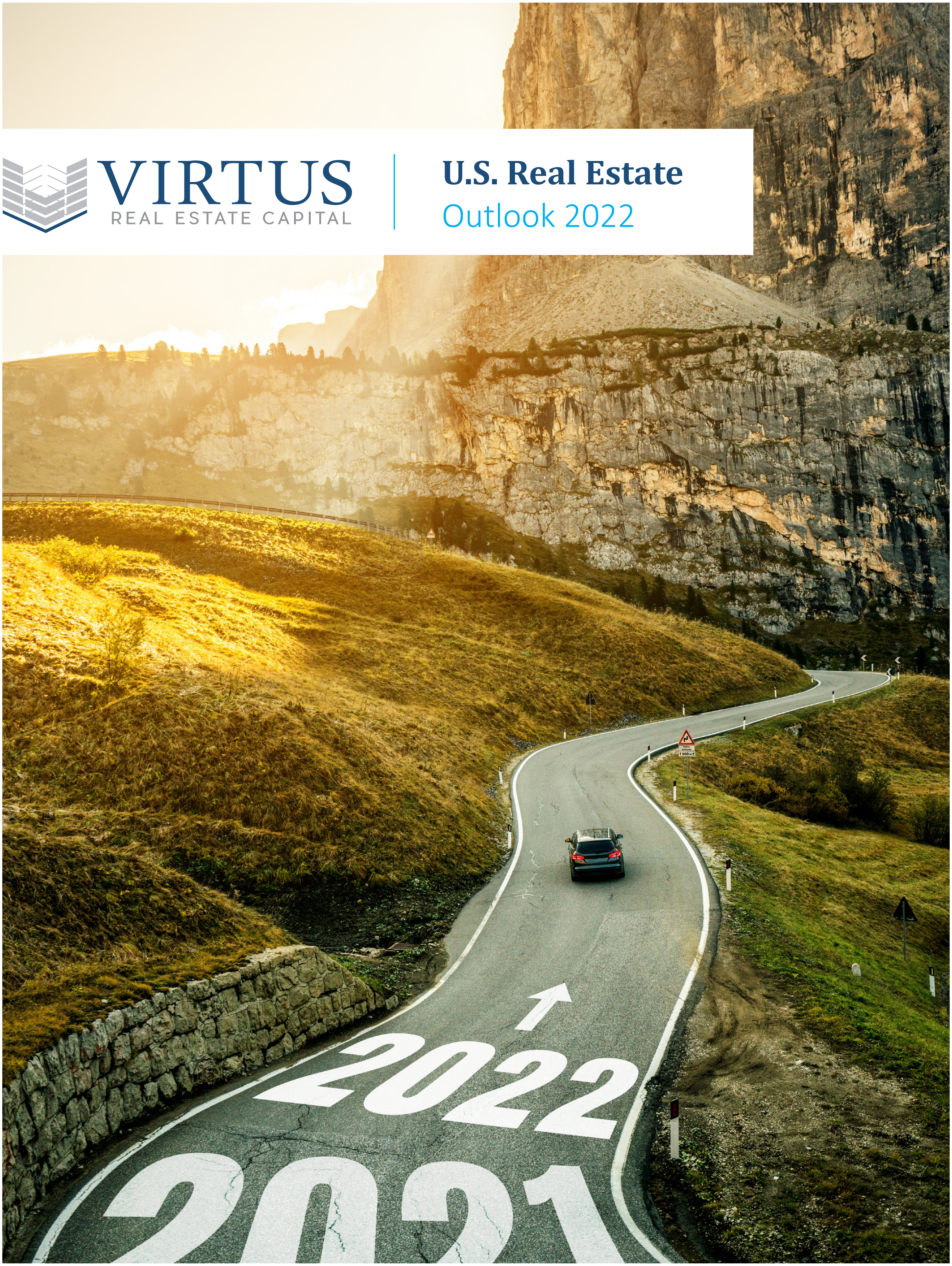


VIRTUS
REAL ESTATE CAPITAL

U.S. Real Estate
Outlook 2022

EXECUTIVE SUMMARY

The K-shaped recovery Virtus anticipated in last year's outlook has generally been seen throughout 2021. Below the headlines of financial markets and specific business sectors that seem indifferent to a landscape of volatility and risk, there are growing challenges of inflation, employment, and fiscal health that are obvious but continually prioritized below metrics of broad economic growth and capital preservation. As such, the risks of both typical and emerging asset classes are likely under-appreciated, both in commercial real estate and beyond. Nonetheless, Virtus continues to believe that its focus on categories of real estate with track records of higher growth and lower correlation remains ideal for the current environment where robust gains are seen in the short term, but significant risks abound ahead for incumbent sectors.

- Reflation brought on by record levels of government stimulus will continue to support elevated valuations arguably beyond fundamentals across most all risk asset classes, including real estate. Although it is likely inflation will continue on a positive vector along with nominal interest rates throughout 2022, it seems the Fed will remain satisfied with zero to even slightly negative real interest rates and will manage accordingly, thus providing a positive backdrop for commercial real estate ("CRE") overall. Public equities and private equity, which have seen both rising multiples and a return to the "mega-deal" environment, will likely cool off from the euphoria seen in 2021, but remain high in the short-term.

- The greatest challenge facing investors is determining when the music will stop—risk-taking has been at an all-time high, given negative real returns in traditional fixed income options and the exuberant liquidity driving returns across all categories of equity, with venture capital leading the way. Undoubtedly, innovation and expanding operating margins (in select industries) have spurred part of the growth seen across public and private equities. Much of the outperformance by historical standards is driven by the leveraged public sector balance sheet driving massive capital market flows into private sector balance sheets; the result is trillions in increased asset valuations. The question becomes—how does a prudent investor benefit from the current environment while protecting their portfolio from long-term headwinds brought on by all-time high entrance pricing today? Especially when said investor combines that with the secular impacts of what will eventually be a perennially low growth economic backdrop and volatile performance across risk assets in the long run.

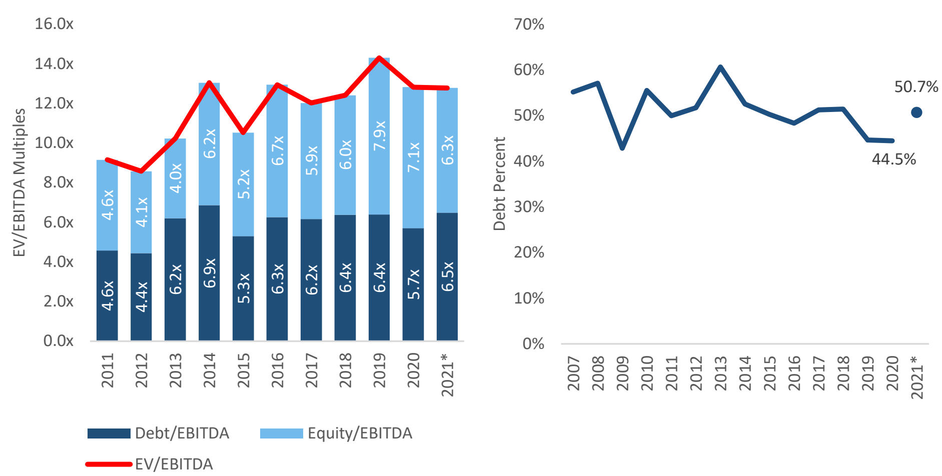
- Despite the challenges investors face in deploying at scale and to preferred returns, Virtus believes CRE (especially cycle-resilient categories) is still one of the most attractive investable asset classes on a risk-adjusted basis—especially in an environment beset by inflation worries, anemic yields, and widely varying expectations of forward economic growth. It has become abundantly clear to the investment universe that real estate is a vast asset class with heterogeneous sectors, industries, sub-strategies and markets that require thoughtful analysis as we head into the third calendar year of the global pandemic, but more importantly as a prudent investor tries to deduce what will be the winners and losers in the longer term.

- Traditional real estate asset classes are justifiably taking lower shares of investment volume than they have historically. As these massive sectors become less crucial to both tenants and institutional investors, it becomes more likely that the challenges in both current fundamentals and forward outlook will prompt investors to continue taking a deeper look with a more skeptical eye at these former mainstays of commercial real estate.

- Nearly all alternative real estate sectors will continue experiencing rising or unabated investment demand, at least in the short-term until newer investors experience some of the idiosyncratic risks of these categories. As such, these "safe havens" are even more crowded than in prior years, so careful participants need to be judicious about sub-strategies, even if their macro sector allocation is promising.

- Finally, it is becoming increasingly important for firms to stay at the leading edge of both technological advancements, as well as issues of governance and human impact. Various forms of prop-tech and predictive analytics are becoming mature enough to drive impactful business decisions. Environmental, Social, and Governance ("ESG") ideals are increasingly both important and formalized for institutional investors who drive capital markets. Especially in a climate of excess dry powder allocating into "hot" sectors, these best practices may provide competitive advantages in a market that is increasingly crowded and commoditized.

FIGURE 1: PRIVATE EQUITY MULTIPLES AND LEVERAGE RATIOS

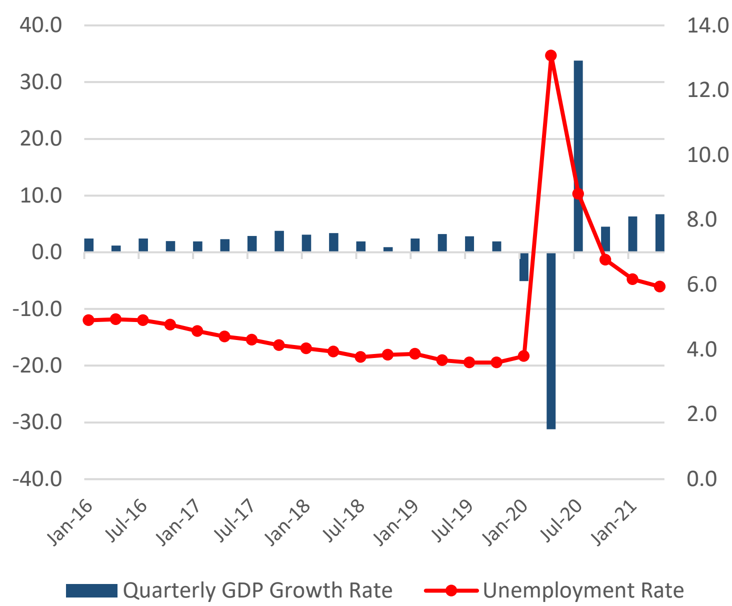


Source: Pitchbook Private Equity Report 3Q2021

INTRODUCTION AND MACRO OUTLOOK

Anyone who remembers high school literature class may also recall the opening line from A Tale of Two Cities: “It was the best of times, it was the worst of times.” Whether the phrase strikes you as a classic or a cliché, it captures the present moment in the global economy aptly. Charles Dickens was writing about literal cities and the frameworks they represented, but the two “cities” today are starkly different economic realities. The first is a nimble and technologically advancing global economy with thriving valuations across most asset classes and a general risk-on attitude, despite the unprecedented economic backdrop and foggy forward outlook. The second is a more challenging economy where inflation threatens both employers and consumers, aging physical infrastructure goes neglected, and massive economic shifts fail to benefit households that were already struggling with wages and costs.

FIGURE 2: GDP GROWTH AND EMPLOYMENT

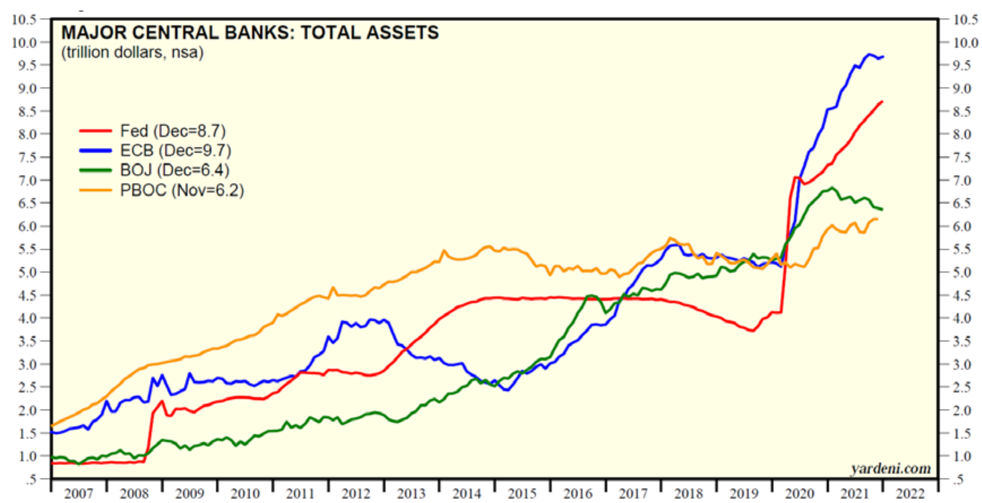


Source: Bureau of Labor Statistics via St Louis Federal Reserve (FRED.gov)

The thriving “city” is one whose financial interconnectivity supersedes both cultural and political differences. It is bound together by a concern for topline growth metrics, achieved through low interest rates and liquidity. Despite the future issues these policies are expected to create, they are admittedly effective in keeping the lights on in the meantime. This liquidity helped a massive cultural and technological pivot in both work and general life, and it helped the global economy contend with multiple crises that might have exacerbated the challenges brought on by COVID-19. In 2021, China contended with a commercial real estate debt crunch that many feared would upend the global economy. At home, public equities stayed at a redline pace of record-breaking valuations, while investors poured into a crypto market that grew to a $3 trillion dollar scale seemingly overnight. Housing prices have skyrocketed across the country, especially in the economically dynamic markets most attractive jobs are found. Again, all of this occurred from a point where interest rates and monetary stimulus were already thought to be unsustainable. Even a rising chorus of skeptics is simply drowned out by the momentum of an economy that wants to keep the music going at all costs.

While the second city is equally pervasive globally, it is inherently more local. It is composed of small businesses unable to cope with the volatility of both COVID-19 itself and the business pivots it demanded. While the first city is increasingly borderless and digital, the second one is both moved by the former and held back by stagnant local policies. It is a place where employers are stuck between inflating costs and a workforce increasingly unwilling to work below living wages, whether via the "Great Resignation" in America or the trend of "Lying Flat" in a Chinese economy whose growth rests on "9-9-6" work schedules. Production shortages and supply chain issues join macroeconomic inflation to further squeeze consumers whose household planning has been upended by years of constant crisis and change. Cities desire economic growth but are unable to contend with the challenges it brings.

FIGURE 3: MAJOR CENTRAL BANK BALANCE SHEETS



Source: Haver Analytics, via Yardeni Research

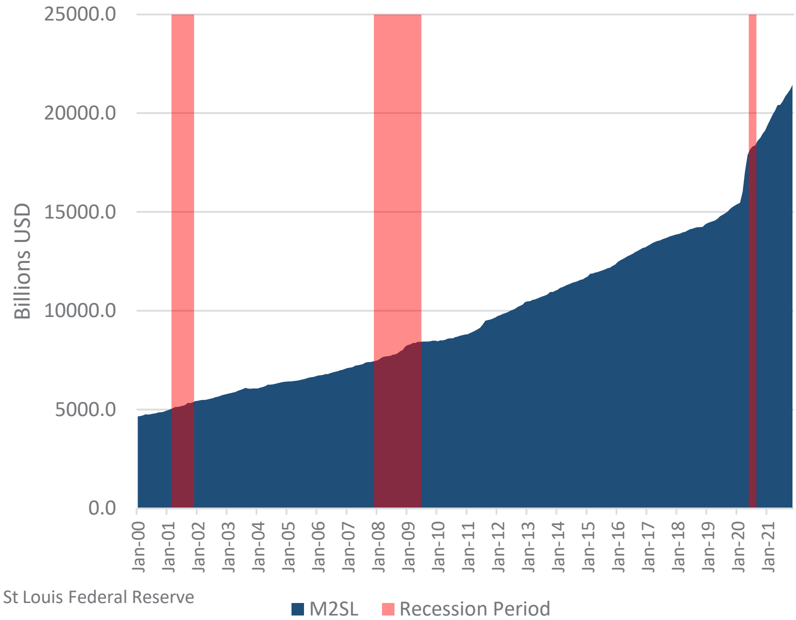
In short, market participants in this climate must avail themselves of the gains made possible by the current fiscal regime and keep an open eye to the eventual deeper pains these policies will cause. The devotion to the short term and topline success pushes back necessary corrections that would redirect the entire economy toward more stable footing. Together, the two realities are like a controlled forest that has not been allowed to burn for decades, but which will blaze far more destructively when the inevitable finally arrives. To be fair, these issues are hardly new, and they have been the subject of prior Virtus annual outlooks. The current moment differs chiefly in timescale of the historic bull market (despite the pause of the mini-recession in 2020), as well as the number of problems waiting in the wings to upend it. Similarly, the details of the Firm's response are driven by the same core ideas, even if they manifest in an evolving strategy. In fact, issues like inflation and fiscally driven overvaluation make it even more paramount for investors to focus on the most resilient income streams and asset valuations, which Virtus continues to believe are best found in alternative property types.

Again, the current environment is purposefully uplifting to all asset classes—including those with eroding fundamentals and dimming outlooks—and to a greater degree (given the unprecedented expansion in M2 money supply) than previous fiscal reflation attempts. While it is much easier to "enjoy the music" in shorter and more liquid investment structures, sectors like real estate are inherently longer term, less liquid opportunities, so mean reversion is a greater threat to investments made today.

That said, there are challenges even within forward-thinking sectors, which have broken from the pack and especially from other areas with obvious headwinds. In last year's outlook, Virtus expected a K-shaped recovery, with an attendant divergence in outcomes between sectors whose performance would be bolstered or less affected by the pandemic (i.e., workforce housing, industrial, and healthcare real estate) and those that would be upended by shutdowns and digital disruption (i.e., retail, office, and hospitality). Beneath the presence of generally rising tides, this trend has been visible: the former asset types have seen successful fundamentals and rising valuations. The latter have seen stagnating transaction volumes and varying fundamentals—but generally a lack of compelling distress opportunities or price rebalancing, since all asset classes are arguably still propped up by accommodative monetary policy and various forms of stimulus, even those with deteriorating secular tenant demand.

As such, current strategies require both judicious sector selection and a deeper consideration of where exactly to deploy into "successful" asset classes—most of which are broadly recognized as thriving. In other words, it is not enough for a generalist real estate investor to say "overweight industrial, underweight retail" in a year like 2022. Rather, these "tailwind" sectors need to be evaluated according to sub-strategies—core versus value-add; gateway versus growth markets; and appropriate locations in the capital stacks. Similarly, it is crucial to distinguish between factors conducive to temporary growth during the current environment (even if the pandemic feels anything but temporary), versus embedded changes expected to play out indefinitely. While the scope of these questions for individual asset classes is beyond the purview of a single outlook piece, we invite readers to gauge current Virtus expectations across the major sectors of real estate—both the incumbent "basic food groups" as well as the growing range of more alternative asset types in which Virtus has traditionally focused.

FIGURE 4: M2 MONEY: UNPRECEDENTED EXPANSION



Source: St Louis Federal Reserve

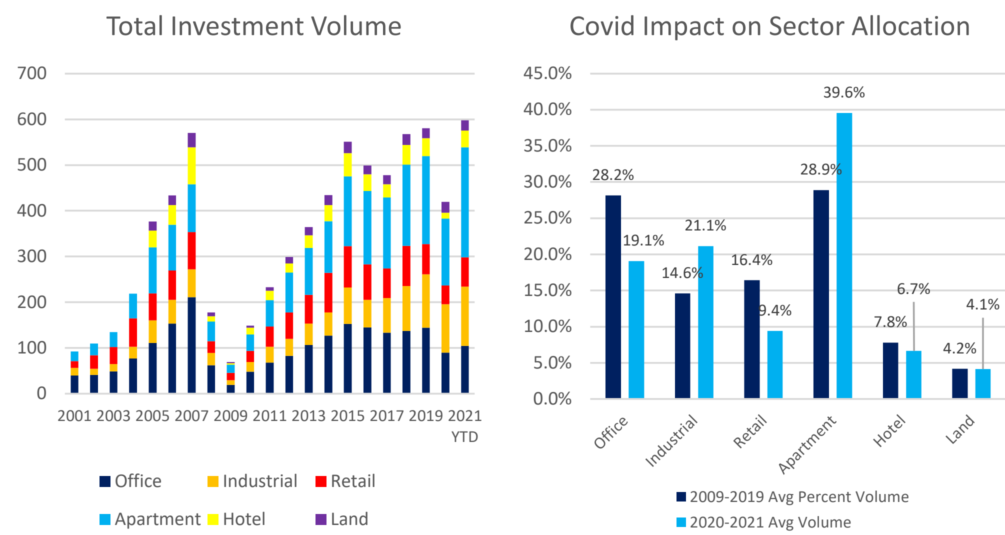
MULTIFAMILY

Virtus has long argued that the needs-based nature of housing demand would prove more inelastic versus traditional office or retail, especially when faced with digital alternatives. 2020 and 2021 were the marquee years in which those alternatives (namely virtual meeting tools like Zoom and Teams, and online shopping for household necessities) fully integrated themselves into daily life—all of which ironically bolstered the importance of home. During 2020, households opted for more space, and many suburban apartment submarkets benefited from the pain central business district ("CBD") areas faced with overbuilding and quiet downtowns. In 2021, those CBD areas rebounded, with strong leasing (aided by a relative lull in new supply deliveries) and record rental rate growth across the whole multifamily sector, as household spending patterns moved from outside the home inward. Of course, the catch was that property valuations and buying activity kept at the same robust pace—especially in non-gateway growth markets in which Virtus has historically focused. While the Virtus view on multifamily's resilience was easily borne out over the past two years, this environment should still give savvy investors pause. Future rate growth may be more anemic due to economic conditions, renewed supply growth, or households simply tapped out from existing rent growth and inflation. This means deals bought according to today's aggressive assumptions may prove unwieldy if this tide of capital and enthusiasm ebbs even slightly. As such, the Firm continues to overweight core acquisitions and development over value-add deals that seem increasingly priced beyond perfection. Equally concerning is the rise of rent control regulations as opposed to more progressive policies that would incentivize more housing, thus solving root issues instead of their effects (see the Virtus affordability whitepaper series for more detail).

VIRTUS
REAL ESTATE CAPITAL

Nonetheless, these concerns are largely the basic diligence of any careful investor that refuses to become complacent simply because a sector has seen unabated success for so long. Multifamily assets, including both affordable and market rate development, and adjacent strategies like single family rentals ("SFR")—will continue to be a foundational part of Virtus activities over the foreseeable horizon. This is primarily due to the structural and policy barriers that have caused the housing affordability crisis to seem so intractable with current construction realities and municipal regulations.

FIGURE 5: COMMERCIAL REAL ESTATE VOLUME BY SECTOR



Source: Real Capital Analytics

MIDDLE INCOME WORKFORCE HOUSING

The vastness of the rental housing sector sometimes makes is difficult to identify completely discrete sub-strategies versus "typical" multifamily—even when there are clear performance differences by affordability level or urban typology. Years ago, when Virtus began investing in workforce housing (aka, "naturally occurring affordable housing," or "attainable housing" as some like to call it today), the term was still novel to institutional investors whose multifamily portfolios were dominated by trophy Class-A assets. However, intervening years saw the diverging performance between Class-A luxury rentals (with their tight competition over affluent renters) versus the competitive resilience of older vintage assets insulated from new supply by their lower rates and insatiable demand from low and middle income renters. As of 2021, "middle" vintage assets that formerly would have been marketed as 'Class A-minus' value-add are proudly touting themselves as workforce housing opportunities, whether or not there is a compelling replacement cost or rate barrier to newer product.

While Virtus has its own internal standards for categorizing deals, factoring in affordability by Area Median Income ("AMI"), renter cohort incomes, asset vintage, and discount to replacement cost, it is worth noting that standards are somewhat in flux across the industry due to a growing renter pool, greater segmentation of those renters, and shifting investor appetites. The additional presence of public-private partnership ("P3") incentives like PFCs or TIFs makes this calculation even more difficult, since the right deal structure can allow a brand new, high amenity development to enter the market at true workforce housing rates. Seen differently, the maturation of the space leads to additional ways of accomplishing affordability. In terms of ground-up development of affordable multifamily or Build-to-Rent ("BTR"), there remain three primary ways of achieving middle-income affordability: (1) lower density suburban and exurban product, the cheapest product to build; (2) projects where you have a construction cost advantage or are delivering smaller units and/or pared back amenities usually in more urban locations to decrease total rent; and/or (3) public private partnerships that allow a material reduction of capex and/or opex to make rents more affordable. When older vintage assets see their prices bid up in a wave of value-add renovations across a market (as has happened in recent years), savvy investors will likely find better risk-adjusted returns in development opportunities in one of the these three categories or recent vintage stabilized core and core plus opportunities likely fitting a similar typology where you have pricing power and barriers.

FIGURE 6: ASSET TYPE COMPARISON

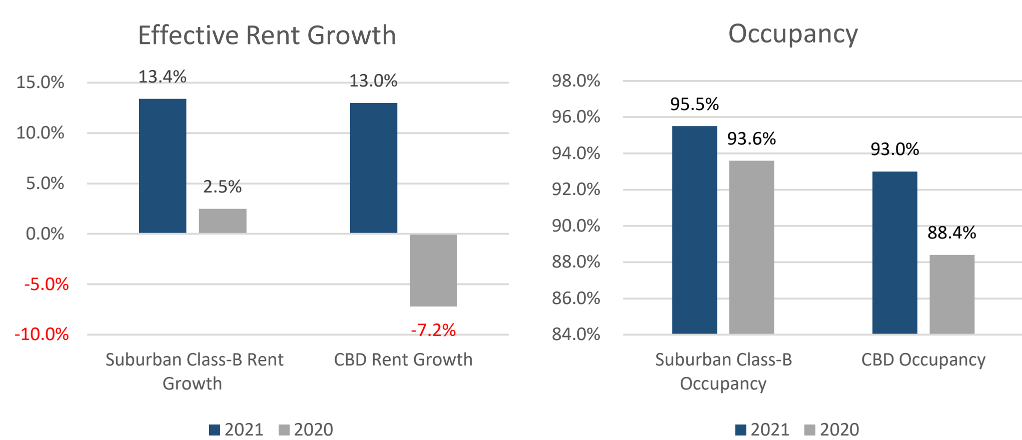
	Current Income	Capital Growth	Hedge to Inflation	Backed by Real Asset
Private Equity	✓	+	✓	✓
Venture Capital	✗	+	✓	✗
Energy	✓	+	✓	+
Real Estate	+	+	+	+
Public Equities	✓	+	✗	✗
Fixed Income (+ Private Credit)	+	✗	✗	✓

Much easier to define are niche sub-strategies of rental housing, many of which are rapidly maturing into either separate asset classes or new standard best practice. An example of the former would be BTR single family home communities, which are rapidly gaining ground in both development activity and investor demand. These communities tend to serve larger, slightly older, and more financially established households that prioritize space and school districts, rather than either minimizing total rent or being close to "exciting" urban areas. This makes them an ideal counterpart to urbanizing developments that seek to minimize parking and unit sizes to cater toward younger, single-person households. Increasingly common are hybrid developments where one phase will be a denser garden or "gurban" typology, paired with a townhome or single family BTR phase.

In short, multifamily has historically offered a "one size fits all" approach to communities, whereas recent trends seek to match housing to the increasing diversity of household needs seen in the renter cohort. Finally, there are rapidly proliferating techniques in industrial construction (of which volumetric modular development is the most familiar, but hardly the sole example) that are currently on the cusp of challenging conventional design as standard best practice. Virtus published a whitepaper on this subject late 2021, and the Firm continues its ongoing investigation into the potential for utilizing disruptive construction techniques (both in terms of hard cost and environmental impact) and other smart building strategies optimizing for overall cost and gross potential rent within a middle income affordable construct.

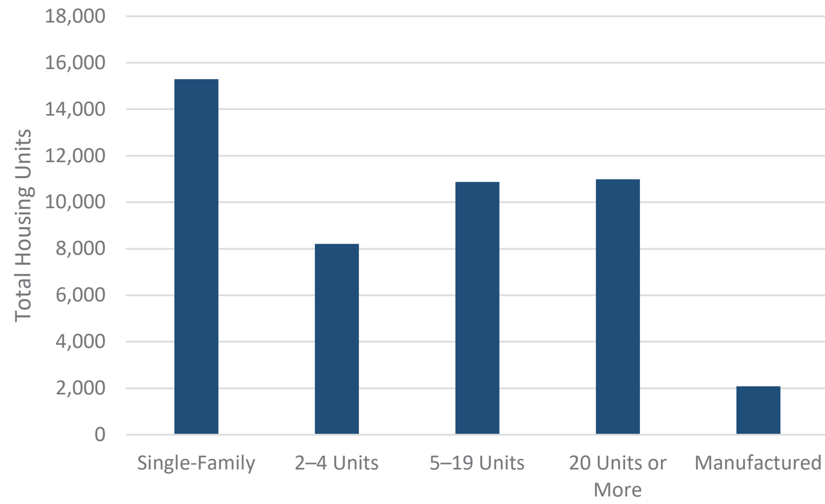
The Virtus workforce housing team expects a meaningful amount of investment in 2022 in stabilized core and core-plus acquisitions of recent vintage product meeting its affordability criteria likely due to a construction cost advantage, as well as ground-up development of suburban multifamily and BTR plus higher density projects likely as part of public-private partnerships.

FIGURE 7: COVID-19 MULTIFAMILY PERFORMANCE



Source: CoStar Analytics

FIGURE 8: TOTAL HOUSING STOCK BY TYPE

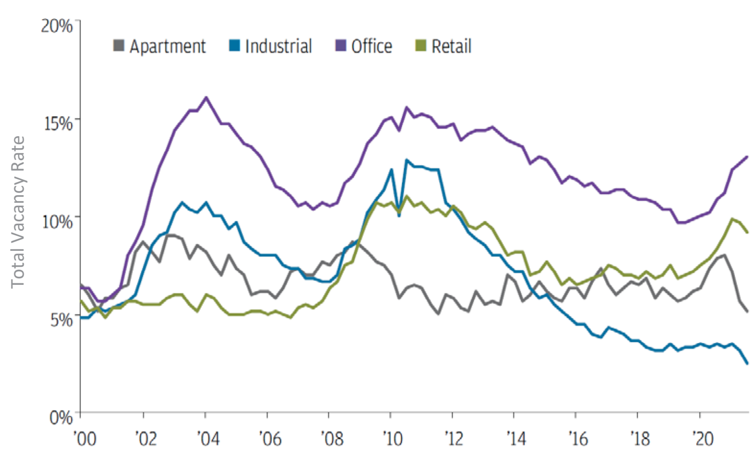


Source: US Census Burea, via Harvard Joint Center for Housing Studies

OFFICE

There is probably no sector with a wider range of opinions on current prospects than traditional office. While the factors ailing physical retail have been more obvious, the office sector has seen a curious trend where physical employee occupancy has remained down (even compared to discretionary "outside home" activities like dining out), yet leases are generally still being paid. To optimists, this means firms are committed to their physical locations, and demand should spike when there are fewer barriers from widespread office attendance (and theoretically higher productivity), combined with depressed construction deliveries in most markets. To pessimists, even a moderate decrease in total attendance would shift demand such that landlords will become more conciliatory in the face of reduced space per employee requirements. Virtus tends toward the more pessimistic view, but we do not expect any immediate implosion in office demand. Bolstering the more cautionary view is the negative correlation seen between a market's share of remote work and the total leasing volume—meaning remote work clearly dampens office demand.

FIGURE 9: VACANCY RATES BY PROPERTY SECTOR

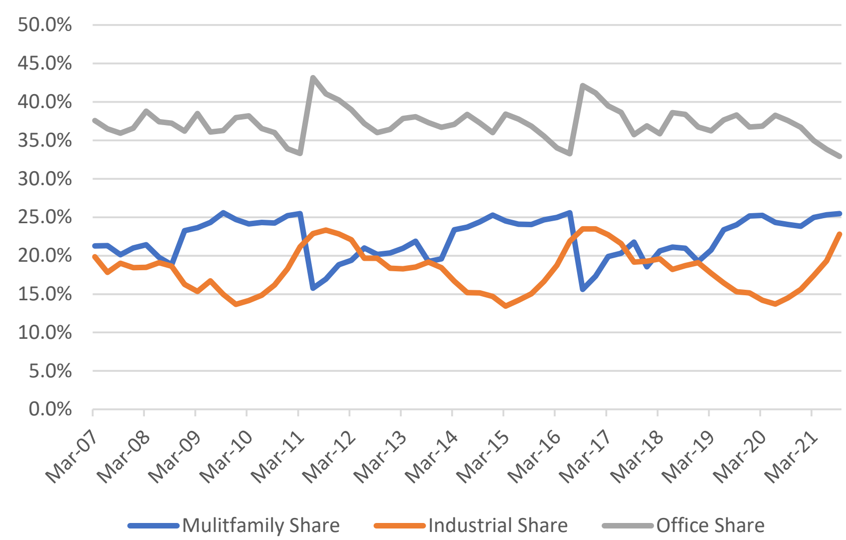


Source: NCREIF, via JP Morgan Asset Management

However, there are many factors at play: office leases are very long and thus lag shorter lease sectors in responding to changed conditions. In addition, tech firms and larger corporations have done well in this economic environment that favors deep pockets and consolidation, and those firms tend to sign the prime leases the whole sector looks toward for momentum. However, these firms are increasingly doing so in more secondary locations with high rates of office attendance, while gateway market CBD leasing remains slower overall. In sum, we expect a rebalancing of interest as employees continue returning to offices, but there is still likely an embedded and permanent shift toward some degree of remote work, which is not yet fully reflected in office leasing or valuations.

Finally, office has historically been the preferred vehicle for the largest private investors and institutions, so there is likely widespread assumption that the sector will thrive because it always has... and it needs to for institutions to make their preferred returns. Below this surface, office investment is already losing institutional focus to multifamily and industrial. During the Global Financial Crisis recovery, office holdings were the largest share of benchmarks like the NCREIF NPI and ODCE indices, but they have since declined to smaller portions, and this trend may cause longtime investors to take a deeper look at the whole sector's prospects.

FIGURE 10: NCREIF ODCE PORTFOLIO COMPOSITION



Source: NCREIF

RETAIL

Even after the lifting of most stringent lockdowns in 2021, retail has remained out of favor due to the obvious headwinds posed by e-commerce, as well as supply chain challenges and increased household savings rates due to murky economic futures. No doubt, there are some less dim spots, such as grocer anchored retail, and the right "destination" retail spots have seen a resurgence of demand from restless shoppers happy to be out of the house. Still, nothing has changed about the pre-COVID-19 macro picture where the nation was significantly overbuilt on retail space relative to similarly developed nations.

Since COVID-19 only accelerated a trend already in place, the sector's chief interest to non-specialists is likely still conversion of dark or obsolete locations into higher demanded uses. In this sense, the pandemic's acceleration of physical retail's decline may prove a blessing in disguise for cities that incentivize a generally robust commercial real estate climate towards adaptive reuse.

Despite retail's long-term headwinds, one cannot dismiss the cheap valuations on a relative basis. It shouldn't go unnoticed that in many cases, retail is trading for literally double the cap rates of corresponding classes of multifamily and industrial. Unfortunately, the question isn't as simple as, "When is retail cheap enough?" Although there will likely be more losers than winners in retail in the near term, a savvy retail specialist may be able to pick the bright spots or the few resilient categories that offer a compelling risk-adjusted return, despite the secular challenges of the asset class.

INDUSTRIAL

Industrial real estate has been the obvious star of the last few years, buoyed by a forced conversion to online shopping, which gets broader in scope and deeper in its usage each year. Industrial rents have reached historic heights, and even record rates of supply growth have been more than matched by absorption. Obviously, such a trend came with skyrocketing valuations and an inward stampede of capital, even during the height of the pandemic when other sectors were on hold.

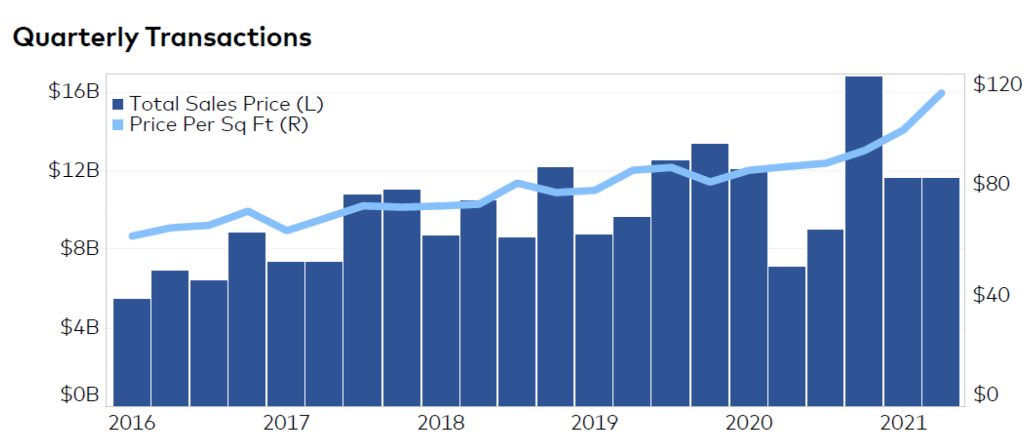
Clearly there are both short term and long term tailwinds on the space, but equally clear is that any opportunity this robust will eventually face challenges brought on by rapid success. As such, it is worth asking what it would take for the industrial sector to lose its shine. First, industrial space is both constantly shifting alongside technological demands but also a deep commodity type product (i.e.-product specialization is minimized and hence barriers usually, although not always, remain low for new entrants). Further, the competitive range for typical industrial product is incredibly vast: stretching across inter-state supply lines rather than neighborhood submarkets. Thus supply growth applies pressure across the entire national infrastructure of warehouses. Even the most "high barrier" asset types like last-mile distribution space are seeing heightened development, with little individual differentiation—not to mention those assets generally come with the very highest valuations.

Finally, much like households in pandemic, the entire industry is surprisingly dependent on Amazon, which was responsible for eight of the ten largest distribution centers developed in 2021. Below it are several similarly gargantuan firms like Wal-Mart that are equally accustomed to making both upstream and downstream business partners accept their terms. In short, the dependence on a few highly consolidated firms may be a short-term benefit (as Amazon leased buildings currently command over a 60% rate premium over typical assets according to Globe Street). However, changing policies or fortunes in those firms would cause significant turmoil.

Finally, recent supply chain issues have shown not just the lack of infrastructure, but equally the relatively crude state of industrial logistics. While international supply chains are materially more advanced than even a decade ago, it would be dangerous to assume there are not future advances that would either disrupt existing patterns of shipping or else even further reduce the time goods spend in warehouses—and thus lessen the per capita need for product.

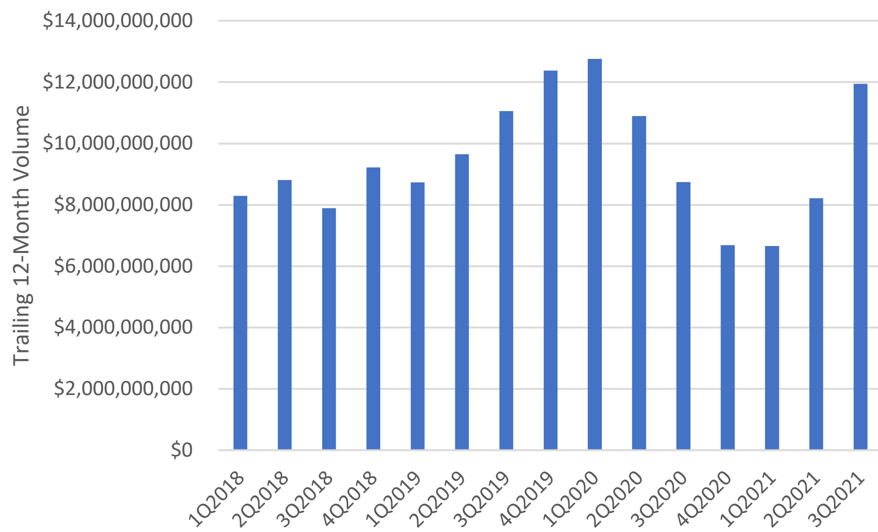
All these risk factors are likely years in development, and Virtus expects that both industrial fundamentals and transaction markets will remain strong in the meantime. Landlords and developers have experienced sustained pricing power at levels never experienced, and that seems likely to persist at least in 2022. That said, with investors accepting unprecedented prices for industrial product, even medium horizon risk factors may have impacts on reversionary value that seem unlikely in the current euphoria. The industry wide price per foot statistics below are more than understated for any recently developed product in high demand markets and major metros, as any industrial specialist will tell you, but no doubt it has truly be an “industrial revolution” in the makings for a number of years that has led to extraordinary demand.

FIGURE 11: INDUSTRIAL VOLUME AND VALUATIONS



Source: Commercial Edge

FIGURE 12: SENIOR LIVING INVESTMENT VOLUME



Source: NICMAP

SENIOR LIVING

While most property types under the Virtus umbrella have generally thrived in this unusual climate, senior living has experienced more challenges than the others. Although senior living, especially needs-based senior living, has historically been one of the most resilient property types during prior economic downturns and black swan events, the forced shutdown of touring prospective residents combined with skyrocketing operating costs (labor, pandemic protocols, insurance, etc.) created new or exacerbated existing challenges in this environment. Virtus had already decreased its new investment activity in the space several years before COVID-19 emerged, due to concerns about new supply and labor pressures. The pause in new construction will likely be seen as a beneficial cooling off for a relatively small sector that was increasingly overheating in 2018 and 2019. Before the pandemic, supply pipelines were cresting above absorption, with the Baby Boomer generation yet to reach prime demand years (2030 – 2050). Since then, the pendulum swung the other way, and both investment volume and inventory growth went on hiatus.

Much of this had more to do with headline perception risks more relevant to skilled nursing than private pay senior living, but there were enough stalled lease-up deals that many relatively new entrants to the sector took their losses and went elsewhere. In turn, would-be sellers still remember the heights of the pre-COVID-19 environment, and many are opting to delay dispositions, when possible, rather than sell into a risk-averse market. Nonetheless, most of the real losses were confined to newer developments or poorly run facilities that could not contain infections.

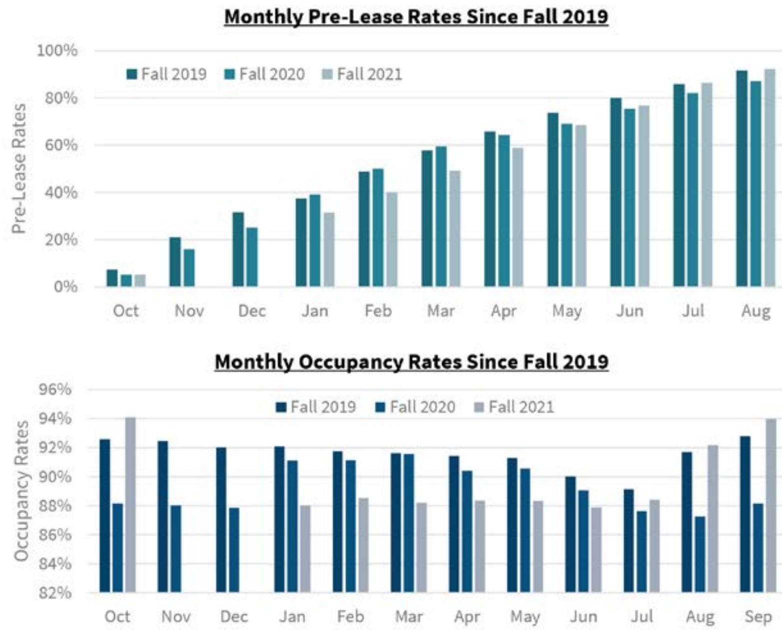
2021 did experience a return to increased transaction volume given the long-term demographics driving the space and better understanding of revised operating costs (and corresponding pass-through of most of said costs to the residents), but labor will remain a challenge in at least the short-term. As such, the Virtus senior living team expects a modest amount of new investment activity and remains mostly focused on distressed acquisitions of recently developed needs-based product that struggled to reach stabilization. Virtus will also continue seeking compelling Active Adult opportunities, mostly ground-up, seizing upon the robust Baby Boomer demand of this relatively nascent product. However, the focus will be on a more affordable product than most of the recent developments in the space, as it offers a more compelling value proposition to the "meat of the market," along with a more resilient income stream and lower turn cost once stabilized.

STUDENT HOUSING

While senior living arguably over-corrected in market appetite relative to true risks, student housing assets at stalwart universities have sailed through a climate of uncertainty often made worse by shifting and poorly communicated university policies on in-place classes. Partly, this is due to a less at-risk tenant population, but another factor seems to be the abiding cultural draw of the "college experience," especially at flagship or higher-tier public universities with a good return on investment to the student and parent. While Virtus expected these higher ROI universities to thrive, even at the expense of lower ROI institutions, we have candidly been both impressed and slightly disappointed at the relative lack of distress in downstream schools, which have still seen thriving lease-ups and highly sought after deals. While the Firm was able to make several investments in dislocated deals that likely would not have been feasible in the pre-COVID-19 environment, the climate has returned to one where many deals do not have a compelling enough valuation discount to conventional multifamily to justify the extra operational and leasing challenges intrinsic to the sector. Nevertheless, the strong demand picture combined with a meaningful reduction in new construction starts offers a compelling risk-adjusted return for select markets.

The Virtus student housing team remains quite active in the space and expects a moderate amount of new investment activity, but myopically focused on high ROI universities with compelling and sustainable enrollment growth and/or high barriers to entry, targeting stabilized core and core plus acquisitions, ground-up development and select value-add opportunities.

FIGURE 13: STUDENT HOUSING PRE-LEASING



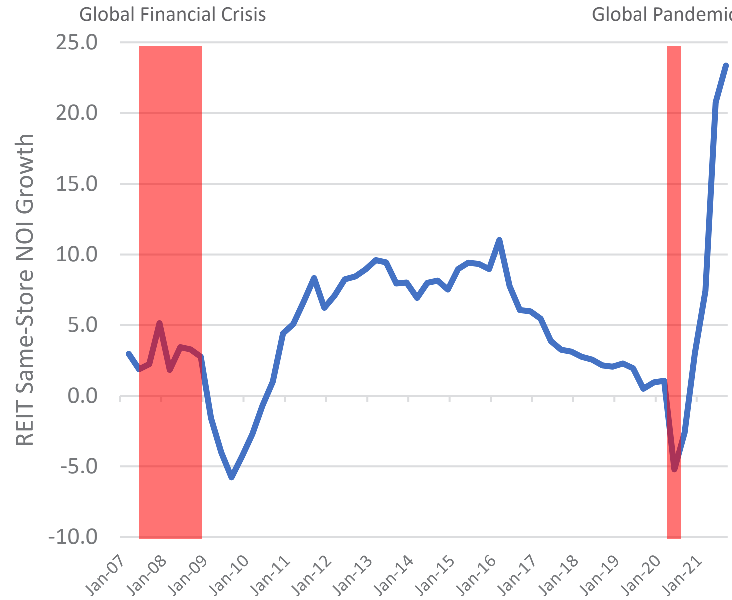
Source: RealPage, Axiometrics

SELF-STORAGE

It has long been said self-storage demand thrives on "change," and clearly the recent environment has been ideal to test that adage—especially since storage facilities were facing steeply declining same-store NOI growth before the pandemic due to overbuilding. Although the first half of 2020 experienced the first negative NOI growth rates since the Global Financial Crisis, true to its reputation, the sector has generally rebalanced upward with rising rates, occupancy, and profitability—all effects of mass household shifts started in 2020. Given all the household shifts during the pandemic combined with loosening restrictions tied to COVID-19, it was as if someone "flipped the light on" in storage with historic levels of increased absorption, occupancy, and rental rates.

The buying environment remains competitive on this resilient asset class with historically low cap rates, although valuation spreads to multifamily and long term treasuries are actually more robust than before the pandemic. Partly, this is due to the continued momentum rental housing has shown, but it is possible this has as much to do with the proliferation of other "niche" property alternatives like cell towers or data server warehouses, compared to prior years when self-storage was the clearest and largest option for investors seeking truly alternative property types.

FIGURE 14: SELF-STORAGE REIT NOI GROWTH



Source: NAREIT T-Tracker

Much like other longtime Virtus sectors, this would be a partial blessing to more careful investors in the sector. As such, Virtus expects a modest amount of investment activity within self-storage, and the focus is on distressed acquisitions of recent developments that have suffered from operational missteps and/or new supply that has yet to be absorbed in higher growth submarkets. Stabilized core and core plus acquisitions will mostly be concentrated on high barrier locations to benefit from pricing power and mitigate the risk of new supply, a perennial challenge for the space.

MEDICAL OFFICE

Medical office has a long and justified reputation for cycle-resilience, a quality that first sparked heightened interest during the Global Financial Crisis aftermath. While the unprecedented healthcare provider shutdowns of 2020 saw some individual practices defined as non-essential, the reversal of these policies led to a quick rebalancing of the sector, and 2021 saw a flood of deferred elective procedures—as well as more momentum to the existing growth of outpatient care due to overcrowded hospitals. Tenant expansion in 2020 was muted by historical standards, and although 2021 experienced a significant increase, select physician practices have been reticent to sign longer term leases, especially with significant out-of-pocket tenant improvement expenses. Nevertheless, at the close of 2021, medical office vacancies are low, leasing is active, and transaction markets are as competitive as any time before the pandemic.

In addition, it is a particularly dynamic time for healthcare real estate in general. Typical medical office lease escalations tend to be quite conservative, meaning most acquisitions in this space tend toward core property return profiles unless there is significant value-add upside, usually from filling vacancy or in some cases replacing less resilient office tenants with more sustainable healthcare practitioners. However, the upheaval of the pandemic combined with the general biomedical progress are creating increased demand for innovative forms of health-related space that are conducive to more accretive business plans. These may involve new forms of care delivery, like ambulatory surgery centers or inpatient rehabilitation centers (both of which benefit from new and more standardized reimbursement policies designed to cut costs). There may also be niche care models like behavioral therapy (highly demanded due to increased rates of pharmaceutical dependence, both structurally and during the pandemic). While these opportunities have been present for years, the current environment is catalyzing growth sufficient for more programmatic involvement at scale from sector specialists like Virtus. In short, medical office will continue as a key part of the Firm's forward portfolio, both in more core type opportunities like conventional medical office space, as well as more niche and accretive strategies.

LIFE SCIENCES

Finally, the growth of life sciences as a distinct investment class has been one of the most central trends of the year. While other forms of healthcare real estate focus on site-based care delivery, life sciences facilities support the research, development, and management of pharmaceuticals, medical devices, and other leading biotech advancements. These functions generally demand customized, state of the art facilities with significant development demands. There is commensurate effort required to understand the nature and trajectory of individual tenant firms, whose activities are complex from both a scientific and regulatory framework. Accordingly, these needs also form "expertise barriers" that discourage generalist investors not already steeped in healthcare real estate. Finally, individual firms are highly dependent on government research funding, so the vast majority of life sciences product has historically clustered in just a few "Eds and Meds" markets, generally well covered by incumbent REITs with deep tenant relationships.

When Virtus began investigating life sciences as a distinct opportunity within its healthcare strategy nearly ten years ago, the Firm was cautious to enter a space beset with the above challenges, with no desire to take venture capital risk for real estate returns. Obviously, the pandemic boosted the profile and funding of most domestic Biopharma companies, and there is an attendant wave of venture capital money flooding into the space. This alone would not be sufficient to draw interest, but the sector is also growing enough that secondary or even tertiary markets are now maturing in both scale and presence of major firms. Further, second generation space is more usable and transferable to a larger set of prospective tenants without as significant of tenant improvement costs to make it usable. As such, the risk-adjusted returns of the space have improved materially.

There are still risks owing to the capital intensiveness of the sector and the volatile nature of venture capital (and the lost luster of publicly traded biotech stocks in 2021), but life sciences demand sits at the nexus of both demographic need (a graying America) as well as breakthrough technologies of the type that redefine industries and cities—much like the growth of the early Internet transformed markets like Austin and Seattle. As such, it is a crucial sector for forward thinking real estate managers to follow closely, and Virtus expects to add to its life sciences portfolio in 2022.

CONCLUSION AND COMMON TRENDS

Beyond the specifics of sector allocation, there are other trends that will drive both commercial real estate markets and the underlying assets and business that support them. Generally, Virtus believes opportunities for "barbell" risk strategies will be more accretive than typical value-add strategies, especially in overheated sectors. Accordingly, the Firm has expanded its capital base even more on Core and Core-Plus strategies, while also founding an affiliated development corporation so that it can pursue ground-up projects in the broadest possible array of strategies, with or without the need for General Partners in a joint venture.

The formation also allows the Firm to pursue current best practice in construction and property management, while also exploring the promise of disruptive future strategies like industrialized construction. This development entity is currently focused on middle income workforce housing, one of the firm's highest conviction strategies, and it will augment the investment activity we have with our third party development partners in the space.

One area of concern are property types that benefit from the historical resilience of long-term leases, such as office, retail, industrial and certain categories of healthcare. Given increases in inflation, which have been going on for some time now and have only recently made it to the headlines, properties with long-term leases with low rental rate increases built into the leases may suffer from a relative destruction in value over time as inflation outpaces those increases. Short of a value-add buyer wanting to purchase one of these assets near the expiring lease period in hopes of increasing the rental rate to market, these historically stable buildings will likely experience greater cap rate expansion potential as inflation and potentially rental rates continue on an upward trajectory.

Technology is also an increasingly crucial place for internal investment, and many real estate managers are prioritizing initiatives around such as it becomes more indispensable to maintain or create competitive advantages in a mature industry that has historically been slow to adapt. Virtus has stayed toward the forefront of data science and tech solutions through the years for both property and fund management. In 2021, the Firm began climbing a new plateau in predictive analytics by developing a proprietary data warehouse of both existing and new sources of data, with the guide of both better modeling economic growth as well as finding more real-time and innovative sources for its measurement. In addition, the Firm is evaluating and onboarding prop-tech solutions relevant to all aspects of its platform.

FIGURE 15: VIRTUS 2022 PROPERTY OUTLOOK

Property Type	Updated Outlook	Five Year Outlook	Lasting Implications
Hospitality	Recovery even slower than expected due to Delta and Omicron variants	Leisure travel in general returns, but business travel is likely reduced	Cyclicality increases further due to secular decline in business travel
Retail	Accurate: e-commerce acceleration hurts brick and mortar	Much of retail space is converted to alternate uses	Overall reduction in space—experience & essentials fare better
Industrial	Accurate: Also, logistics shortages keep driving last-mile demand	Overbuilding and Amazon-dependence drive mean reversion	Overall increase in demand, but return of historic cyclicality
Office	Generally accurate, with reduced leasing even post-lockdown	Occupancy and rates suffer due to materially reduced leasing volume	Reduced structural demand for physical office space
Multifamily	Recovery in Class-A assets faster than projected, distress from Class-C still unclear	Class-C/D rebound dependent on functional obsolescence; Class-A tied to employment and new supply	Long-term demand from "renter nation," but more volatility likely in luxury and low-income
Workforce Housing	Accurate: Workforce fares best among rental housing	Demand is robust especially for grey collar and reduced home ownership	WFH continues to be the most resilient segment of multifamily
Medical Office	Accurate: Rapid recovery as elective procedures return	Aging populace boosts demand; tech provides better healthcare delivery	Overall demand continues, but must adapt to modern space needs
Student Housing	Despite unclear guidance from schools, recovery more rapid than expected with less distress	Enrollment remains robust overall, but low ROI schools close or reinvent	Increased demand at high ROI schools and greater privatization
Self-Storage	"Change-based" factors drive recovery despite supply overhang; NOI growth inflects upward after 2019 declines	Oversupply from 2016-2020 has led to more dispersion in performance with REITs likely consolidating supply	Sector is healthy but must adapt to less physical demand patterns and greater overall attention & supply
Senior Living	Leasing still slow post-vaccine, but collections remain high	Labor pressure and new supply headwinds of 2017-2020 are abated	Increased demand from Boomers; material shortfall of needed units
Life Sciences	Rising appetite from both healthcare and office investors	Risk of overexuberance, oversupply, but growth factors remain	Growth of "second tier" cluster markets as sector matures

Legend: Positive Stable Challenging

Finally, issues of governance and social impact are increasingly paramount, in both demanded performance metrics from institutions, as well as direct measurements of economic health and consumer/tenant wellbeing. While Virtus believes its ESG reporting is currently at the vanguard of commercial real estate policy, it will be deepening the metrics reported, strategies considered, and resources available to ensure the Firm stays in a good position to evaluate its activities according to the increasingly relevant "triple bottom line" where financial returns are simply the foremost (but not sole) metric of success. This is especially crucial given the Firm's increasing focus on both vertical integration as well as data transparency.

In sum, the current environment offers both the best and worst of times for market participants, in that deployment remains challenging, but there is a great deal of flux and volatility offering opportunities to savvy and risk-tolerant investors with the right sector allocation and sub-strategies. As such, scale is likely not to be your friend from a deployment perspective in 2022. We continue to believe this is a pick your spot environment and remain focused primarily on single property investments in highly curated locations and circumstances. If readers will permit one final truism/cliché, this is a time when the more things change, the more they stay the same. We believe the broad outlines of the Virtus strategy remain as ideal for the current moment as they did when the Firm first transitioned exclusively into cycle-resilient property types over 15 years ago. True, our chosen sectors are significantly more popular than they were back then, and the relative value of the forward portfolio composition has shifted, with both former mainstays on hold and new sub-strategies being adopted.

Nonetheless, the Firm has benefited from a long period where its investment mandate has evolved alongside market realities, rather than requiring major disruptive shifts, and we believe the immediate future will provide an extension of this path. Of course, successful implementation of this strategy will continue to require deep operational expertise, constant evolution, and difficult choices in a setting where current valuations do not seem to price in the full possible risks ahead. At the same time, these same challenges form barriers that benefit longtime sector experts with both a strong forward view and historical understanding of their chosen domains; it will likely require nothing less for successful deployment over the next year and beyond.

CONTRIBUTORS

Terrell Gates
Founder & CEO

Zach Mallow
Director of Research

ABOUT VIRTUS

Virtus Real Estate Capital, founded in 2003, is a hands-on, data-driven, curious investor that delivers compelling outcomes from cycle-resilient investments for all stakeholders. Through thoughtful evolution and resilience in challenging times, Virtus has purposefully worked to foster thriving communities that empower people to live better lives. Over the last 18 years, it has acquired 259 properties for a combined acquisition value of $5.0 billion, and has fully realized 184 property investments. With a strong and established track record, Virtus has proven to be successful in all phases of the market cycle. For more information, please visit virtusre.com.

VIRTUS
REAL ESTATE CAPITAL

836 W. 6th Street, Suite 1500 / Austin, TX 78703

virtusre.com / (512) 891-1200