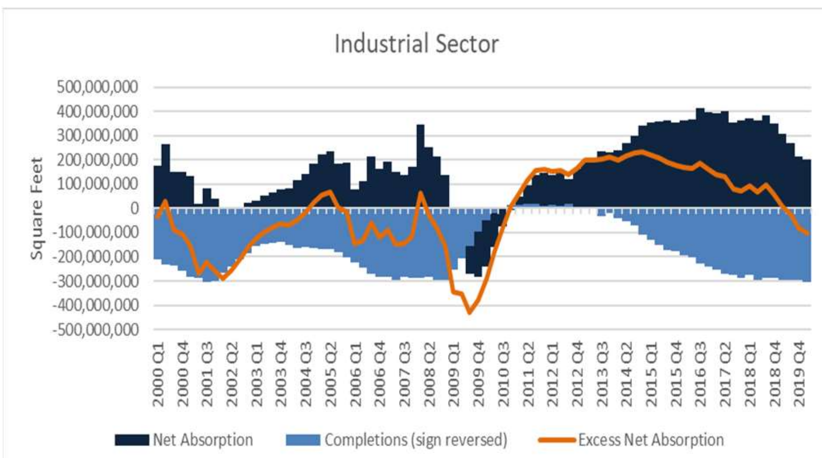
RETAIL



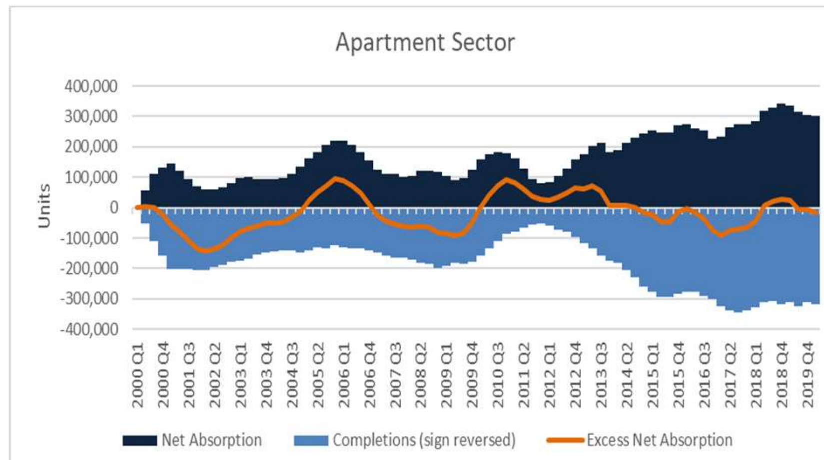
OFFICE



INDUSTRIAL



MULTIFAMILY



Source: American Realty Advisors utilizing CoStar data as of 12/31/19

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Real estate fundraising

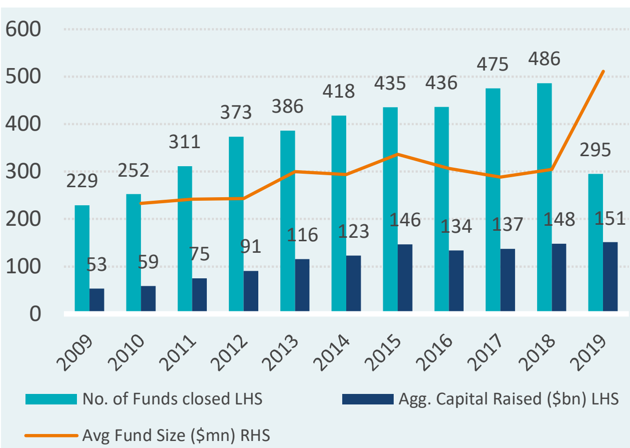
— The number of funds closed declined slightly in 2019, although the aggregate amount of capital raised remained fairly flat with a continued trend of larger fund sizes.

— Dry powder in the closed-end fund space has continued to rise to all-time highs, indicating managers are finding it challenging to put their capital to work.

— The majority of closed-end funds are targeting value-add strategies, while opportunistic funds raised the most capital, indicating larger average fund size for opportunistic strategies.

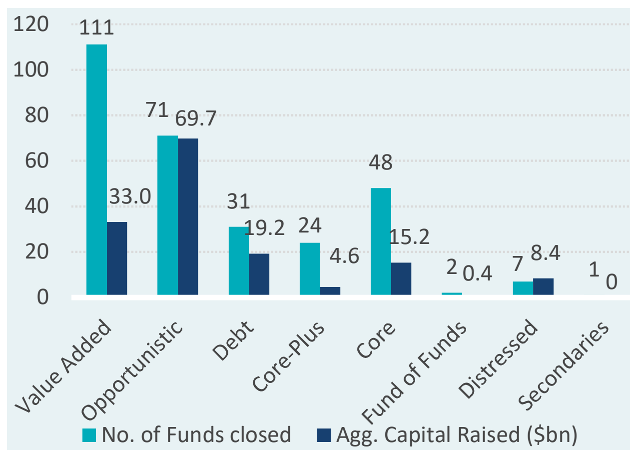
— At the beginning of 2020, core open-end funds had investment queues of ~$6 billion and redemption requests of ~$9 billion. This was a change from a year prior when redemption queues were negligible. Over 80% of the redemption requests were from one large fund.

HISTORICAL PRIVATE REAL ESTATE CLOSED-END FUNDRAISING



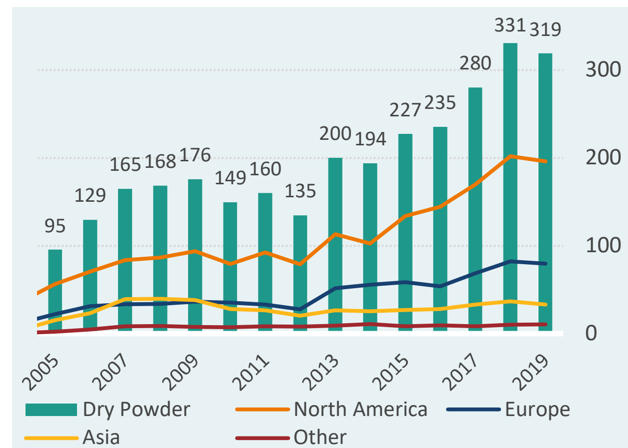
Source: Preqin, as of 12/31/19

2018 PRIVATE REAL ESTATE CLOSED-END FUNDRAISING BY STRATEGY



Source: Preqin, as of 12/31/19

DRY POWDER BY REGION – CLOSED-END FUNDS



Source: Preqin, as of 12/31/19

Real estate debt

— Coming into 2020, private real estate lending spreads had been declining over the last few years as additional competition entered the markets. The excess return premiums that private capital exploited, following regulatory changes that reduced some traditional sources of funding (i.e banks and insurance companies), have largely been squeezed out.

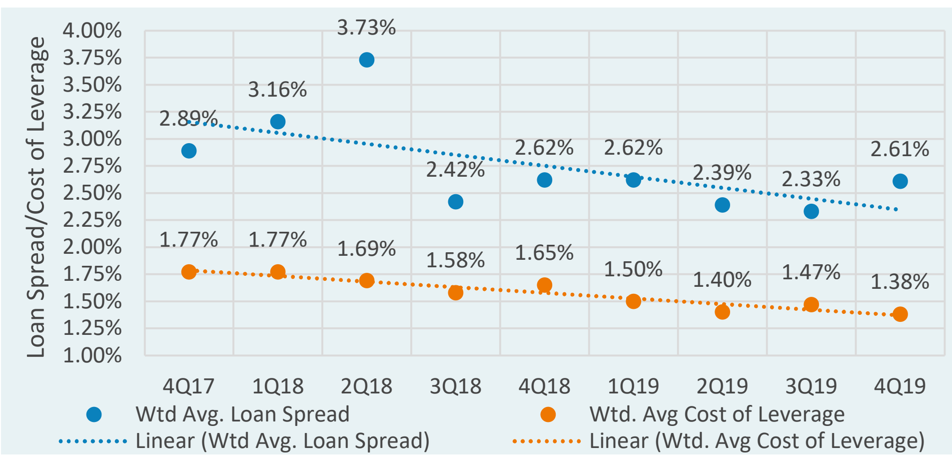
— Declining transaction volumes will likely have an impact on lending strategy returns as commitment/syndication fees are one component of total returns.

— Spreads are expected to increase as risk premiums have gone up, however with limited transaction activity, some uncertainty and volatility is expected in the near term.

— The potential returns for mezzanine loans and leveraged returns on senior whole loans for core-plus and light transitional properties appears to offer a favorable risk/return trade-off in comparison to real estate equity.

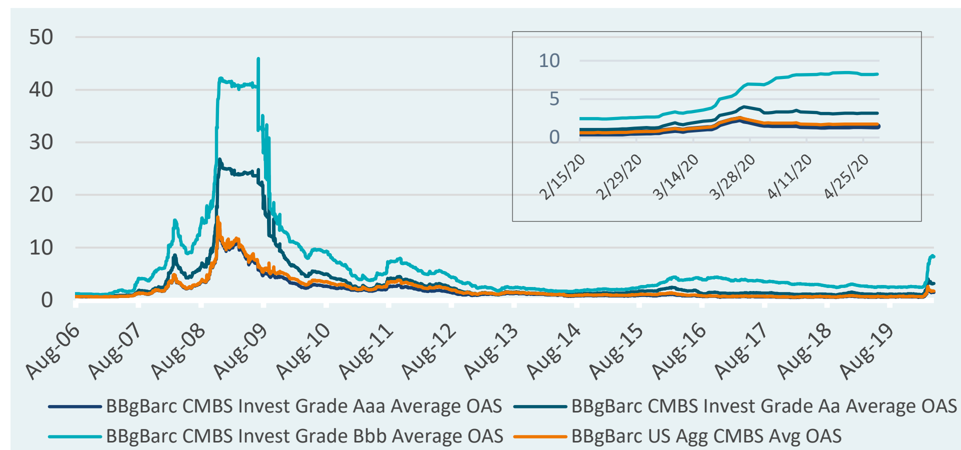
— We would continue to be cautious about the riskier segment of the loan market (i.e. construction loans, structured equity, etc.).

PRIVATE LENDING SPREADS



Source: PGIM, as of 12/31/19

CMBS SPREADS



Source: Bloomberg, as of 4/28/20

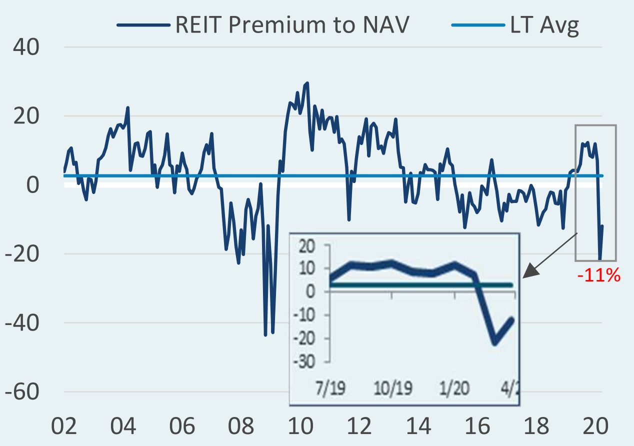
Private real estate summary

Strategy	Current Environment	Potential Risks	Outlook/Implementation	View
Core	Negative impacts from the economic slowdown caused by Covid-19 will likely take several quarters to play out in the appraisal process. Transaction activity has come to a halt, making pricing comparisons difficult. Retail/hotel/resort/casinos will likely feel the greatest impact. Income declines are more likely than prior downturns.	— The duration of the economic slowdown will impact the degree of negative real estate performance. Core real estate returns tend to have high correlation to overall GDP growth. A sharp rise in interest rates could lead to increased cap rates, hurting values.	The lag effect of the appraisals process will create a period of several quarters where valuations are not reflective of perceived value. Redemption requests are typically met with gates or redemption restrictions. We recommend rebalancing redemptions where possible and deploying capital in non-core strategies with fresh capital.	Negative
Value-Add	Existing assets will likely experience a valuation decline, especially those in the early stages of lease up or renovation, as timeframes to complete value-added components are likely extended from initial projections. Some heavy lift assets may face significant distress. Large amounts of capital has already been raised in this space.	— A slowing of demand for core real estate could lead to fewer buyers of value-add investments. — A prolonged economic slowdown would likely impact renovation and lease-up strategies. — Competition could be a challenge as lots of capital has been raised and transaction volumes likely to be slowed.	Non-core funds with vintage years during periods of economic distress tend to be some of the best performing vintages. The ability to buy potentially high-quality assets with capital needs across the lows of the cycle will afford attractive entry points.	Positive
Opportunistic	Existing assets with high leverage and development projects in progress are likely to face stress from their capital structures, owners need for liquidity and/or extended timeframes and delays in project completions.	— A slowing of demand for core real estate could lead to fewer buyers of opportunistic investments. — A prolonged economic slowdown would likely delay realizations of complex projects — Competition could be a challenge as lots of capital has been raised and transaction volumes likely to be slowed.	Non-core funds with vintage years during periods of economic distress tend to be some of the best performing vintages. The impact from a coronavirus-led slowdown will likely create more opportunities across the distressed spectrum, including real estate securities (CMBS, RMBS), non-performing loans, distressed corporate opportunities and complex projects.	Positive
Debt	Our preference for lower risk senior and/or mezzanine loans coming into the market dislocation appears to be working well as most tenants are meeting their lease obligations. Hotels and retail properties are facing challenges, with many debt holders providing rent payment holidays until markets stabilize. Construction loans and high-risk mezzanine are likely to fair worse as the slowdown extends.	— Subordinated loans on properties where tenants are unable to meet rental obligations could see impairment. — Lease payment holidays will delay loan cash flows, likely reducing investor IRRs.	Conservative lending strategies will continue to look attractive relative to core real estate equity.	Neutral

REITs

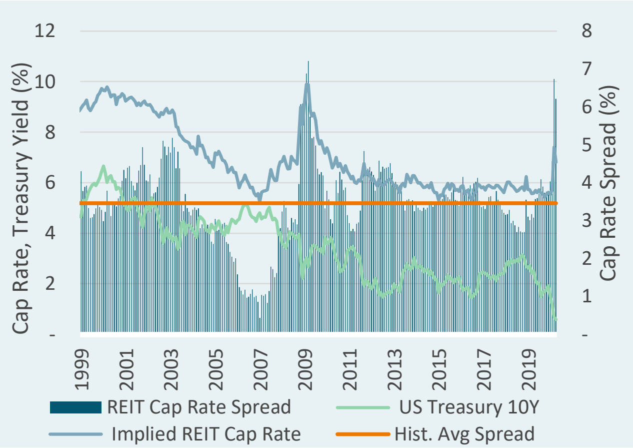
- REITs experienced a severe pullback in 1Q due to coronavirus related impacts. U.S. REITs were down 23% in 1Q and reached lows of -37% in early April before recovering off their lows but were still down over 25%. Sector dispersion has been very high, as retail and hotels remain down over 50% year to date, while industrial, especially data centers have held up well.
- REITs had performed well in 2019, returning 29%, although slightly underperforming the broader equity market, with the S&P 500 returning 31%.
- Implied cap rates have risen from 5.5% in late 2019 to 6.8% in late April (peaking at 7.3% in March). Currently spreads to Treasury rates are near all time highs.
- REITs entered 2020 trading at a premium to net asset value (NAV) between 5 to 10% during the latter part of 2019. The steep decline in 2020 has them trading at discounts of 11% to NAV in late April, after bottoming at discounts of over 20% in March. Confidence in what those NAVs should actually be is suspect however as appraisals lag and price discovery is limited.
- Verus generally recommends utilizing active management in U.S. REITs with managers that have significant private real estate expertise.

REIT PREMIUM TO NAV



Source: JPMorgan, as of 4/24/20

YIELDS (VS. TREASURIES)



Source: JPMorgan, as of 4/24/20

PROPERTY SECTOR PERFORMANCE

Sector	YTD	1-year	Prem/Disc
Data Centers	19.2%	42.0%	44.4%
Industrial	-4.1%	15.0%	14.3%
Self-Storage	-13.5%	-10.4%	-5.4%
Residential	-21.0%	-10.9%	16.1%
Office	-31.2%	-27.0%	-38.5%
Healthcare	-35.0%	-26.4%	-5.8%
Hotels	-51.9%	-51.4%	-59.1%
Strip Centers	-52.3%	-48.4%	-55.1%
Regional Malls	-62.6%	-68.3%	-58.2%
US Total	**-28.2%**	**-22.3%**	**-12.4%**

Source: Heitman, Wilshire, FTSE EPRA/NARIET, as of 4/24/20

REITs (continued)

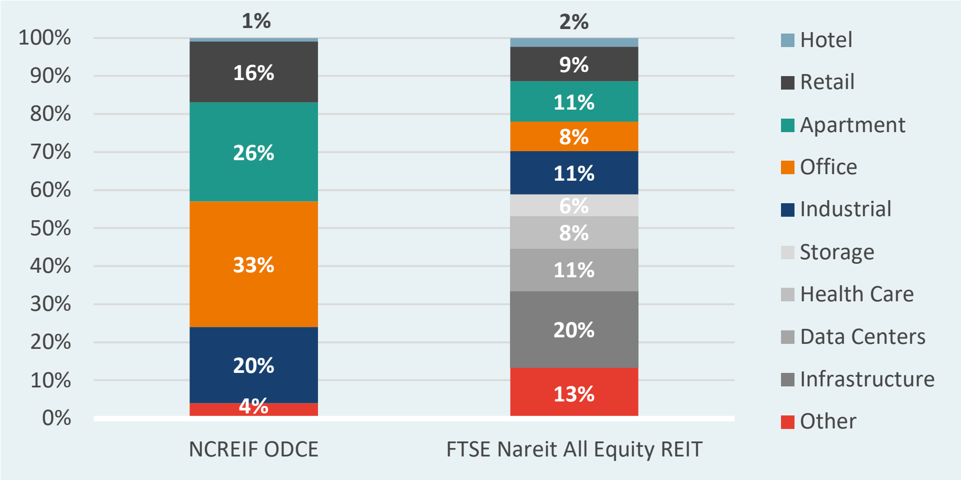
— The composition of property types of the REIT market looks quite a bit different than the core private real estate market. The four main property types within ODCE comprise 95% of the exposure, while those four property types are approximately 50% of the REIT market. The remainder of the REIT market consists of self-storage, medical office, data centers, cell towers and other niche sectors.

— Components likely to face the most significant coronavirus impacts such as hotel and retail comprise only 11% of the REIT market, while those are 17% of ODCE. Office and multifamily, which will likely face impact driven from an economic slowdown comprise less than 20% of the REIT market and almost 60% of ODCE.

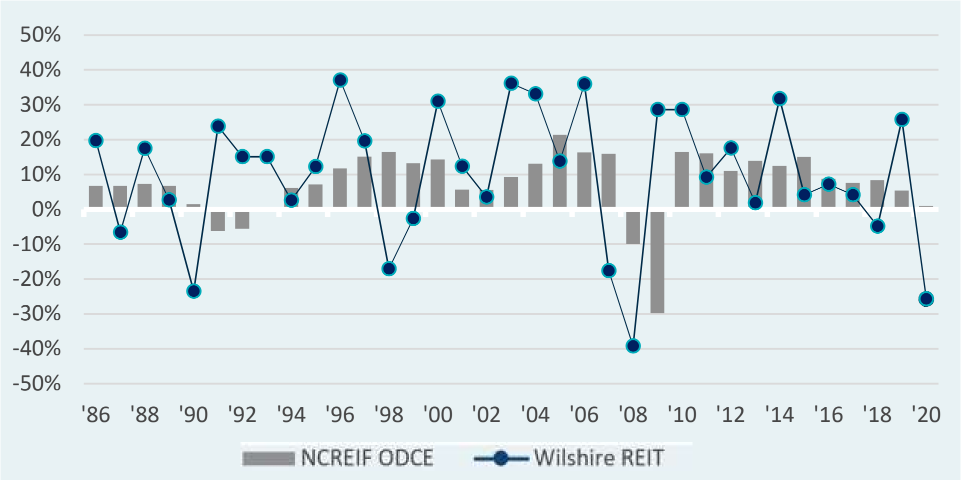
— Sectors with expected lesser impact from coronavirus, such as self-storage, data centers, cell towers and medical office are a much higher percentage of REIT market exposures.

— REITs typically have higher leverage than core real estate, although that spread has declined over the last decade. US REIT leverage is approximately 28% vs 22% for ODCE.

— The private real estate valuation process is appraisal/transaction comp based and drawdowns have typically lagged public markets. dramatically



Source: NCREIF, FTSE



Source: NCREIF, Wilshire, as of 3/31/20

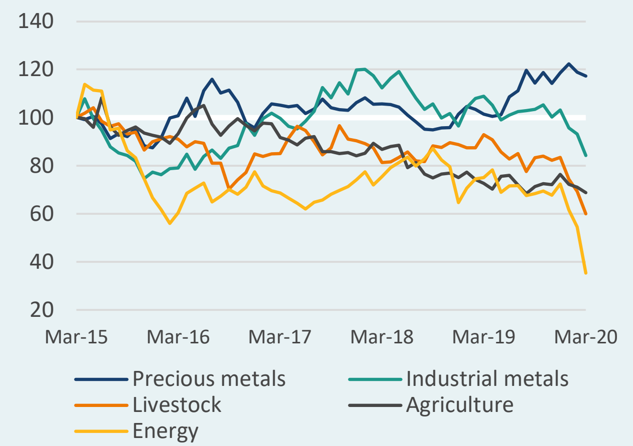
Commodities

— Commodities have continued to have lackluster performance over the past decade, delivering negative returns through the global financial crisis and the energy market sell-off. The trailing 10-year return for the Bloomberg Commodity Index through Dec 2019 was -4.7%. Much of this performance has been caused not by price movement, but by the shape of commodity futures curves. An upward sloping curve creates a performance drag due to investors having to buy high and sell low, versus a downward sloping curve which provides a positive carry as prices paid for futures contracts are lower. This premium/discount is a major determinant of commodity performance and is known as “roll yield”. Roll yield can be negatively affected by commodity crises as current contract prices drop further than distant prices and the curve becomes steeper.

— In early 2020, energy markets, which had been under stress already, were put into a tailspin from a combination of the price war between Saudi Arabia and Russia and a simultaneous demand decline from coronavirus related shutdowns and travel bans. While OPEC+ has agreed to some additional production cuts, an oversupply will likely exist for some time, pressuring the front end of the oil curve due to a lack of storage capacity.

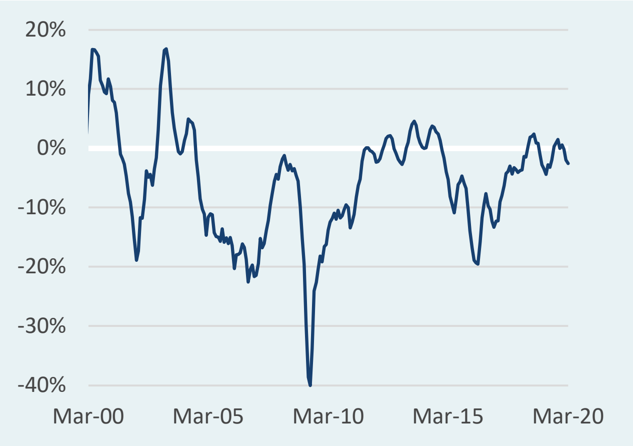
— An economic slowdown is likely to impact demand for other commodities such as industrial metals, agriculture and livestock.

SECTOR PERFORMANCE



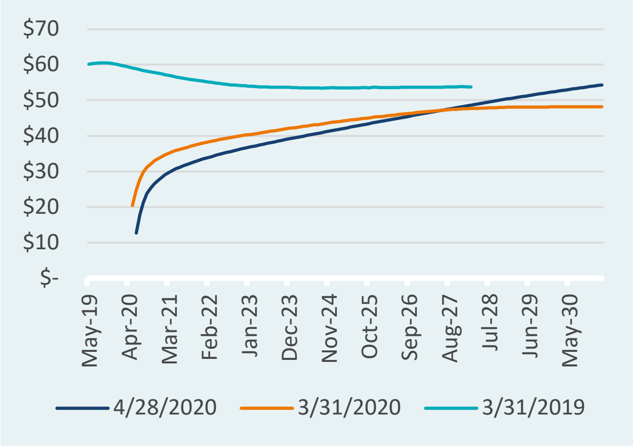
Source: Bloomberg, as of 3/31/20

ROLL RETURN



Source: Bloomberg, as of 3/31/20

CURVE SHAPE (WTI)

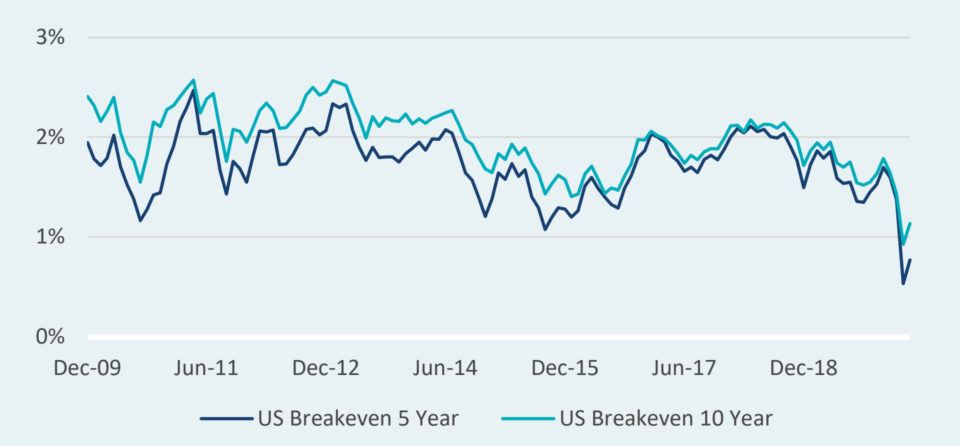


Source: Bloomberg, as of 4/28/20

TIPS

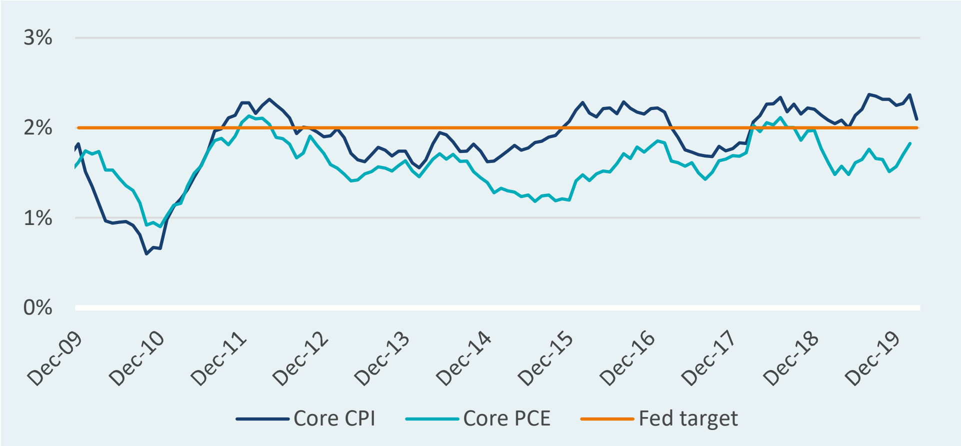
- Inflation has been range bound over the last several years, hovering between 1.5% to 2.5%.
- TIPS 10-year break-even rates have fallen from 1.9% in early 2019 to 1.1% at the end of April 2020. 5-year breakeven rates are slightly lower at 0.9%.
- Due to low inflation and low nominal rates, TIPS returns have been very lackluster. The Barclays U.S. TIPS Index has returned 3.5%, 2.7% and 3.5% over the last 3-, 5-, and 10-years, respectively. More recently, returns experienced a modest pop due to a decline in rates. The 1-year return for the TIPS benchmark was 6.8%, as of the end of March 2020.
- Over the intermediate-term, we believe TIPS appear less attractive from a total return perspective, relative to other real asset strategies because of the limited carry available from the asset class.
- TIPS could play a role in long-term strategic allocations providing inflation protection within fixed income portfolios and as a buffer to unexpected inflation.

U.S. TREASURY BOND RATES



Source: FRED, as of 4/28/20

CURRENT INFLATION VS. FED TARGET

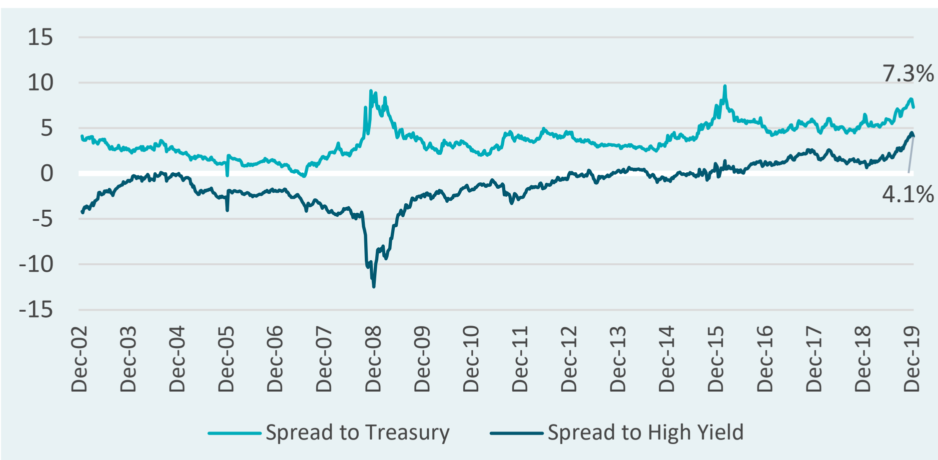


Source: FRED, as of 3/31/20

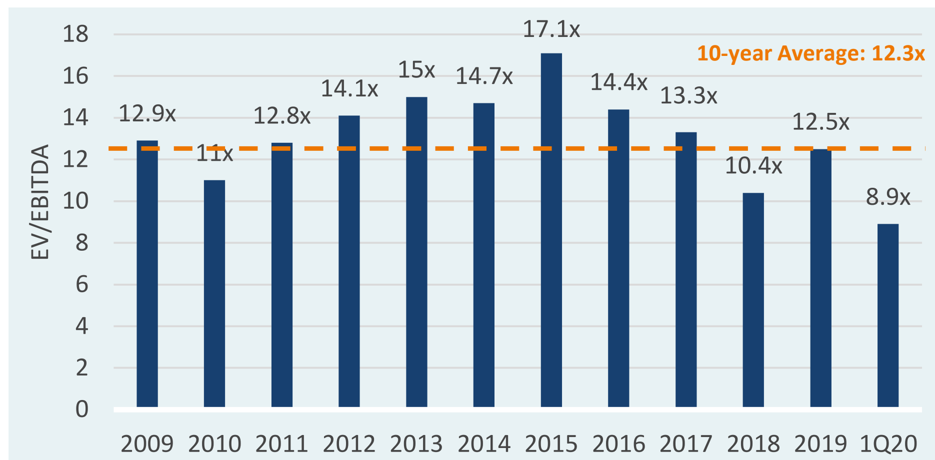
Midstream energy/MLPs

- Midstream energy stocks were broadly up in 2019 but trailing returns mask the volatile ride the sector experienced over the last year, and thus far in 2020. Midstream companies experienced a solid recovery in early 2019, only to sell-off sharply beginning in July as commodity prices came off their recent highs. A late rally across the energy sector in December brought some relief to investors, though that was quickly erased in early 2020 as the impact of the coronavirus pandemic curtailed demand for global commodities.
- The sector experienced a strong divergence in performance between C-corp midstream equities and MLPs. In 2019, the Alerian Midstream Energy Index, which includes C-corps, was up 26.4% vs. the Alerian MLP Index (excludes C-corps) which was up 6.6%. We believe this performance dispersion will persist as long as MLPs struggle to regain retail and institutional investors. The result being that we expect more MLP to C-corp conversions going forward.
- Energy is one of the few sectors that on a relative and absolute basis appears cheap. Midstream companies on average are trading around 9.0x EV/EBITDA (vs. 12-13x long-term average) and have provided a substantial yield advantage over fixed income instruments. Despite the attractive valuations, underlying fundamentals are deteriorating quickly in 2020 and will likely get worse as low oil & gas prices force production cuts and balance sheet restructurings. Many midstream companies have drastically cut distribution payments in order to preserve liquidity. The total impact on the sector's yield will be felt in the coming months.

MLP SPREADS VS HIGH YIELD & TREASURIES



MIDSTREAM VALUATIONS (EV/EBITDA)

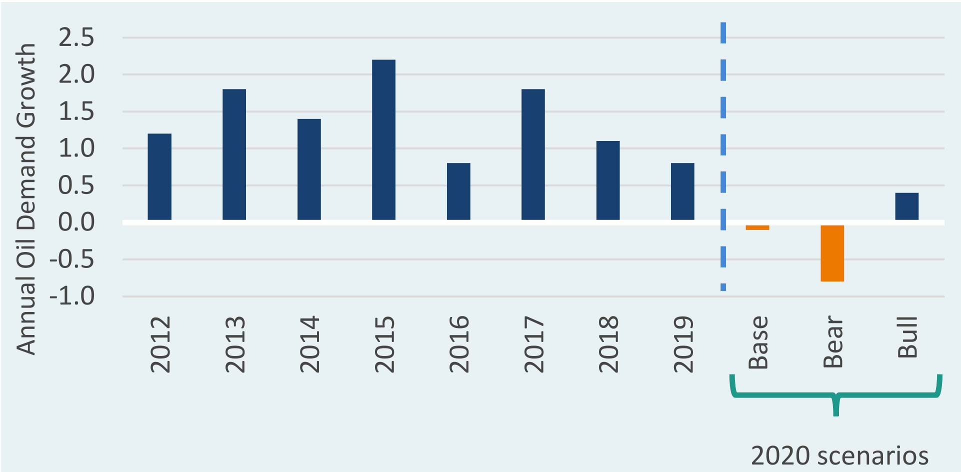


Source: Bloomberg

Midstream energy/MLPs (cont.)

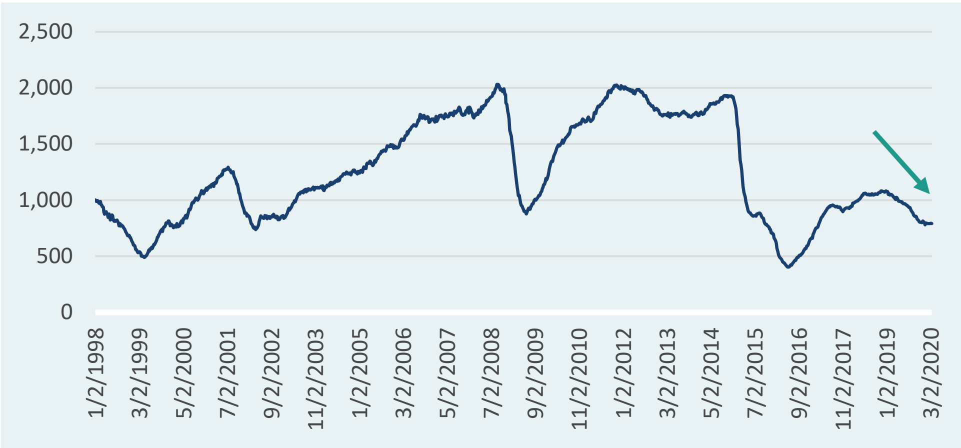
- Oil & gas production forecasts by industry experts had painted a compelling picture of growing or stable supply well into the next couple decades as demand steadily grew. According to the IEA, oil demand growth is expected to be negative in 2020 due to the impact of Coronavirus. Falling demand has put pressure on energy prices which puts pressure on producers to cut spending and supply.
- Compounding the demand shock, came news that OPEC and Russia would engage in an all-out price war as their previous alliance collapsed. Oil markets have had to deal with demand shocks (Global Financial Crisis) and supply shocks (OPEC response in 2014) but we haven't seen both hitting at the same time in recent history. U.S. E&P companies are not healthy enough to withstand a protracted downturn in oil prices, in our opinion. During the 2015-'16 downturn, private capital flooded into the energy market and helped the industry quickly recover, we do not expect a similar outcome this time around.
- Falling rig counts, as measured by Baker Hughes, is one measure that could portend a production decline. If commodity prices remain depressed, we could see volumes fall as companies are forced to cut capex spending in order to stay solvent.
- *Side note: The large decline in rig count from 2015 onward is in part due to more efficient horizontal drilling techniques (i.e. pad drilling) and a large inventory of drilled but uncompleted wells (DUCs).*

ANNUAL GLOBAL OIL DEMAND GROWTH (MILLION BARRELS/DAY)



Source: IEA, Quantum Energy Partners

U.S. WEEKLY DRILLING RIG COUNT



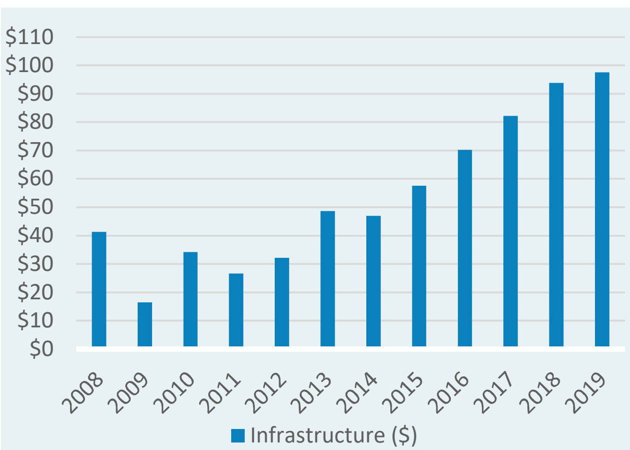
Source: Baker Hughes

Private infrastructure

— Fundraising within Infrastructure reached a record high of $98 billion in 2019, according to Preqin. In addition, large infrastructure funds are capturing a greater share of the overall market, with around 70% of the capital raised in 2019 committed to infrastructure funds that were targeting at least $5B in assets.

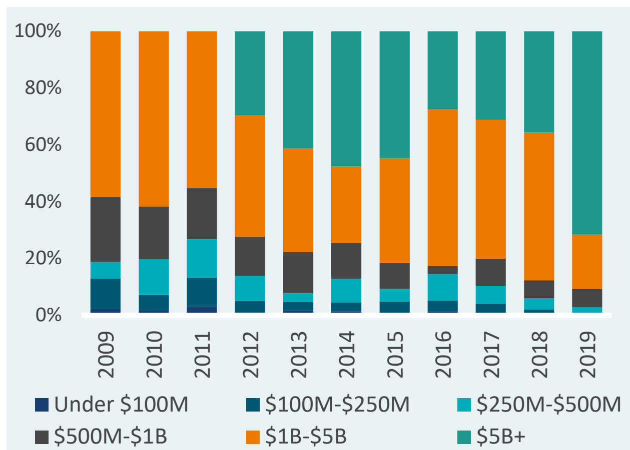
— In 2019, we saw a surge in deal activity for telecom and energy (ex. renewables). We've been bullish on the telecom theme given the tailwinds around data usage growth globally. Social distancing measures have heightened our collective use of data as we learn to work remotely and conduct meetings via videoconferencing. The growth in energy transactions, led by several midstream take-privates, has likely not worked quite as well. The collapse in oil prices has devasted oil/gas producers which will flow through to the pipeline owners as volumes fall from production declines.

FUNDRAISING IN INFRASTRUCTURE



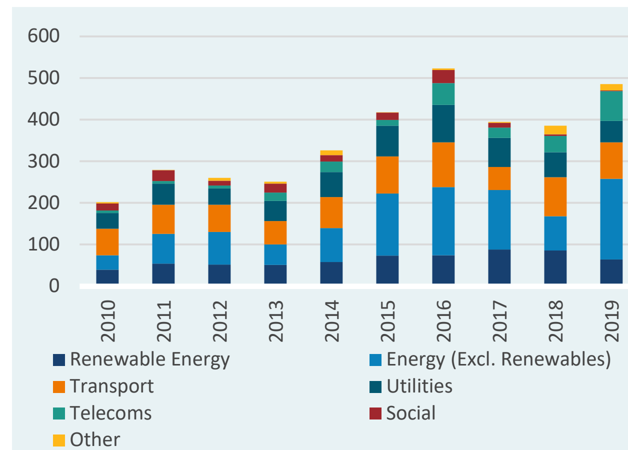
Source: Preqin

INFRASTRUCTURE FUNDRAISING BY FUND SIZE



Source: Pitchbook

INFRASTRUCTURE DEALS BY SECTOR

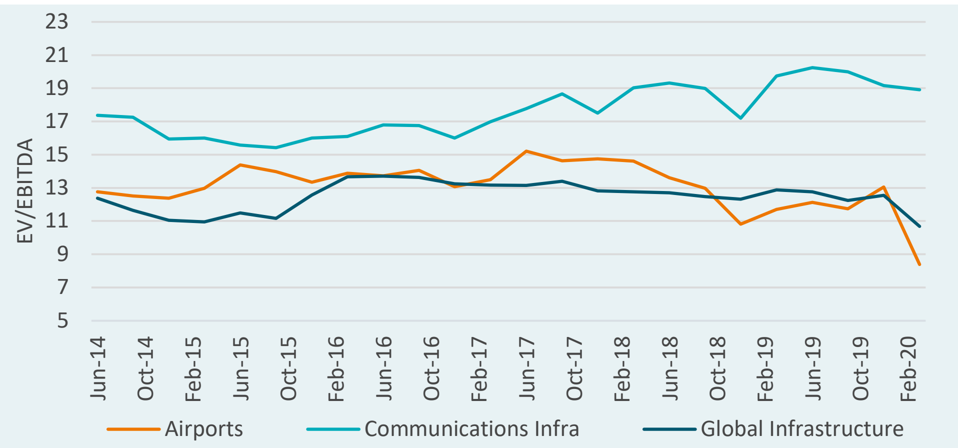


Source: Preqin

Private infrastructure (cont.)

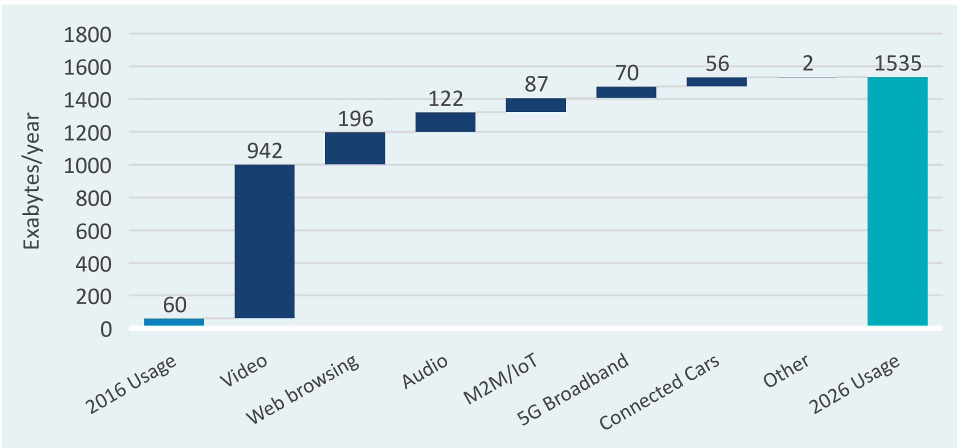
- Transportation infrastructure (i.e. ports, toll roads, airports) is experiencing a material decline in revenue due to travel restrictions and slowing global trade. Airport passenger traffic fell as much as 50-90% during March as the full impact of social distancing orders took effect. Cargo volumes were down 30% at the Port of Los Angeles, the largest port in the U.S. In contrast, communications infrastructure has either seen little-to-no impact or has benefited from a surge in data usage. Verizon reported traffic across its networks increased 20% from pre-coronavirus levels as video streaming, gaming and web traffic surged.
- Valuations within sectors most impacted by Covid-19 fell sharply during the first quarter, reflecting the near-term business impact and higher risk premiums. Listed airports, for example, fell from an average EV/EBITDA multiple of 13.0x to 8.0x in March 2020. Having been bearish on the transportation sector for a couple years, the disruption to infrastructure assets could present an interesting entry point for new capital.
- Communication infrastructure trades at a considerable premium, 19.0x vs. 10.5x for infrastructure broadly, which is a reflection of the stability of their earnings and future growth potential. The macro tailwinds within mobile data usage and video streaming are compelling, though valuations, at least within public markets, appear to be pricing in much of the future growth opportunity.

INFRASTRUCTURE VALUATIONS – EV/EBITDA



Source: Bloomberg; Dow Jones Brookfield Infrastructure; S&P Global Infrastructure

GROWTH IN GLOBAL MOBILE DATA TRAFFIC (EXABYTES PER YEAR)

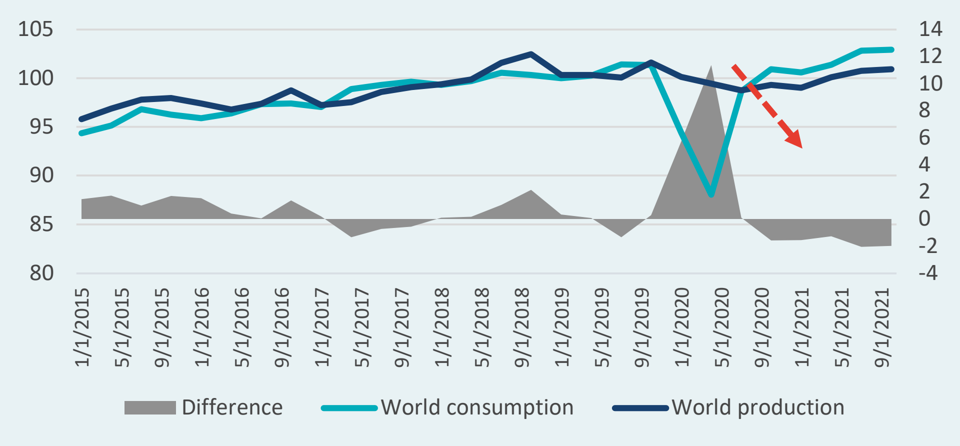


Source: Altman Vilandrie 2018

Energy – Oil/Gas

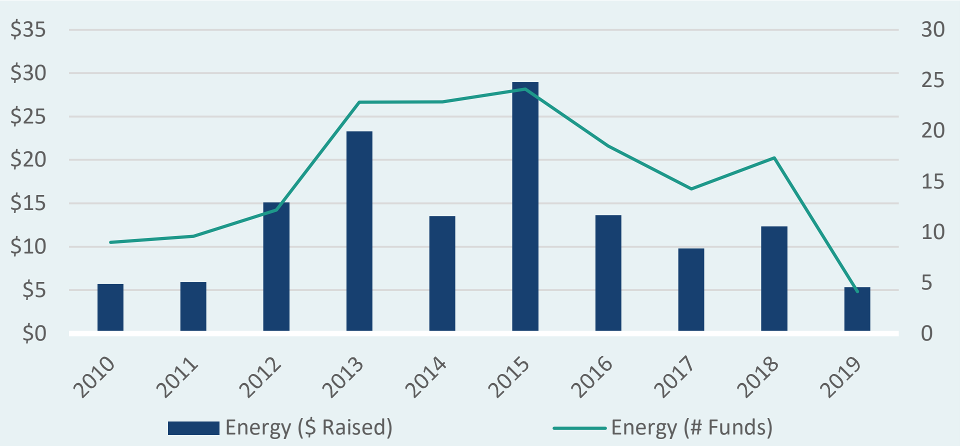
- The oil/gas industry would seem to be cursed as weather, geopolitics, human pandemics and investor antipathy have collectively hit the sector when it was already severely wounded. News of a breakdown in the alliance between OPEC and Russia on supply management will likely result in another round of bankruptcies and capital destruction for North American Oil & Gas companies. Forecasts for oil demand are still being adjusted downward but are projected to decline 5-10% in 2020. An already oversupplied market will take time to recover from the steep decline in demand but for U.S. drillers, time is in short supply.
- We do not see private capital stepping in to provide much needed debt and equity infusions as they did in 2015/'16. Fundraising, both in equity and credit strategies, to support the energy industry has been anemic. Absent a sharp recovery in oil prices over the next 6 months, we believe a substantial wave of restructurings will occur and U.S. shale production will fall sharply as small and financially weak operators are taken out of the market.
- For now, we would recommend investors avoid putting new capital into the sector. We are more comfortable potentially missing out on a market bottom than risking additional capital that in our view is likely to become impaired.

WORLD CONSUMPTION/PRODUCTION OF LIQUID FUELS PER DAY



Source: EIA

FUNDRAISING IN OIL/GAS



Source: Preqin

Verus

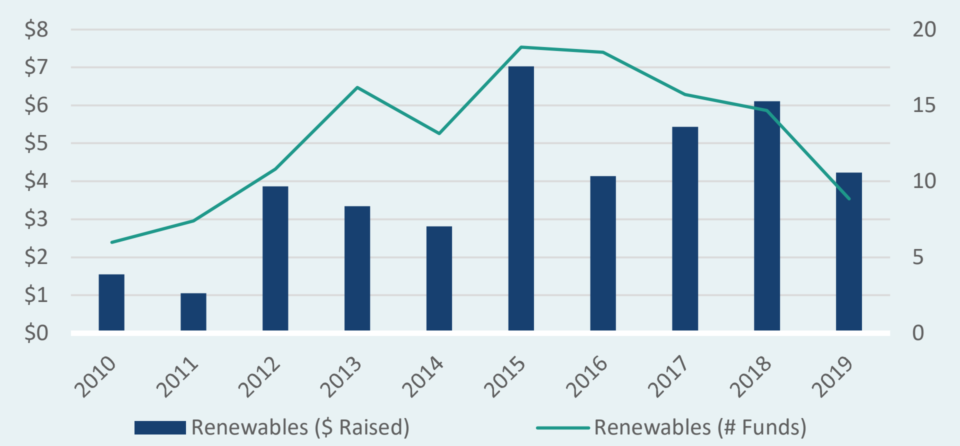
Energy – Renewables

— Dedicated renewable energy fundraising moderated in 2019 to just over $4 billion. However, this figure does not include energy funds that invest in both conventional energy sources along with renewable sources, or infrastructure funds that target renewable energy investments as a portion of their strategy. Taken as a whole, investment in the sector has been on a consistent upward trend, with only more room to grow as countries and corporations aim to become carbon neutral. According to Bloomberg[1], over $10 trillion of investment in new renewable energy generation assets is needed by 2050 in order to meet demand.

— The sector has held up strongly through the Covid-19 crisis due to stable demand for electricity and the relative ease of operations for solar and wind farms. New development projects will likely slow in the short term as financing dries up and permitting processes come to a halt, but existing assets will be largely unaffected.

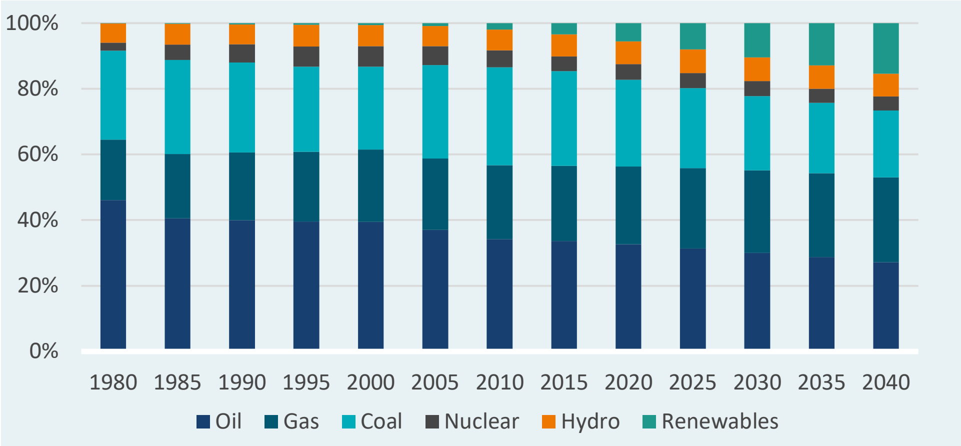
— Despite a strong outlook for demand, there are challenges to deploying capital in the space. Investments in operating assets are not compelling as returns remain in the mid-single digits, and it is difficult to find scalable development opportunities. We currently believe the best way to gain exposure is through broader infrastructure funds that include investments in the sector as a component of a diversified portfolio.

FUNDRAISING IN RENEWABLES



Source: Preqin

GLOBAL ENERGY SOURCES



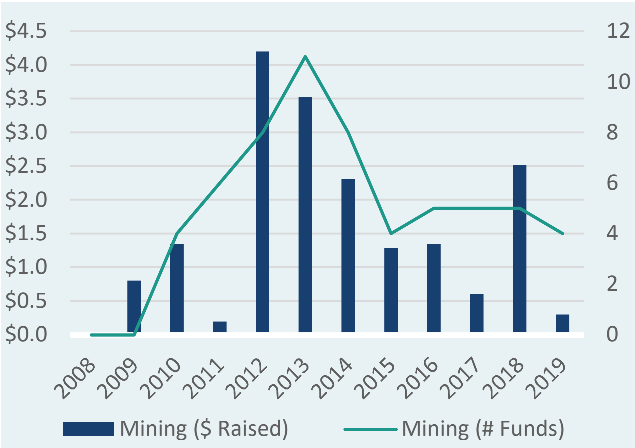
Source: BP

1. Bloomberg New Energy Finance, New Energy Outlook 2019.

Metals and mining

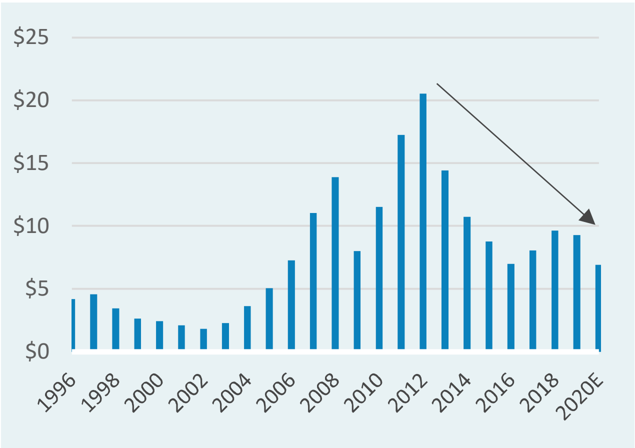
- Fundraising in the private equity mining segment has been lumpy and quite modest since the GFC. 2019 saw a significant decrease after a notable uptick in fundraising in 2018. The landscape for fundraising in mining will be one to watch as more institutions implement strong ESG programs that will undoubtedly impact mining GPs. We could see a scenario where fundraising improves if investors see the benefit of funding the extraction of materials that contribute to our shift away from fossil fuels.
- After a modest recovery from a cyclical low in 2016, mining exploration budgets are expected to decrease by 29% in 2020 due to limited access to financing and lockdown measures in place in many countries mining companies operate. Despite short term challenges, macro trends of increasing demand for industrial metals remain in place. Our overall outlook within mining is positive with a notable challenge in finding enough investment opportunities that meet our underwriting criteria.
- On the investment side, we have participated in the mining sector by backing teams with expertise in financing mining projects which delivers a high income return with some upside associated with a structured equity security. We are more bullish on base/industrial metals which longer-term will benefit from a shift away from fossil fuels. We are less bullish on bulk and energy-related commodities.

FUNDRAISING IN MINING



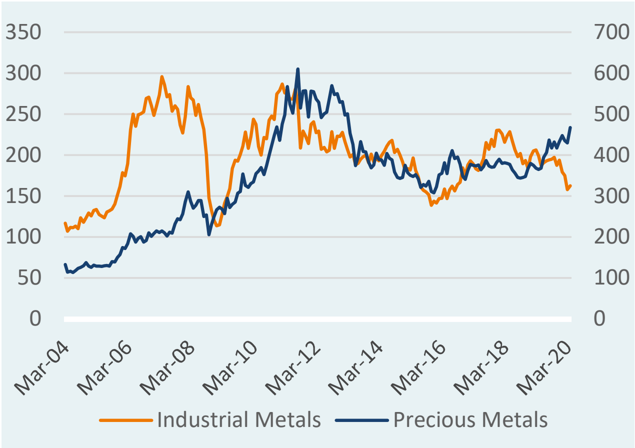
Source: Preqin

CAPITAL EXPENDITURE IN MINING ($B)



Source: S&P Global Market Intelligence

METAL PRICES

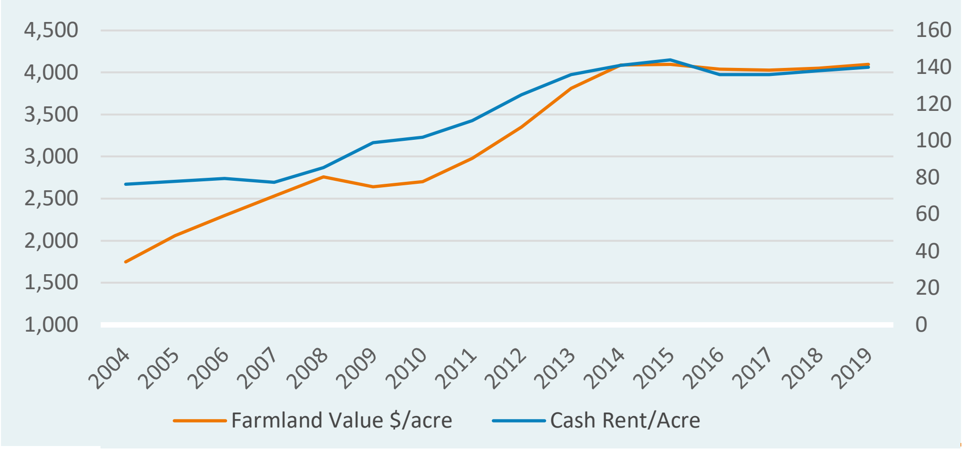


Source: Bloomberg

Agriculture

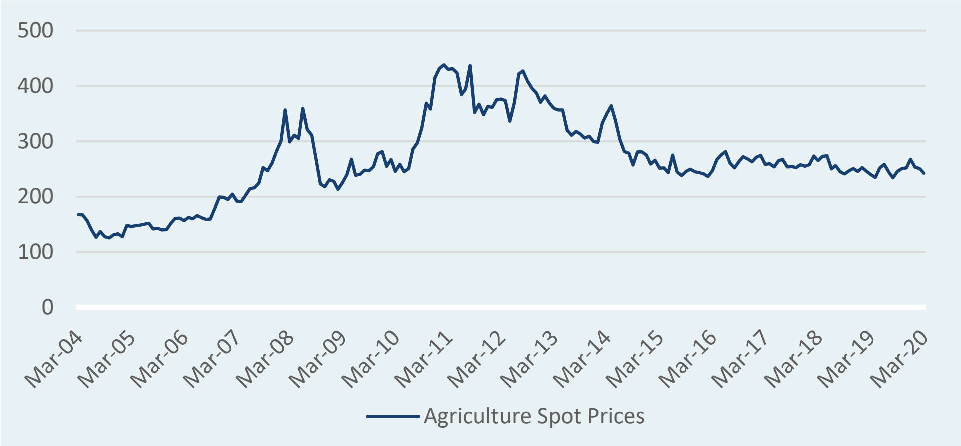
- Farmland values nationally have remained largely flat since 2014, despite a challenging commodity price environment over the last 5 years. That has put pressure on investment returns as income yields have been flat-to-down and capital appreciation has not materialized. For new investors, the investment return potential looks disappointing as rental yields remain stubbornly low (3-4% on average) and land values appear expensive.
- In the row crop segment, rental yields hover around 3% which is insufficient in our opinion for most institutional investors. Permanent crops offer the potential of higher income yields but also carry greater risk and operational expertise. There are additional ways to add value through crop selection, improving crop yields and selling land for higher-and-better-use cases. In addition, managers can control a greater share of the food production value-chain which carries higher returns but also higher operational risk.
- We tend to favor agriculture strategies that both own land for crop production and control the operating verticals that bring food to the consumer. Strategies that can capture more value through processing, storage and marketing, offer the potential of higher returns.

U.S. NATIONAL FARMLAND VALUES VS CASH RENTS



Source: USDA

BLOOMBERG AGRICULTURE PRICES



Source: Bloomberg, as of 3/31/20

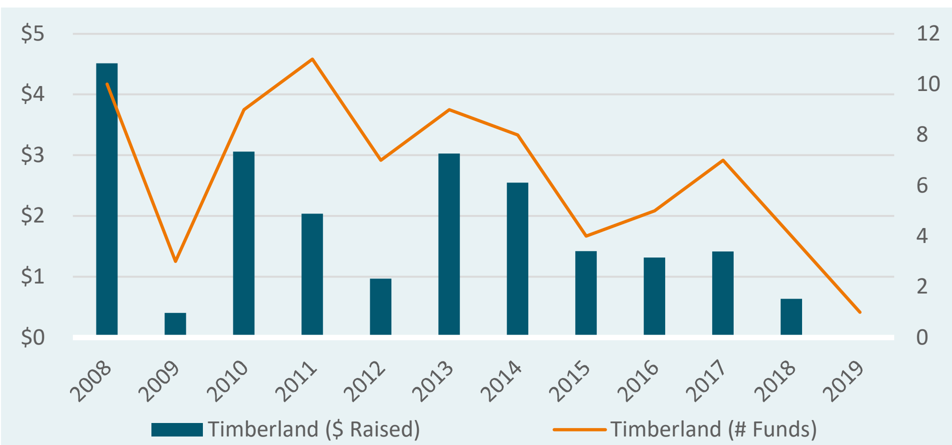
Timberland

— Fundraising has continued to be a challenge within the timber industry with Preqin having 1 timber fund raised in 2019. Despite a lack of capital being raised by TIMOs, the investment opportunity within timber has not materially improved.

— One other effect of the fundraising trend in timberland is the cluster of "zombie" funds raised in the pre-GFC period that are finding liquidity a challenge. The mismatch in buyers and sellers in other markets could present a buying opportunity but a reluctance on the part of selling timber managers to realize a loss has kept prices elevated and thus expected returns low.

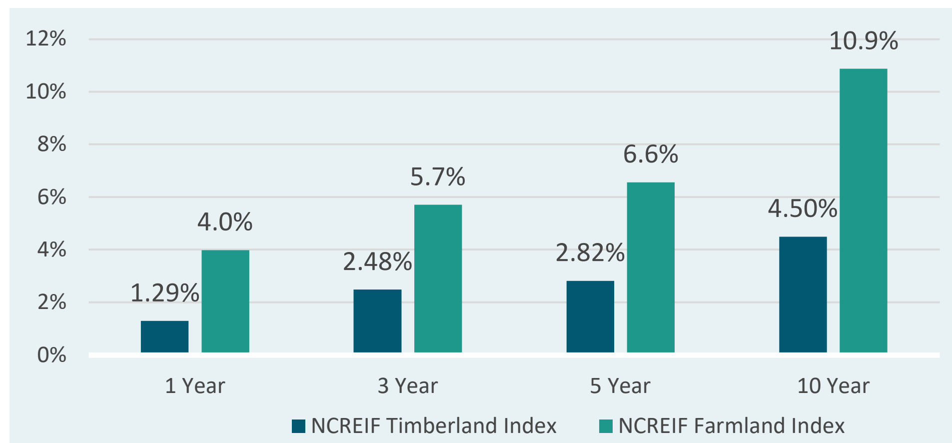
— The past 10 years have been lackluster for timber investors, achieving a trailing average return of 4.5%, according to the NCREIF Timberland Index. Many TIMO funds have fared worse than the index due to leverage and/or less favorable geographic exposures within their portfolio. The 10-year returns prior to the GFC were more than double the returns experienced after, so investors may ask, which returns we are likely to see in the decade ahead. We believe the asset class was undergoing a unique shift in the 90s and early 2000s that drove high double-digit returns that aren't repeatable in today's market.

FUNDRAISING IN TIMBERLAND



Source: Pitchbook/Preqin

TIMBERLAND TRAILING PERFORMANCE

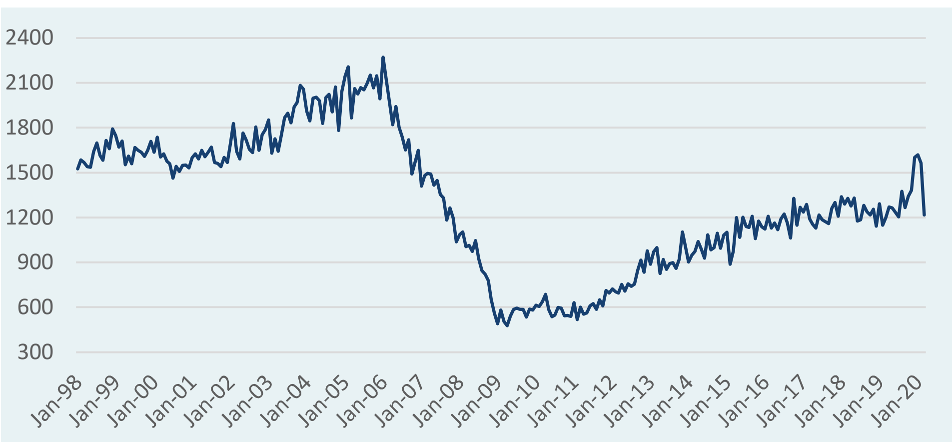


Source: NCREIF (as of 3/31/20)

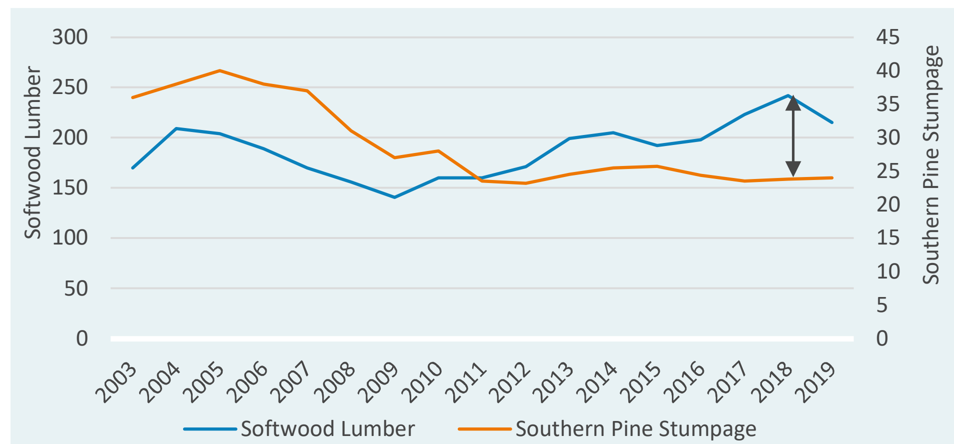
Timberland (continued)

- Housing starts have experienced a slow rebound since the GFC as millennials delayed buying and urban living trends reduced demand for single family homes. There was a surge in housing starts in 2019 but the impact of Covid-19 caused a sharp reversal in the first quarter of 2020.
- As the chart on the bottom right indicates, one of the challenges that timber investors have faced is that the price they received for their trees (southern pine stumpage) began to decline during the GFC and largely never recovered. With housing construction turning around in 2015/16, lumber prices began to respond but the prices that timberland owners received did not. Two critical issues have kept stumpage prices depressed, excess supply of trees in the region and a lack of mill density that has created bottle necks in lumber production.
- The impact of Covid-19 is likely to be a short-term headwind for lumber prices and the timber industry as a whole. That said, given the lack of highly leveraged players in the timber market, we don't expect a stressed buying opportunity to emerge.

U.S. HOUSING STARTS



SOUTHERN PINE STUMPAGE VS SOFTWOOD LUMBER PRICES



Source: St. Louis Fed, as of 3/1/20

ESG opportunities within real assets

Real Estate	Infrastructure	Natural Resources
Affordable Housing	Renewable Power/Storage	Mitigation Banking
Opportunity Zone Investments	Charging Infrastructure	Timberland/Carbon Offsets
Green/Smart Buildings	Water Infrastructure	Sustainable Agriculture

ESG investing is becoming a priority for a growing number of institutions.

Within real assets, there are a handful of impact and sustainable investment strategies, though most lack institutional quality fund opportunities.

— Real assets is emerging as one of the primary asset classes for ESG/Impact investing. While most opportunities are nascent and lack the scale necessary for institutional capital, a few strategies across real estate, infrastructure and natural resources are accessible.

— We would recommend asset owners look for fund opportunities that can flexibly invest in multiple impact strategies as pricing and valuations can shift materially as capital flows move in and out of these sub-markets.

- Lacks institutional quality investment opportunities
- Institutional investment opportunities available

Appendix

Glossary of terms

Adjusted Funds From Operations (AFFO): A measurement which is helpful in analyzing real estate investment trusts (REITs). The AFFO typically equals the trust's funds from operations (FFO) but is adjusted for ongoing capital expenditures which are necessary for upkeep of the REIT's assets.

Backwardation: Also, sometimes called normal backwardation, is the market condition where the price of a commodities forward or futures contract is trading below the expected spot price at maturity.

Capitalization Rates: The rate of return of a real estate investment, which is calculated by dividing the property's net operating income by the property's purchase price.

Core Real Estate: This category of real estate will include a preponderance of stabilized properties. Core real estate should achieve relatively high income returns and exhibit relatively low volatility. Core real estate funds tend to use less leverage.

Consumer Price Index (CPI): A measure of purchasing power and inflation that takes the average prices of a basket of consumer goods and services, such as food, medical care, and transportation, and compares the same basket of goods in terms of prices to the same period in a previous year. Changes in CPI are used to assess price changes associated with the cost of living.

Contango: When the futures price of a commodity is above the expected future spot price. A futures or forward curve is upward sloping when the market is in contango.

Double Promote: A joint venture private equity structure is considered to have a "double promote" if the sponsor of a project is in fact comprised of two separate parties who each have a profit waterfall agreement or cash flow disbursements.

Dry Powder: Investment reserves raised by investment funds to cover future obligations or to purchase assets in the future.

GDP: The total value of all services and goods produced within a country's borders, for a given time period. This calculation includes both private and public consumption, government expenditures, investments, along with total exports net of total imports.

Internal Rate of Return (IRR): the IRR is the discount rate that equates the present value of cash outflows (investment) with the present value of cash inflows (return of capital). IRR is often referred to as a dollar-weighted rate of return that accounts for the timing of cash inflows and outflows.

***LIBOR*: Is a benchmark rate that some of the world's largest banks charge each other for short-term loans. It stands for London Interbank Offered Rate and serves as the first step in calculating interest rates on various loans throughout the world.

Master Limited Partnerships (MLPs): A limited partnership structure which is publicly traded on an exchange. MLPs combine the tax benefits of a limited partnership with the liquidity of publicly traded securities. To qualify as an MLP, the entity must generate 90% of its income from the production, processing and transportation of oil, natural gas and coal.

Net Operating Income (NOI): A calculation which is used to analyze real estate investments that generate income. NOI is the property's annual income generated by operations after deducting all expenses incurred from those operations. The growth rate in NOI is a common metric used in determining the health of a property.

OPEC: The Organization of Petroleum Exporting Countries (OPEC) is a group consisting of 12 of the world's major oil-exporting nations. OPEC is a cartel that aims to manage the supply of oil in an effort to influence the price of oil on the world market.

Opportunistic Real Estate: An opportunistic fund is one that includes preponderantly non-core assets. The fund as a whole is expected to derive most of its return from property appreciation which may result in significantly volatile returns. These funds may employ a variety of tools such as development, significant leasing risk and potentially high leverage.

Real Estate Investment Trusts (REITs): A REIT is a company that owns and operates commercial real estate properties. REITs can be publicly traded or privately held. There are two main type of REITs: Equity REITs which generate income from the operation of properties, and Mortgage REITs, which invest in mortgages or mortgage securities.

Glossary of terms (continued)

Timber Investment Management Organizations (TIMOs): A management group that invests in timberland assets for institutional investors. TIMOs will purchase, manage and sell various timberland properties on behalf of investors.

Treasury Inflation Protected Securities (TIPS): A treasury bond that is adjusted to eliminate the effects of inflation on interest and principal payments, as measured by the Consumer Price Index (CPI). TIPS are issued in terms of five, ten and twenty years and are auctioned twice per year.

Value-Added Real Estate: A value-added real estate fund often holds a combination of core assets and other assets characterized by less dependable cash flows. These strategies are likely to have moderate lease exposure and employ moderate leverage. Consequentially, these strategies seek significant returns from property appreciation and typically exhibit moderate volatility.

Vacancy Rates: The vacancy rate is calculated as the total number of unoccupied units of a property divided by the total units of the property, at a particular point in time.

Vintage Year: Represents the year the first capital call or portfolio company investment was made. .

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