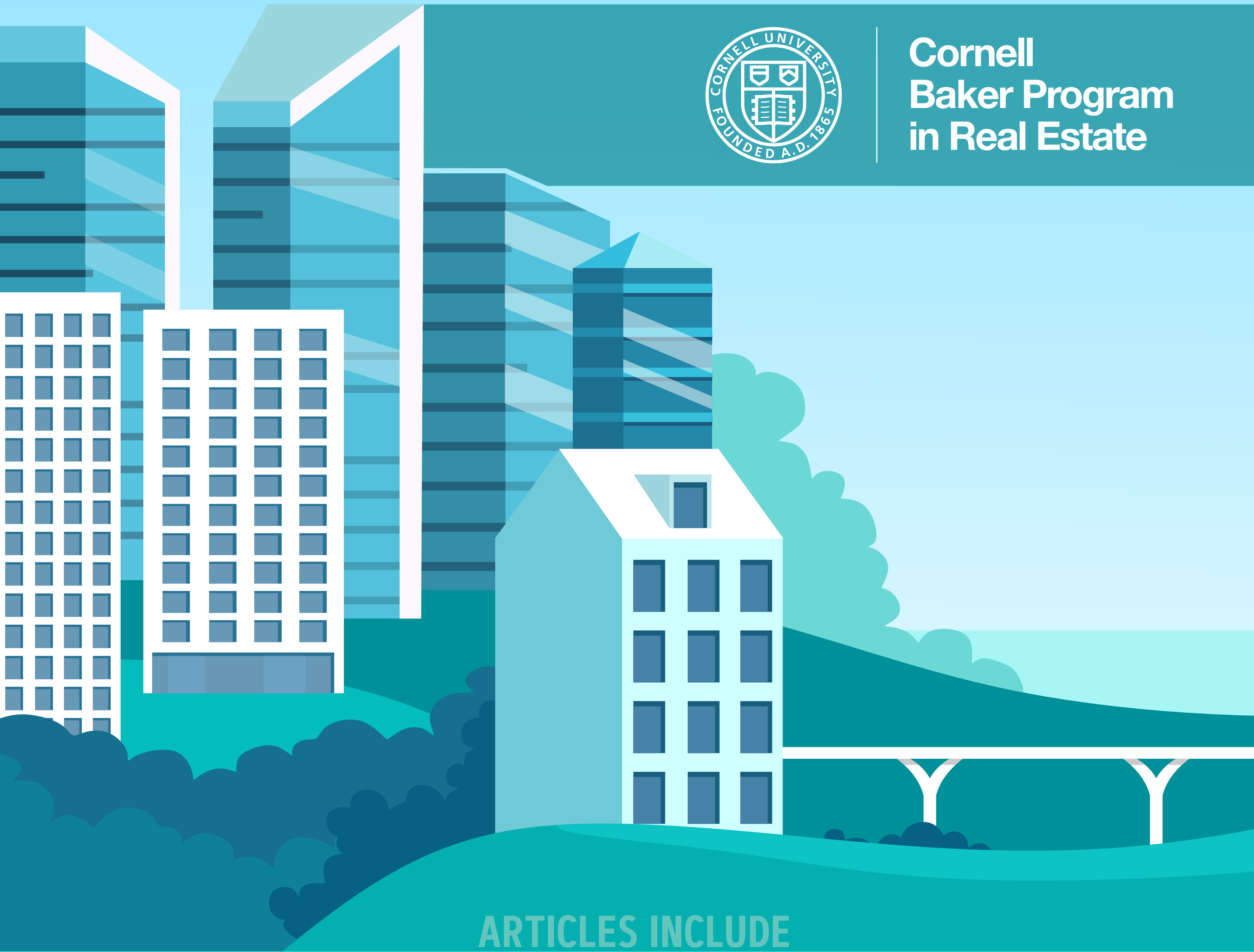
NAVIGATING THE FUTURE OF REAL ESTATE

REVIEW 2021



ARTICLES INCLUDE

2020 Institutional Real Estate Allocations Monitor

Financing Environmentally, Socially, & Economically Sustainable Real Estate Development

Public Policy Impacts on US Real Estate Markets

REVIEW 2021

TABLE OF CONTENTS

2020 INDUSTRY LEADER AWARD 6

2020 ALLOCATION MONITOR 9

THE RISE OF U.S. REAL ESTATE DEBT FUNDS AND CAUSES FOR CONCERN 16
AUTHOR: JOSEPH MCFALLS

CONTROLLED ENVIRONMENT AGRICULTURE: THE NEW ASSET CLASS ON THE BLOCK 24
AUTHOR: JACOB TANNENBAUM

PUBLIC POLICY IMPACTS ON US REAL ESTATE MARKETS 30
AUTHOR: BLAKE SMITH

FINANCING ENVIRONMENTALLY, SOCIALLY, & ECONOMICALLY SUSTAINABLE REAL ESTATE DEVELOPMENT 44
AUTHOR: KATHERINE SELCH

CAN ANYBODY "SAVE THE SUPERMAN"? EXAMINING THE POTENTIAL FOR ADAPTIVE REUSE OF THE HISTORIC INDUSTRIAL TRUST BUILDING 52
AUTHOR: ADAM WELCH

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LETTER FROM THE EDITORS

On behalf of the entire Cornell Real Estate Review Editorial Board, we are pleased to present Volume 19 (2021) of the Cornell Real Estate Review. A student-run publication founded in 2002, the Review chronicles the achievements, activities, and scholarship of students in Cornell's Baker Program in Real Estate. In the face of a challenging year, the Baker Program students continued to rise to the challenge within diverse real estate companies across the world. COVID-19 changed the shape of real estate as we know it, and our Baker Program students emerge ready to take on the new paradigm.

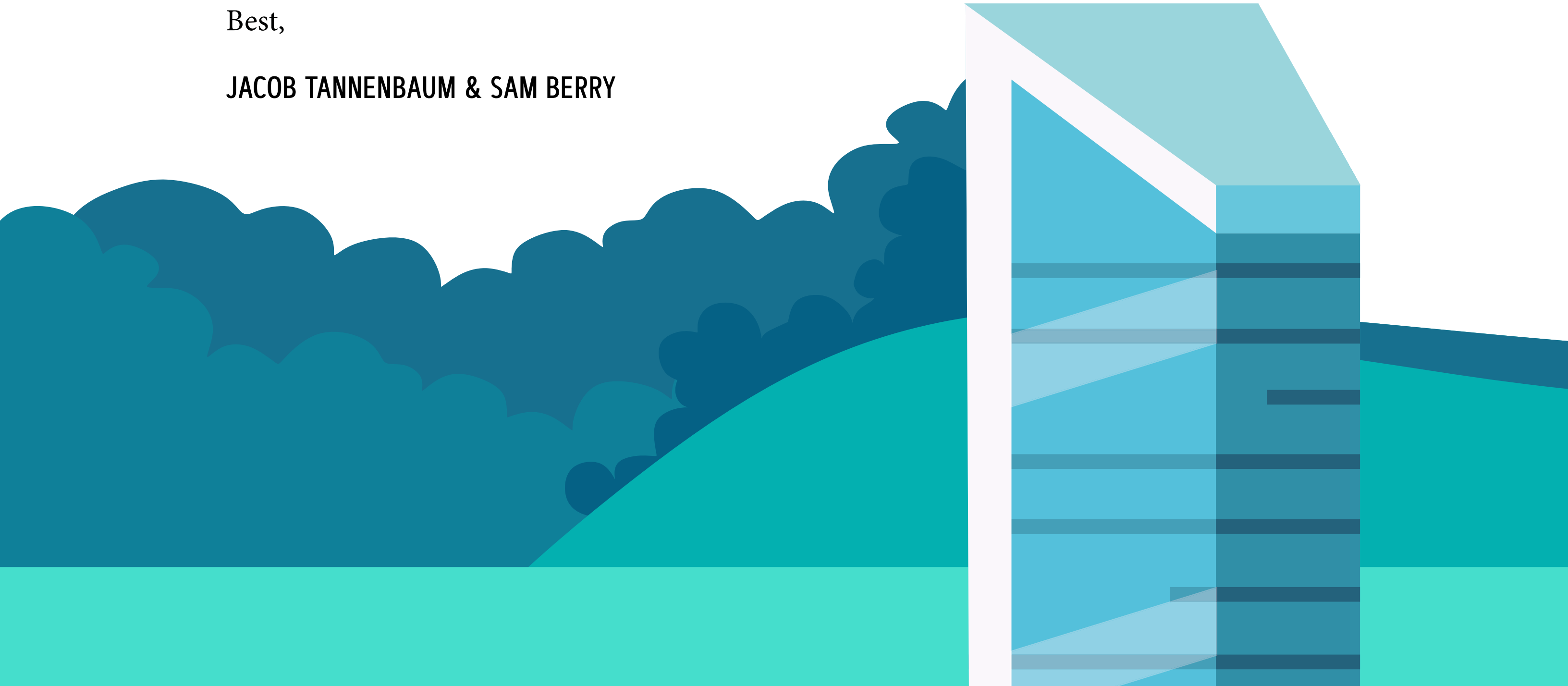
For additional content, we encourage you to continue interacting with us online by visiting our blog, listening to the Cornell Real Estate Review Podcast, and following our daily lives as students via Instagram or LinkedIn. We enjoy interacting with our readers, listeners, and followers year-round as we cover the latest news, trends, and developments affecting the real estate industry.

The editorial board is immensely grateful for the continued support and guidance of our faculty advisor, Dr. Michael Tomlan. His efforts elevate the Review – and the Baker Program – to ever greater heights.

We hope that you enjoy this edition of the Review and will continue to remain engaged with the Baker Program.

Best,

JACOB TANNENBAUM & SAM BERRY



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Tyler Lavin
CitizenM

Every week, every semester, the Cornell Real Estate Distinguished Speaker Series attracts global industry leaders to campus to share insights and discuss important issues in the field. If you would like to participate in a future Distinguished Speaker Series, please contact Kathy Terry, Baker Program in Real Estate Program Assistant, at 607-255-7110 or kcr2@cornell.edu.

38TH ANNUAL REAL ESTATE CONFERENCE THE 2020 CORNELL INDUSTRY LEADER AWARD:

TAMMY JONES

INTRODUCTION

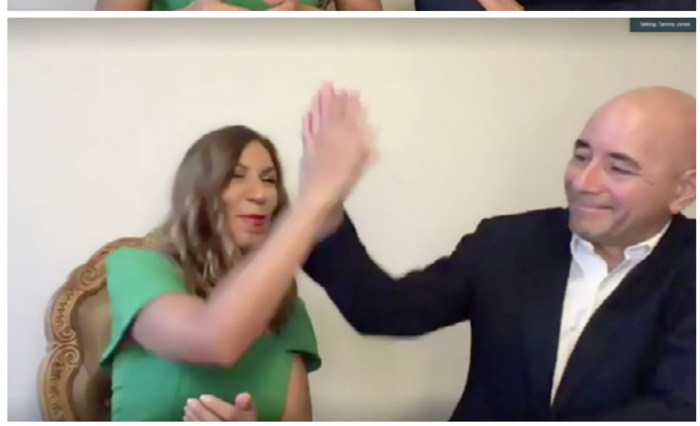
The 38th annual Cornell Real Estate Conference, presented by the Cornell Real Estate Council, concluded on November 11th with the virtual presentation of the 2020 Cornell Industry Leader Award. This annual award, presented since 2007 by the editors of the Cornell Real Estate Review, recognizes a titan in the field who has made significant contributions to the global real estate industry, while also serving the community. The recipient of this year's award is Tammy Jones (A&S '87), CEO of Basis Investment Group. Ms. Jones was honored for her significant contributions to the industry, and her tireless work as an advocate for diversity in the field.

Ms. Jones graduated from Cornell University with a Bachelor's in Economics and subsequently received her MBA from Georgia State University. In 2009, she founded Basis Investment Group, where she is currently Chief Executive Officer. Basis is a multi-strategy commercial real estate investment advisory platform that acquires and originates a variety of senior and subordinated loans, preferred equity, and joint venture equity positions on behalf of its investors. Under her leadership, Basis has succeeded in closing nearly $4 billion in commercial real estate debt and structured equity related investments across the United States. Ms. Jones is currently a Trustee for Georgia State University, Chair (elect) of Real Estate Executive Council, and a member of the President's Council of Cornell Women, Executive Leadership Council, and New America Alliance. She also sits on the advisory board for NYU's Schack Institute of Real Estate. Additionally, Ms. Jones serves as Vice Chair of the Basis Impact Group's Foundation, a non-profit organization dedicated to creating a pipeline of minorities and women in real estate.

This year's award was presented to Ms. Jones by Sam Berry (Baker '21) and Jacob Tannenbaum (Baker '21), Co-Editors-in-Chief of the Cornell Real Estate Review. Following the award presentation, Kirk Sykes (B. Arch '81), President of Primary Group Investments and husband to Ms. Jones, joined her for a virtual fireside chat to discuss her achievements, insights, and stories.

Ms. Jones discussed her early history, growing up in affordable housing in inner-city Queens. Her parents never owned a home, and, looking back, this was part of her foundational understanding of real estate as an important source of wealth creation. Ms. Jones was the first woman in her family to attend college, a transformational experience that challenged her to fit into an unfamiliar environment. This influenced a life philosophy that she imparts on mentees- "get comfortable being uncomfortable; your discomfort lies at the edge of your opportunity". During a rotational training program in her first job post-grad, she fell into real estate with the scant knowledge of IRR's and cap rates which she had obtained during an undergrad real estate finance course. This launched a lifelong passion for commercial real estate, a love she shares with her husband. The two are deeply committed to affecting change in the real estate industry.

Throughout her extensive early career working in institutional investment, Ms. Jones always had an entrepreneurial spirit and often felt that there were ways to do things differently. Despite her innovative ideas, she never saw herself ascending to the c-suite or becoming the CEO of a company. As she says, "You can't be it if you can't see it ". This eventually fueled her desire to branch out on her own, and she



vowed that, if she had the opportunity, she would build a diverse platform that would refute the idea that qualified women and minorities are tough to find in real estate. She found this opportunity during the Great Financial Crisis of 2008. Ms. Jones has always believed that, in times of challenge and adversity, there is also opportunity. A line from "The Alchemist", an adult fairy tale Ms. Jones was reading shortly before she decided to launch her business, resonated with her- "the only thing that prevents you from achieving your dream is the fear of failure". Although she cautions the need to be prepared for rejection as an entrepreneur, she eventually secured her first fund and has not looked back since. Basis currently boasts a 78% diverse team, a history of investing/loaning over $800 million with other minority and women owned real estate companies, and vendors whose companies are over 50% diverse. .

Basis is one of the only minority or women-led investment platforms launched in the past 15 years, a fact which brings Ms. Jones little pleasure. She states- "it's lonely and sad to be one of the only ones" and has dedicated her career to building a pipeline for others to join her in comparable roles. Since founding her company, she has realized that much of her success has arisen from the ability to outwork everyone, staying one step ahead, thinking about where the opportunities are for innovation and then, critically, getting to those opportunities quicker than anyone else. Ms. Jones has always leaned in when others were afraid to do so. Starting your own business takes confidence, acumen, and knowing how to test the market. For instance, the importance of strengthening your balance sheet and making sure to use leverage wisely is a lesson imparted on her by the GFC and is equally relevant during the pandemic. Since the onset of the pandemic, Basis has achieved significant success by focusing on the middle market, taking a risk position on drug and grocery anchored community centers, and remaining bullish on workforce and multifamily housing.

Amidst the backdrop of the Black Lives Matter movement and the pandemic, Ms. Jones is working to make this moment a movement by creating a lasting legacy of social impact initiatives. Throughout 2020, she has received extensive outreach from real estate CEOs and practitioners recognizing the lack of diversity in the industry and requesting guidance on solutions. As she notes, change starts at the top; stakeholders, board members, and investors must demand change, a trend that is already underway, putting pressure on companies to develop their ESG programs. Study after study has found that diverse teams produce better outcomes and outperform non-diverse teams. Her advice to company leadership is multi-fold. First, examine the diversity ecosystem, from the pipeline to middle management, to the c-suite and the board. Next, develop and maintain a diversity business plan. As she says, "what business or initiative would you ever start without a plan, performance metrics and accountability?" Thirdly, examine access to capital and credit, the key to developing entrepreneurial real estate wealth, and know who you do business with. Finally, partnership is key. Real estate is an industry of partnerships- "lets JV this!". This partnership requires intentionality- hiring search firms that share your values and partnering with affinity groups to build your team. ESG is all about creating maximum benefit for stakeholders; it is not just profitability but doing well and doing good. Ms. Jones quoted fellow Cornell alumna Ruth Bader Ginsburg, "real and enduring change happens one step at a time". Ms. Jones is optimistic that the push for diversity and inclusion in the real estate industry will yield long-term value for all players, and she intends to continue pushing for progress for many years to come.

2020 Institutional Real Estate Allocations Monitor

MODERATED BY DOUG WEILL '88, CO-FOUNDER AND MANAGING PARTNER AT HODES WEILL

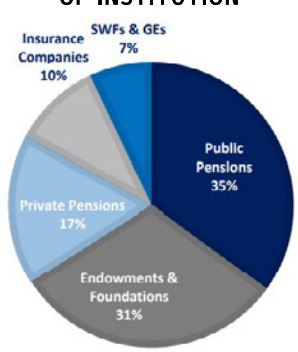
38TH ANNUAL CORNELL REAL ESTATE CONFERENCE: GLOBAL REAL ESTATE INSTITUTIONAL INVESTMENT TRENDS

On Thursday, October 29th, 2020, Doug Weill ('88) presented the eighth annual Institutional Real Estate Allocations Monitor, a survey of global institutions including pension funds, sovereign wealth funds, insurance companies, endowments, and foundations. Leveraging the academic resources of Cornell University's Baker Program in Real Estate and the institutional advisory experience of Hodes Weill & Associates, the Allocations Monitor assesses institutional investment allocations and objectives in real estate on a global basis. This year 212 institutional investors from 29 countries participated in the survey, representing about $1.3 trillion of real estate assets under management.

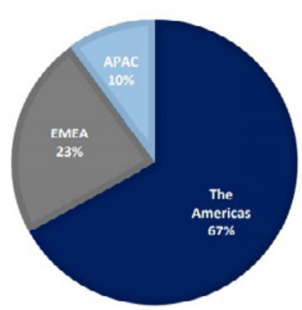
212 Institutions	29 Countries	7% Participation Rate
US$12.6 Trillion Total Assets	US$1.3 Trillion Real Estate Assets	43 Institutions with AUM in excess of US$50bn

The results of the Allocations Monitor showed that more institutions are investing in real estate as an asset class. Target allocations to real estate continued to rise globally, even though the year-over-year pace of growth into real estate has moderated. Institutions raised allocations to real estate on average to 10.6% in 2020, a rise of 10 bps from 2019, and a rise of 170 bps from 2013. If you estimate global AUM at $100 trillion, 10 bps equates to an additional $80 to $120 billion of capital allocations to real estate. In the next twelve months, target allocations, led by institutions in EMEA and the Asia Pacific, are forecasted to increase by an additional 30 bps.

BREAKDOWN OF PARTICIPANTS BY TYPE OF INSTITUTION



BREAKDOWN OF PARTICIPANTS BY LOCATION OF INSTITUTION



BREAKDOWN OF PARTICIPANTS BY SIZE OF INSTITUTION

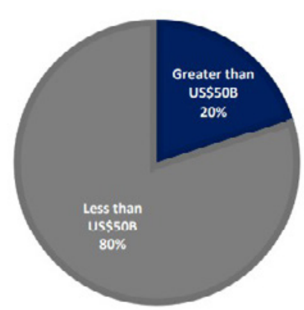


EXHIBIT 1: WEIGHTED AVERAGE TARGET ALLOCATION TO REAL ESTATE, ALL INSTITUTIONS

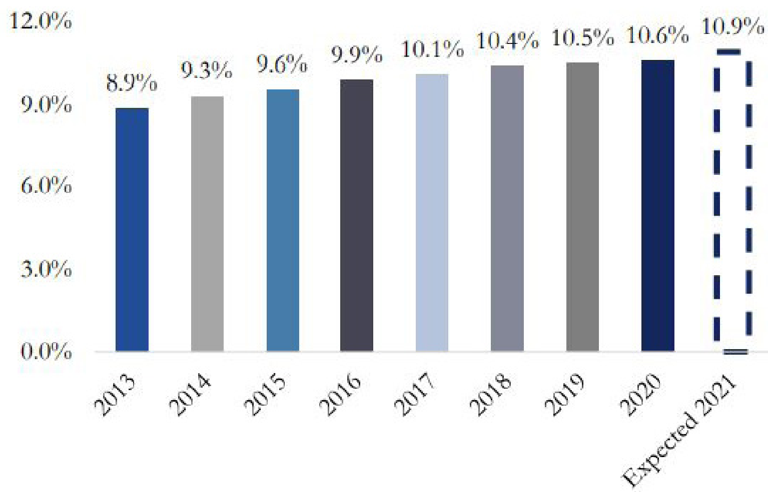


EXHIBIT 2: WEIGHTED AVERAGE TARGET ALLOCATION, BY LOCATION OF INSTITUTION

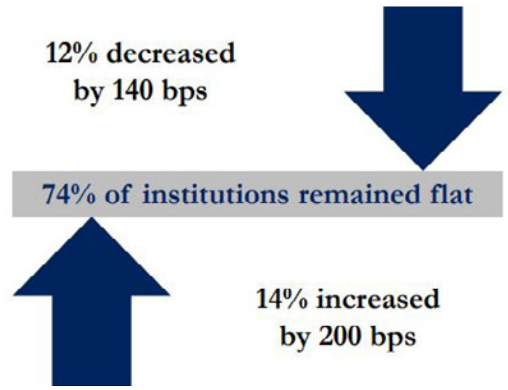
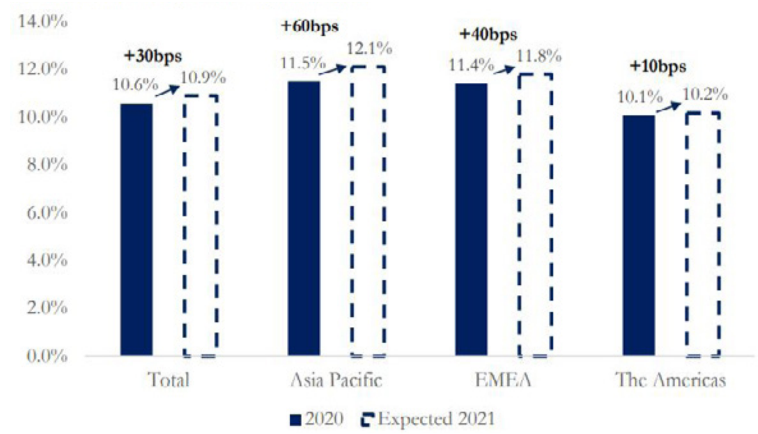


EXHIBIT 3: YEAR-OVER-YEAR INCREASE/DECREASE OF TARGET ALLOCATION, REPEAT PARTICIPANTS

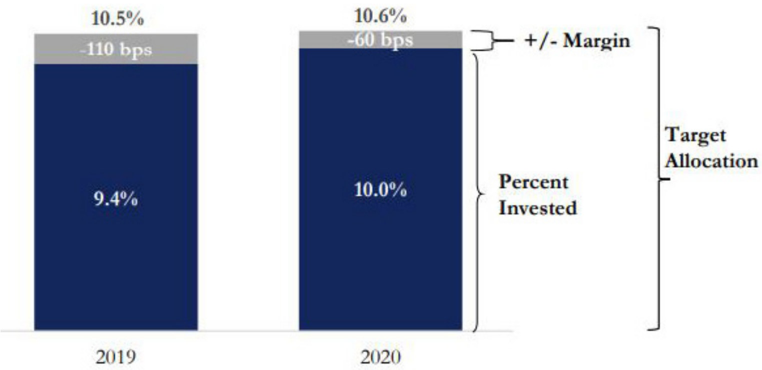


As far as current investments, the pandemic, through the denominator effect, has brought institutions closer to target allocations in asset values. Though increasing from 9.4% to 10.0%, actual allocations remain under-invested by 60 bps relative to target allocations. As the public equities market continues to rebound from the impacts of the COVID-19, the gap is forecasted to increase.

EXHIBIT 4A: WEIGHTED AVERAGE TARGET ALLOCATION, BY SIZE OF INSTITUTION, REPEAT PARTICIPANTS

	2019 Target Return	2020 Target Return	Actual 2015	Actual 2016	Actual 2017	Actual 2018	Actual 2019	Actual 3-Year Average	Actual 5-Year Average
All Institutions	8.3%	8.2%	10.9%	8.7%	9.1%	8.8%	8.5%	8.8%	9.2%
By Type									
Public Pension	7.5%	7.7%	11.4%	8.8%	9.2%	8.4%	8.3%	8.7%	9.2%
Endowment & Foundation	9.7%	9.0%	11.0%	9.1%	8.9%	9.1%	8.0%	8.7%	9.2%
Private Pension	8.3%	8.7%	11.1%	8.2%	8.9%	9.0%	9.4%	9.1%	9.3%
Insurance Company	8.4%	7.6%	9.3%	9.1%	9.9%	8.7%	10.2%	9.6%	9.5%
SWFs & GEs	7.2%	7.7%	9.7%	8.1%	8.9%	9.3%	7.9%	8.7%	8.8%
By Location									
The Americas	9.0%	8.7%	11.7%	8.7%	9.3%	9.2%	8.6%	9.0%	9.5%
EMEA	6.9%	7.1%	9.3%	8.4%	8.5%	7.5%	8.3%	8.1%	8.4%
Asia Pacific	7.6%	7.9%	10.1%	9.2%	9.1%	9.1%	8.3%	8.8%	9.2%
By Size									
Greater than US$50 billion	7.9%	7.5%	11.0%	9.4%	9.6%	9.2%	8.4%	9.1%	9.5%
Less than US$50 billion	8.5%	8.5%	10.9%	8.6%	9.0%	8.7%	8.5%	8.7%	9.2%

EXHIBIT 4B: WEIGHTED AVERAGE TARGET ALLOCATION, BY SIZE OF INSTITUTION, REPEAT PARTICIPANTS



Still, real estate continues to outperform as an asset class, and investors continue to see real estate as an attractive investment opportunity on a risk-reward basis. Actual real estate returns for institutional portfolios outpaced target returns in 2019 by 20 bps. Investor conviction in the asset class increases for the third year, reaching a 6-year high. Amidst the pandemic and geopolitical concerns, many institutions anticipate potential buying opportunities as distress and dislocation increase.

Most institutions do not manage their real estate portfolios but rather outsource them to third-party managers. Overall, 91% of institutions reported investing all or portion of their portfolio, with only 9% managing their real estate allocation in-house. Regarding new investments, 62% planned to re-invest with existing managers, 24% expect to form new manager relationships, and only 12% intend to invest with emerging managers.

EXHIBIT 5: CONVICTION INDEX, BY LOCATION OF INSTITUTION

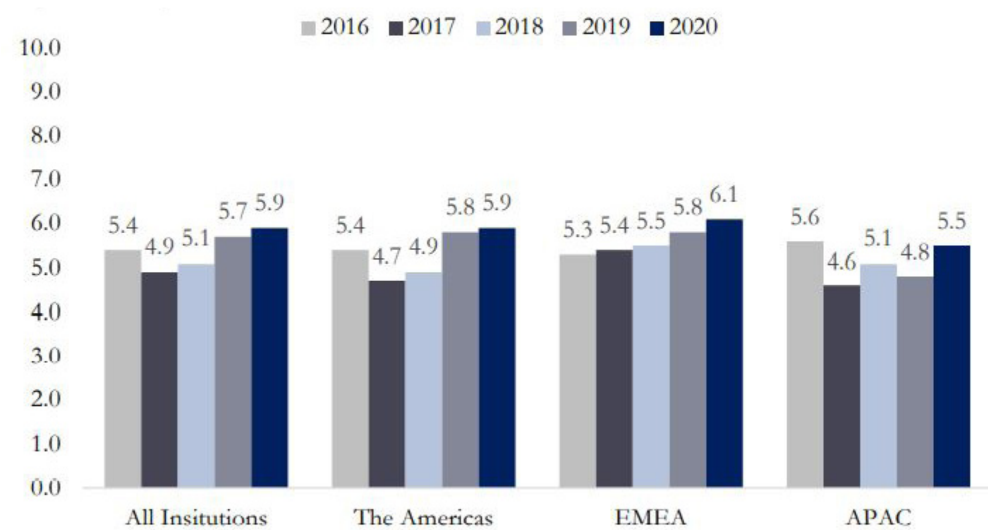


EXHIBIT 6: PERCENTAGE OF PORTFOLIO OUTSOURCED TO THIRD-PARTY MANAGERS, ALL INSTITUTIONS

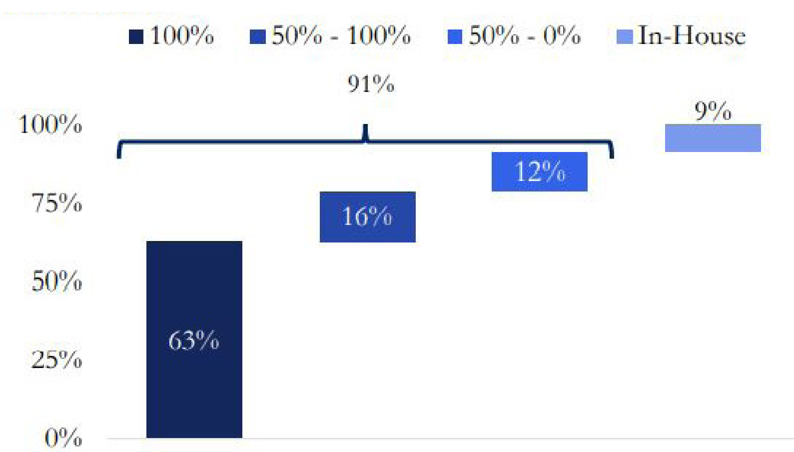
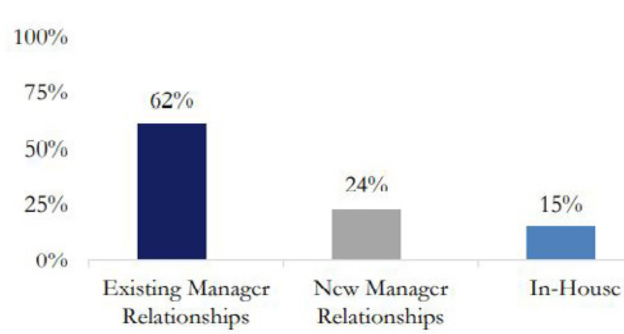


EXHIBIT 7: ESTIMATED BREAKDOWN OF 2020 INVESTMENTS, ALL INSTITUTIONSPARTY MANAGERS, ALL INSTITUTIONS



Preferences for risk and geography have shifted among institutions, but allocations to investment products have mostly remained the same. As investor appetite for high-return strategies grows and in anticipation of market volatility, more institutions are moving towards more opportunistic real estate. Geographically, global capital is still moving across borders, with North America as the most prominent target market. Still, many institutions are focusing on "home country" investments as travel restrictions have restricted on-site diligence and property tours. Preferred investment products for institutions are closed- and open-end funds, but larger institutions continue to favor direct investments, joint ventures, and separate accounts.

EXHIBIT 8: RISK PREFERENCE, ALL INSTITUTIONS

EXHIBIT 9: RISK PREFERENCE, BY LOCATION OF INSTITUTION

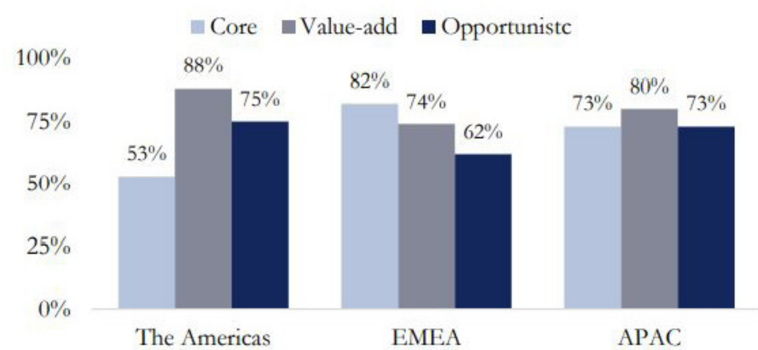
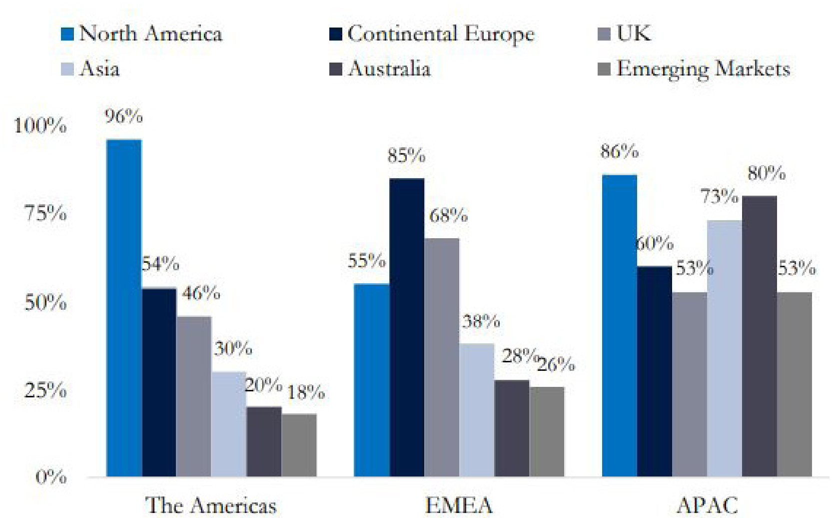


EXHIBIT 10: GEOGRAPHIC FOCUS, BY LOCATION OF INSTITUTION



Lastly, more institutions are placing more importance on ESG in their investment decisions. Roughly 47% of institutions have a formal ESG policy, with Europe and Australia taking the lead in implementation.

EXHIBIT 11: INSTITUTIONS INVESTING OUTSIDE OF THEIR DOMESTIC REGION, BY LOCATION OF INSTITUTION

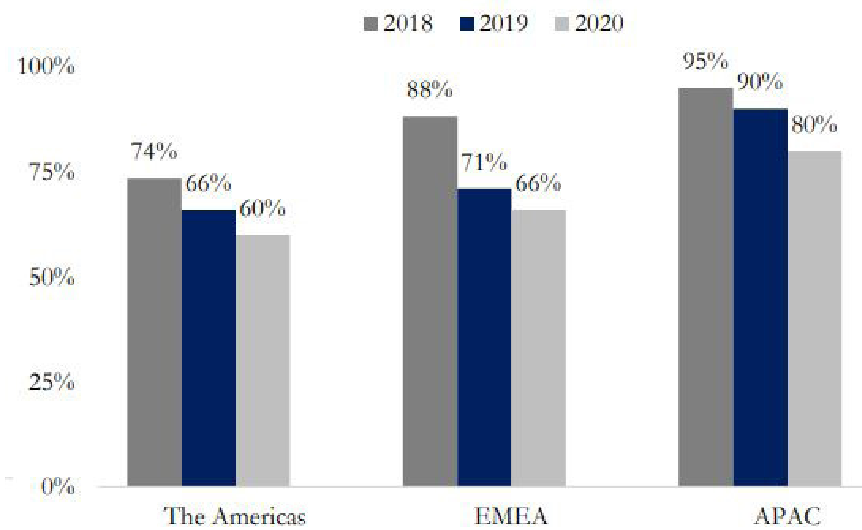


EXHIBIT 12: FORMAL ESG POLICES, ALL INSTITUTIONS

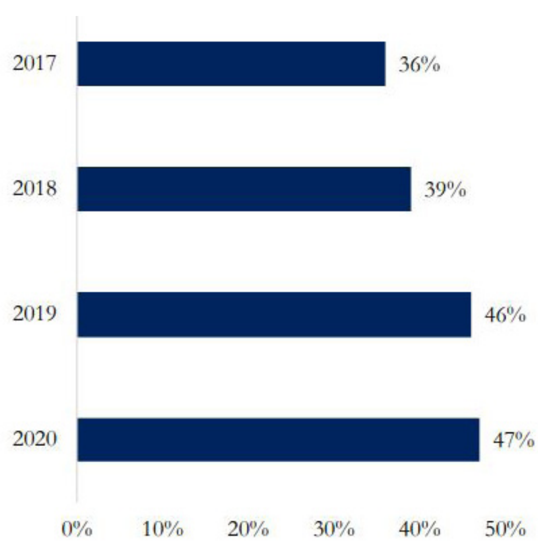
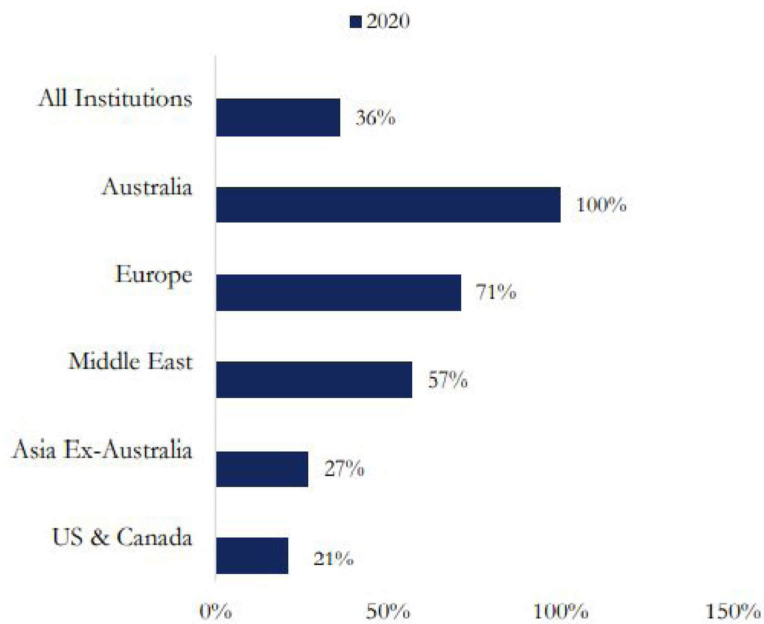


EXHIBIT 13: INVESTMENT PROCESS INFLUENCED BY ESG POLICIES ALL INSTITUTIONS AND BY LOCATION OF INSTITUTION



We thank Doug Weill '88 for sharing these insights and Matt Hershey, Partner at Hodes Weill, for leading the discussion on institutional trends with our panelists: Paul Von Steenburg '04, Managing Director of Commonfund; Gerald Fang, Head of Americas Real Estate, Abu Dhabi Investment Authority (ADIA); and Pamela Thomas, Head of US Real Estate Investment, CPP Investments.

NAVIGATING

OF REAL

ARTICLES

THE FUTURE
ESTATE

Cornell
Baker Program
in Real Estate


DEBT

AUTHOR:
JOSEPH MCFALLS

THE RISE OF U.S. REAL ESTATE DEBT FUNDS AND CAUSES FOR CONCERN

INTRODUCTION

U.S. real estate investors have options when seeking to finance a project, including banks, insurance companies, and debt funds. This article will focus on the real estate debt funds that have increased significantly in size and number following the Global Financial Crisis and housing bust of 2008. "Debt funds are private pools of non-regulated capital that typically provide borrowers with short-term loans for construction, value-add projects or other situations that require gap or bridge financing" (Gose, 2020). While these debt funds have proven attractive to borrowers for a number of reasons that are explored in this article, these benefits come at a price: "borrowers pay upwards of 250 basis points more for debt fund capital" (Gose, 2020). Moreover, the proliferation of these funds has raised concerns, particularly given the impact on the economy generally and on the real estate market specifically stemming from COVID-19.

THE PROLIFERATION OF REAL ESTATE DEBT FUNDS

Following the Global Financial Crisis, the size and number of these real estate debt funds have skyrocketed. In December of 2007, just months before the commencement of the Global Financial Crisis, private real estate debt funds held $23 billion in assets under management (Solomon, 2020). Twelve years later, this figure has ballooned to $190 billion and has more than doubled in size since 2014 (Solomon, 2020). Further, the number of new such funds launched annually has more than doubled since 2008 (Mooney, 2019). As of late-2018, real estate debt funds occupied 10% of the real estate debt market, up from 2% in 2014 (Grant, Real-Estate Debt Funds Amass Record War Chest, 2018). This trend shows few signs of abating as demonstrated by the Fall 2020 closing by Blackstone, the global leader in real estate investing with an almost $370 billion global real estate portfolio, of a record $8 billion real estate debt fund, the largest real estate debt fund ever raised (Grant, Blackstone Ready to Lend After Raising Record Property Debt Fund, 2020).[1]

There are four primary reasons for the proliferation of real estate debt funds over the last decade or so. First, banks have lessened their focus on commercial real estate due to regulatory changes and more conservative lending practices.[2] Indeed, the imposition of increased regulations on banks following the Global Financial Crisis has led many banks to decrease their presence in the real estate debt space (Mooney, 2019).[3] Among the regulatory changes that have precipitated this shift include "regulators . . . pressing banks to hold higher capital across the board, and new rules requiring CMBS issuers to retain 5% of each issue . . . ." (O'Dea, 2015).

1 KKR, a leading alternative asset manager, also raised a $950 million real-estate debt fund in Summer 2020 (Grant, Blackstone Ready to Lend After Raising Record Property Debt Fund, 2020).

2 It is worth noting that this "pullback by banks has sparked personnel moves, with bankers relocating to asset management firms to continue activity from new perches" (O'Dea, 2015).

3 The banks' more conservative lending strategy is best typified by the fact that they "have pulled back from transitional and development loans", which carry higher risks (and also returns) (Mooney, 2019).

" THE COST OF COMPLIANCE WITH INCREASED REGULATORY STRUCTURES CAN RAISE BANKS' COST OF CAPITAL, IN SOME CASES MAKING THEM LESS COMPETITIVE WITH NON-BANK LENDERS WHEN COMPETING TO MAKE REAL ESTATE LOANS."

Conversely, there are "no material barriers to entry in the [private real estate debt fund] market" (Mooney, 2019). Indeed, "[t]he growth in this lending niche stems partly from the ability of debt funds and other non-bank lenders to operate in a more loosely regulated atmosphere than banks and insurers" (Egan, 2020).[4]

4 The rise of non-bank real estate debt funds is due in large part to their less stringent regulatory environment as compared to banks. This is consistent with the rise of "shadow banking" that has occurred recently across numerous industries. As in other industries, real estate debt funds generally avoid legally operating as banks, thus avoiding onerous banking regulations while siphoning off substantial banking profits.

Further, the cost of compliance with increased regulatory structures can raise banks' cost of capital, in some cases making them less competitive with non-bank lenders when competing to make real estate loans. As a result of new regulations intended to avoid a repeat of the Global Financial Crisis, banks now have greater capital and liquidity requirements and have also had to significantly bulk up their compliance departments in order to satisfy the alphabet soup of government regulators that oversee them. Non-bank lenders do not share similar burdens and thus in some cases, particularly with riskier loans, can offer lower interest rates than can banks.

Second, as investors predicted the nearing end of the economic recovery and real estate bull market with asset values at or near record highs, many real estate private equity firms pivoted their investments to real estate debt funds given their relatively safer risk profile if the end of the cycle was indeed near (Mooney, 2019). Further, given that the high valuations of most real estate investments were depressing equity returns, debt returns were much more competitive to equity returns than is traditionally the case, which further enhanced the appeal of debt funds (Mooney, 2019).

Third, a record amount of real estate debt – a so-called "wall of maturities" – has been coming due over the past few years, which has required repayment or refinancing (O'Dea, 2015). "According to research firm Trepp, approximately $1.5 trillion in commercial real estate debt [came] due between 2015 and 2017" alone (O'Dea, 2015). This is more than three times the amount that matured in the prior three-year period. Real estate debt funds, hungry for yield, have stepped in to capitalize on this demand, particularly with banks increasingly taking a back seat.

Fourth, debt funds have generally been nimbler and more flexible than traditional financing sources in meeting the needs of borrowers (Gose, 2020). In many cases, debt funds can execute loans much more quickly[5] and on terms that are more tailored to the individual borrower or property (Gose, 2020). Indeed, "these alternative lenders have more flexibility on loan-to-cost, recourse, construction as a percentage of assets, and third-party report review, and their approval processes are more streamlined" (Wurtzebach, 2019). The added speed and flexibility offered by debt funds can make them an attractive financing option for many real estate borrowers, particularly for transactions with some complications.

"DEBT FUNDS HAVE GENERALLY BEEN NIMBLER AND MORE FLEXIBLE THAN TRADITIONAL FINANCING SOURCES IN MEETING THE NEEDS OF BORROWERS."

CONCERNS SURROUNDING PROLIFERATION OF REAL ESTATE DEBT FUNDS

The proliferation of real estate debt funds over the last decade, when coupled with the current COVID-19 crisis, creates six primary concerns. Many of these are significant in isolation, and the resultant concerns are only amplified when they occur simultaneously as is the case with the economic downturn brought on by COVID-19 and its particularly severe impact on real property.

First, these debt funds have flourished and multiplied during an almost unprecedented period of prosperity for real estate assets, and these funds' business models have not yet been tested during a challenging economic environment (Solomon, 2020). The economic turmoil brought on by COVID-19, and its particular challenges to real estate (particularly the hotel, retail, and office sectors), have quickly catapulted the industry into tumult, with managers for the first time confronting loan modifications, delinquencies, defaults, and foreclosures (Solomon,

5 In some cases, debt funds can close loans in less than a week, a feat that would be impossible for a traditional portfolio lender (Wurtzebach, 2019).

2020). Observers are closely watching to see how these debt funds react and perform during this period of uncertainty.

Second, during COVID-19, government regulators have been successful in encouraging and, in some cases, requiring banks to delay their exercise of remedies. For example, legislation passed in New York State deemed it "unsafe and unsound business practice if, in response to the COVID-19 pandemic, any bank which is subject to the jurisdiction of the [New York Department of Financial Services] shall not grant a forbearance to any person or business who has a financial hardship as a result of the COVID-19 pandemic. . . ." (Murphy & Smith, 2020). While this legislation initially provided only a 90-day forbearance period and did not specifically apply to commercial loans, the message to banks was clear that they were expected to exercise restraint in the exercise of their remedies under defaulted commercial loans. Similarly, "[c]ertain federal regulators, including the Federal Deposit Insurance Corporation (FDIC) and the Federal Reserve Board of Governors, have also issued statements encouraging commercial real estate lenders and other financial institutions 'to work prudently with borrowers who are or may be unable to meet their contractual payment obligations because of the effects of COVID-19" (Murphy & Smith, 2020). In short, "it is clear that there is a preference at the regulatory and executive levels of government for lenders to forbear from taking enforcement action during this unprecedented time" (Murphy & Smith, 2020).

The unique nature of this recession, the power of regulators over many aspects of their business (beyond just real estate lending), and lenders' desire to avoid unflattering headlines during a global pandemic have led to the acquiescence of most banks to this strategy, at least so far. During this time, banks have had to put aside large loan loss reserves as they grapple with the upheaval.[6] Real estate debt funds, on

"THERE IS CONCERN THAT SOME DEBT FUNDS MAY HAVE WEAKENED THEIR LENDING STANDARDS TO WIN DEALS, WHICH COULD LEAD TO GREATER DISTRESS AMONG WEAKER BORROWERS AND PROPERTIES TO THE EXTENT TRANSACTIONS WERE GREENLIT THAT WERE QUESTIONABLE UNDER THE BEST CIRCUMSTANCES."

the other hand, can be much less sympathetic lenders over which regulators have little power and who are not overly concerned with negative headlines. Some of these lenders could derogatorily be referred to as "loan to own" lenders, and non-bank lenders who fit this description can be expected to exercise their remedies in relatively short order on any valuable real estate in their portfolios. Such actions could trigger a wave of foreclosures that will reduce asset values across the board and potentially worsen the current economic conditions.

Third, many real estate debt funds rely on leverage to amplify their returns[7] and thus are subject to many of the same market forces as their borrowers (Solomon, 2020). While some debt funds use their balance sheet[8] and thus may be well-positioned in this current environment, others rely on warehouse lines and have faced painful margin calls as their assets have been marked to market (Gose, 2020). Similarly, those debt funds that "replenished their capital by selling part of their loans to banks or in the collateralized loan origination market saw those sources dry up, too" (Gose, 2020).

6 These amounts can be significant as commercial real estate represents 22% of banks' portfolios (Demos, 2020).

7 "Leveraged funds can generate annual yields of 12 percent to 15 percent, while balance sheet debt funds deliver 9 percent to 11 percent" (Gose, 2020).

8 Balance sheet lenders are traditionally capitalized by a "wide range of investors from single source ultra-high-net-worth individuals and the traditional private equity cadre of family offices, endowments and pension funds, to life insurance companies" (Wurtzebach, 2019).

Leveraged real estate debt funds may have less control over the loan workout process should a property fall into distress (Borland, 2020). "Portfolio lenders, like life companies and [some] banks, have more flexibility to offer forbearance and loan modifications because the loan is on their balance sheet" (Borland, 2020). If, on the other hand, "the debt funds are leveraged with CLOs, warehouse lines, margin accounts, etc., they don't call their own shots; the lenders that hold their paper have approval rights as to what flexibility they have in modifying terms for borrowers which makes them inflexible in dealing with their borrowers" (Borland, 2020). A wave of foreclosures could destabilize the property markets and the overall economy.

Further, to the extent that a large swath of the industry is over-leveraged and unable to meet its obligations, this could lead to a liquidity crisis and ultimately a failure of these firms and destabilization of the real estate debt industry. The contraction of the real estate debt fund industry, while unlikely, would make debt more difficult, and thus more expensive, to obtain, lowering yields and property values and making transactions more difficult to consummate. Moreover, this would be occurring at precisely the same time as traditional portfolio lenders have been less supportive of real estate financing. Thus, in short, the failure of these non-bank lenders could have a destabilizing effect on the real estate market as well as potentially the broader economy depending on the depth of any distress.

Fourth, as real estate debt funds exploded in popularity given their relatively lower risk but similar return profile when compared to equity investments, significant competition arose among funds over loans (Mooney, 2019). In short, more dollars are looking to be loaned in real estate than there are sensible deals, with debt funds holding $61 billion in "dry powder" in March 2019 (Mooney, 2019). Under those circumstances, there is concern that some debt funds may have weakened their lending standards

to win deals,[9] which could lead to greater distress among weaker borrowers and properties to the extent transactions were greenlit that were questionable under the best circumstances.

Fifth, real estate debt funds have increasingly occupied riskier portions of the real estate capital stack. With banks becoming more conservative in their lending approach, they have pulled back from "construction loans, bridge loans, and other types of risky debt," a void that has been filled by real estate debt funds. Also, debt funds have been offering higher loan-to-value (LTV) ratios (70.6 percent) than any other lending sector (Egan, 2020). Debt funds tend to offer borrowers non-recourse loans, which means that if the borrower defaults on the loan the lender is not able to pursue the sponsor for any deficiency judgment and must look solely to the collateral for compensation

9 Moody's, among others, has sounded alarms about the loosening of credit standards for real estate borrowers (Mooney, 2019). "It's déjà vu all over again . . . [as l]oan originators continue to loosen underwriting standards. . ." (O'Dea, 2015).

(Wurtzebach, 2019). With high LTV loans at a higher risk of default and with debt funds often not having any recourse against sponsors, the solvency of real estate debt funds with a heavy reliance on these terms is in jeopardy, particularly in a recessionary environment.

Sixth, real estate debt funds are much more loosely regulated than are banks, raising numerous concerns. Are regulators sufficiently aware of real estate debt funds' scale and the state of their businesses, and are these regulators empowered and ready to act should their failures imperil the real estate market or economy? This is particularly of concern as these non-bank lenders increasingly gain market share given their competitive advantages over banks. Will Gresham's Law be revisited with "bad banking" driving out "good banking" given the existence of two parallel financial systems, one regulated and one not? In short, are these non-bank lenders like debt funds good for the financial system? These questions are particularly pertinent given the economic distress brought on by COVID-19.

CONCLUSION

With real estate debt funds, like much of the overall economy generally and the real estate industry specifically, having been affected by the COVID-19 recession, one would not be surprised if the field is slightly winnowed. The exit of some funds will likely be to the benefit of other funds that more successfully navigate this upheaval.[10] Some observers expect that, even with the current disruption, the real estate debt fund market "will [continue] to occupy a meaningful – and probably growing – percentage of the overall commercial real estate debt market" (Solomon, 2020).[11]

10 It would not be surprising if the victors were those who most aggressively enforced their remedies and took possession of their collateral, which raises the concerns described elsewhere in this article.

11 According to Blackstone, which is sitting on a fresh infusion of $8 billion for its real estate debt fund, moving forward "[t]here's an expectation that there will be a greater opportunity in real estate debt than there has been" (Grant, Blackstone Ready to Lend After Raising Record Property Debt Fund, 2020).

" REAL ESTATE DEBT FUNDS HAVE INCREASINGLY OCCUPIED RISKIER PORTIONS OF THE REAL ESTATE CAPITAL STACK."

In addition, just as debt funds sprang into action to recapitalize the "wall of maturities" in the middle of this decade, these funds are preparing for similar opportunities brought on by COVID-19 as distressed properties require capital infusions and change hands (Grant, Blackstone Ready to Lend After Raising Record Property Debt Fund, 2020). At the same time, bank lenders have generally "pause[d] new originations as they assess and work through potential stress points in their existing loan portfolios" (Villegas, 2020). Indeed, with "[b]illions of dollars of loans backed by malls and hotels . . . in default . . . [while a]t the same time, many of the traditional lenders, like originators of commercial mortgage-backed securities, have put on the brakes," debt funds again sense an opportunity to increase their market share and become even bigger players in the real estate debt market (Grant, Blackstone Ready to Lend After Raising Record Property Debt Fund, 2020).

The larger unanswered question, however, will be the impact that the increased participation of debt funds in the real estate lending market has on property markets and the economy as the nation grapples with the impact of COVID-19. There is reason for concern not only in the U.S. but also in Europe where real estate debt funds have similarly proliferated and now face the same strains.[12]

12 The increase in property debt funds is not specific to the U.S. as Europe experienced similar growth for many of the same reasons (Villegas, 2020). Alternative lenders now represent one-third of the real estate debt market in Europe (Villegas, 2020).

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"THERE IS REASON FOR CONCERN NOT ONLY IN THE U.S. BUT ALSO IN EUROPE WHERE REAL ESTATE DEBT FUNDS HAVE SIMILARLY PROLIFERATED AND NOW FACE THE SAME STRAINS."

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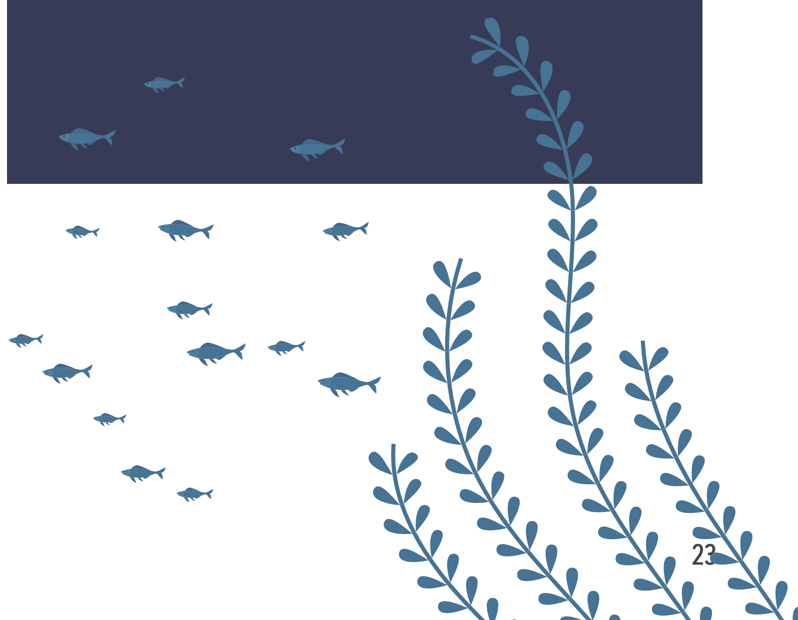

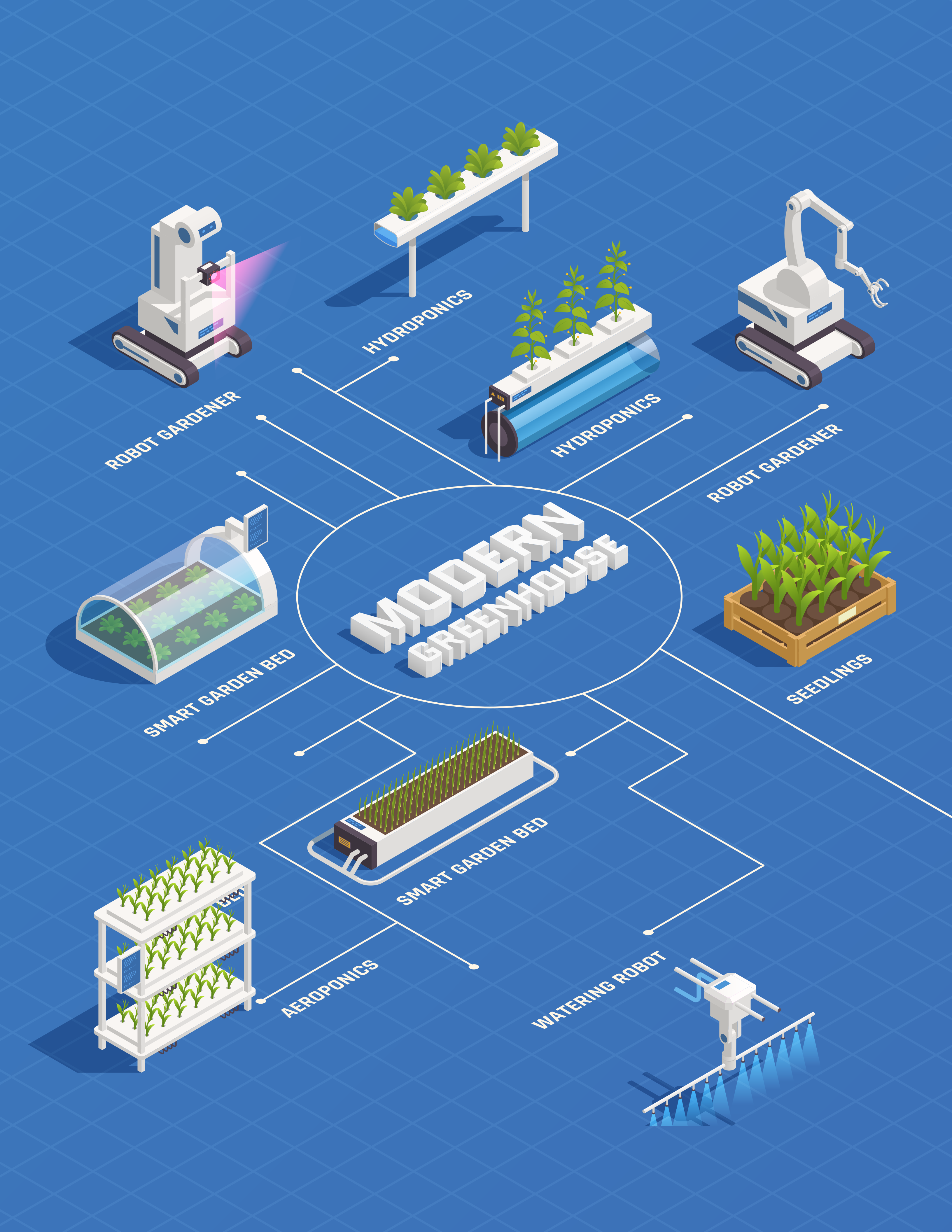
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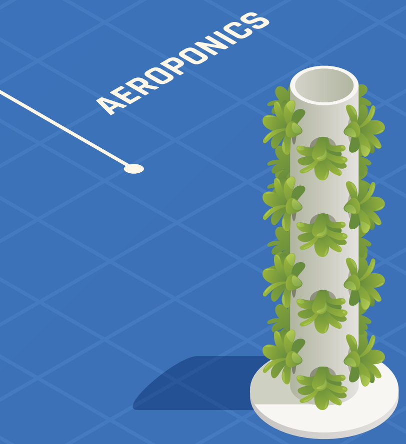
GREENHOUSE
SMART GARDEN BED
SEEDLINGS
SMART GARDEN BED
AEROPONICS
WATERING ROBOT

AUTHOR:
JACOB TANNENBAUM

CONTROLLED ENVIRONMENT AGRICULTURE:

THE NEW ASSET CLASS ON THE BLOCK



INTRODUCTION

"Like extracting bread from air." In 1908, Fritz Haber's invention of synthesized fertilizer revolutionized the agriculture industry. Through a process of extracting ammonia for fertilizer use from the air, annual global crop yields doubled overnight. His invention is credited with our ability today to feed billions of people. But new problems are catching up to us.

Here in the United States, we are currently extremely reliant on international imports to meet our produce needs. Coupled with the challenges of affordability and accessibility of labor, much of the country is also incapable of producing outside for the colder half of the year. As of 2020, 53% of all the fresh fruit and 32% of all the fresh vegetables consumed in this country are imported. Increasingly unpredictable weather patterns are only making the challenges of conventional domestic farming more difficult. Globally, we are still struggling to meet demand for produce. A 2015 World Health Organization study found that only 36% of the global population has adequate availability of fruits and vegetables to meet minimum nutrition targets.

Fortunately, a new wave of technology categorized as controlled environment agriculture (CEA) has the potential to revolutionize America's food production system once again and help alleviate the greater global deficit of high quality, affordable produce. CEA is proven to increase yields per acre by a magnitude of over 10 times that of conventional agriculture through curation of year-round, ideal conditions and symbiotic micro-ecosystems. Conventionally, these facilities use hydroponic, aeroponic and aquaponic systems to grow vegetables without soil. This technology allows growers to use exponentially less water and fertilizer than conventional field agriculture. With new innovations in digital monitoring, robotic harvesting, and automated sorting and packaging the challenges of finding labor are also alleviated. Equally important, CEA avoids the externalities of environmental degradation, systemic in conventional agriculture.

Through CEA we are able to produce higher quality crops without damaging the ecosystem. The controlled environment facilitates the elimination of toxic chemicals in exchange for biological pesticides (predators for parasites). Additionally, as facilities move closer to market, breeding programs are able to pivot away from a focus on shelf life (for long-haul shipping) towards flavor, texture, and nutritional value. Changes in consumer demand for healthier local food is creating growing demand for CEA and ultimately opportunities for investment in the asset class.

OVERVIEW

Over the last century, conventional industrial farming has had catastrophic effects on the environment. Chemical pesticide use has decimated insect pollinator populations. Monoculture farming, erosion from tilling, herbicides, and fungicides have polluted, depleted and sterilized our soils. Excessive fertilizing has polluted our water. It is not an exaggeration to say that the choices we make today will have cascading effects for centuries. The UN Food and Agriculture Organization estimates that 33% of the world's soil is moderately to highly degraded through erosion, salinization, compaction, acidification, chemical pollution and nutrient depletion. These degradations hamper the soils' ecological functionality affecting its food production capabilities. Insect populations have also declined by 75% over the past three decades, largely due to agricultural practices, hampering natural breeding and fruiting processes. The cataclysmic loss of biodiversity is reaching a breaking point that will not be easy to reverse. Therefore, it is critical that we reinvent the way in which we produce our food. Controlled environmental agriculture, addresses all of these environmental concerns by creating a closed loop system.

CEA can be classified into three main structures: high tunnels, greenhouses and plant factories. Each has their own benefits and limitations.

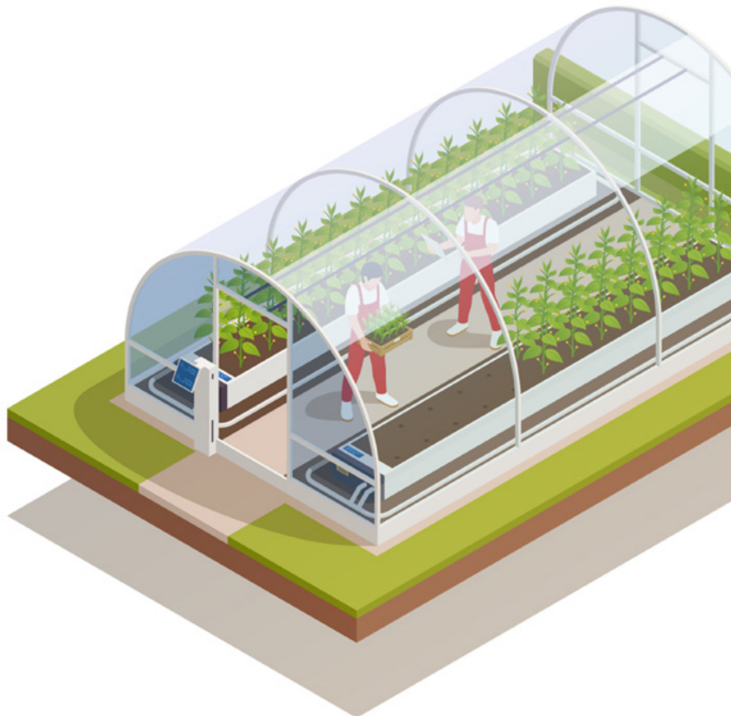
- **High Tunnels** are the least expensive and most common solution in the market today. At as low as $3 per square foot in construction cost, they require very little capital to get started. While they are a great improvement over conventional agriculture, they have a short life span, are very susceptible to environmental damages, are less light and heat efficient, and are uninsurable.

- **Greenhouses** average $35 per square foot at commercial scale and are the most energy efficient form of CEA.

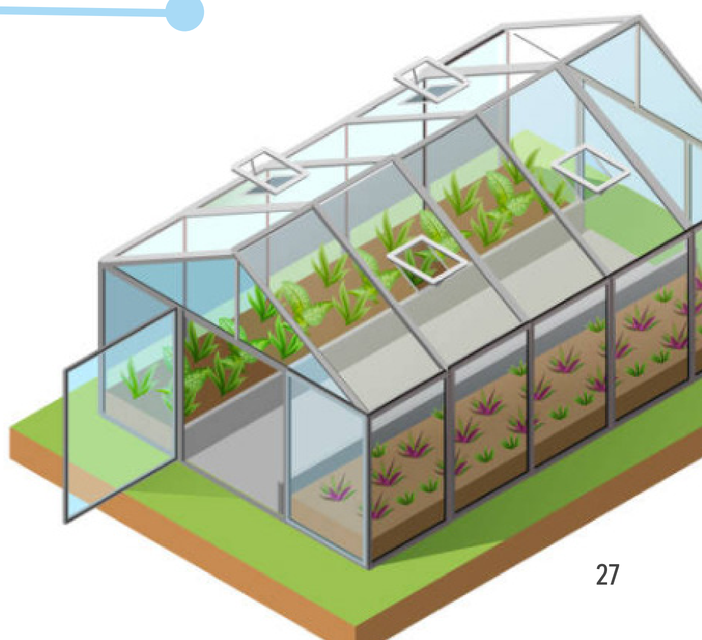
ESG CONSIDERATIONS

CEA is a better impact solution than many other popular alternatives. It is often carbon negative. It requires limited use of rare earth metal materials whose mining undermines the true environmental values of many energy-oriented ESGs. It very poignantly addresses the problems of biodiversity and habitat loss. It decreases agricultural water usage by over 95%. It dramatically reduces the waste of shipping. And socially, it has the potential to solve global food crises.

- **Indoor Plant Factories** -- typically what people think of when they think of vertical farming -- are highly variable in price (generally between $100 and $200 per square foot for new construction), but can essentially be established in any reclaimed building or container. They are very high in climate control efficiency and yields per acre possible (by growing vertically) but are more limited in what crops they can grow efficiently. Plant factories also require extreme electricity consumption. For example, lettuce crops grown by CEA consume upwards of 350kWh per square foot per year compared to a typical greenhouse's 25kWh per square foot.



The costliest aspect of running any CEA facility is electricity consumption. Not accounting for transportation or increased quality's value proposition, electricity consumption is the biggest barrier today to achieving production cost parity with conventional agriculture. The key to understanding the efficiencies is to look at supplemental lighting efficiency, the cost of electricity and local conditions. Consider this: In New York state, at current electricity prices, even if LED technology was perfected to translate 100% of input energy to light, a greenhouse's use of the sun and supplemental light, instead of 100% artificial lighting, is still more efficient than the benefits of a plant factory's more insulative qualities.



For this reason, choosing the right asset type in which to invest in for a given location is critical. Are you near the Arctic Circle where natural sunlight is very limited for half the year and temperature lows are extreme? Then a plant factory is likely the correct option. Are you in a generally mild climate state with high electricity costs? Then a greenhouse may be right for you.

OPPORTUNITY

As of today, investment in CEA has reached just over $2 billion across North America and Europe. The compound annual growth rate for the North American vegetable greenhouse market since 2007 is greater than 20%. In a $20 billion market, crops from CEA facilities only account for 1.3% of the annual produce consumed in the US. With total food demand expected to increase between 59% to 98% by 2050, CEA's growth potential is exponential. This does not even account for the opportunity of increased produce demand facilitated by improved accessibility; research shows that consumption within a community rises 32% for each additional supermarket in a census tract.

The barrier for some, and therefore the opportunity, is that these facilities require high upfront costs. In addition to the structures themselves, the intricate hydroponic irrigation systems, robotic equipment and sensory equipment can carry a large price tag. As a plethora of start-up companies race to compete and establish market dominance, they are hungry for capital. As such, many forego ownership of their facilities, instead focusing on their core expertise and leveraging capital towards opening more facilities.

Several developers and investors are capitalizing on this opportunity in a number of ways. The most common is a sale-leaseback. As examples: Equilibrium Capital acquired and leased two greenhouse facilities to indoor agriculture company Revel Green for $11.3 million and plans to finance at least three more greenhouse facilities. Another firm, Green Acreage provides sale-leaseback and construction financing to companies operating in the cannabis industry. Green Acreage invested $77.3 million

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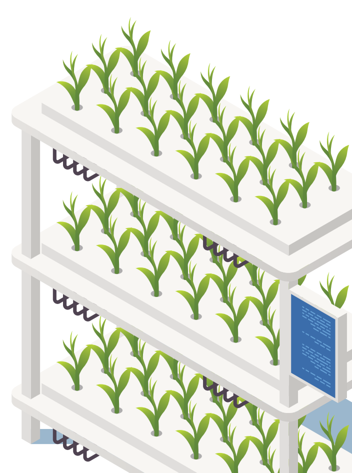
with Acreage Holdings that entered into long-term, triple-net lease agreements with Green Acreage for properties in California. Other players in the market executing similar strategies include Power REIT, which owns six CEA properties in southern Colorado and Maine with a total of approximately 131,000 square feet of greenhouse and processing space; and Innovative Industrial Properties that focuses on the acquisition, disposition, construction, development and management of CEA facilities across the country.

To better understand the lucrativeness of the opportunity, Innovative Industrial Properties states that their typical absolute net lease terms are 10 to 20 years with base rents at 10% to 16% of total investment and 3% to 4.5% annual rent escalations. Typical deals range from $5 million to $30 million and carry security deposits and corporate guarantees. This compares quite favorably to conventional farmland sale-leasebacks that often have 5-year terms and net around 5% of the purchase price as base rent and escalate 7.5% to 12.5% every term.

Other growers have opted for mixed-use facilities where they can rent roof top greenhouse space. This allows growers to be in deep urban locations and eliminate shipping expenses. For example, Gotham Greens recently purchased and built a 15,000 square foot greenhouse on a vacant Brooklyn rooftop. Others have chosen to take the concept directly to the literal market. BrightFarms has, to date, signed up eight supermarket chains around the country (including three of the largest national chains) to build these rooftop farms for about $2 million per acre. The facilities are expected generate $1 million to $1.5 million in annual revenue.



International investment continues to be an important funding source for controlled environment agriculture as countries like Saudi Arabia and the UAE look to establish sustainable domestic food systems through the furtherance of the technology. Many CEA growers have gotten their start through partnerships with sovereign wealth funds.

The opportunity is clear; how real estate investors choose to enter the space is up for debate. Funded by $82 million from Equilibrium Capital, AppHarvest, a 3-year-old start-up, has purchased 366 acres in eastern Kentucky with the goal of leveraging economies of scale. With plans to develop a 2.76-million-square-foot greenhouse for $97 million, AppHarvest will be one of the largest greenhouses in the world, supplying much of the Eastern seaboard within one day's drive.

CONCLUSION

Although CEA has existed for the past decade, technological development and botanical research have greatly reduced the risk and challenges of the business. Digital monitoring and control technologies have simplified running a controlled environment agriculture facility. Concurrently, consumer demand for high quality organics has risen dramatically, creating a bigger market.

As we stand today, the climate crisis has reached boiling point and habitat degradation has pushed biodiversity to the brink. CEA stands as a profitable, sustainable, lower-risk alternative to conventional agriculture, whose biggest challenge is simply the upfront costs of developing the facilities.

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AUTHOR:
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PUBLIC POLICY IMPACTS

ON US REAL ESTATE MARKETS

INTRODUCTION

Given the recent election of President Biden and the Senate's transition from a Republican to Democratic majority, real estate investors should reconsider how federal, state, and local public policy could impact commercial real estate (CRE) in the U.S. on a macroeconomic level. The focal point of this research will be on evaluating how policy changes to taxes and government spending programs could impact the CRE market. The major issues include policy impacts on values across geographic markets and asset classes, inflation trends, market liquidity, and capital flows to various investment vehicles. This analysis will seek to quantify impacts, where possible, using forward looking projections from investors, CRE research organizations, and governmental sources as well as using historical precedents as a baseline for projection where parallels exist.

This piece will not seek to divine whether any policy proposal will become law, but will include anecdotes on historical policy support, noting which can be executed unilaterally by the President and which require Congressional approval.

FEDERAL TAXES

1031 Exchange

Key Facts

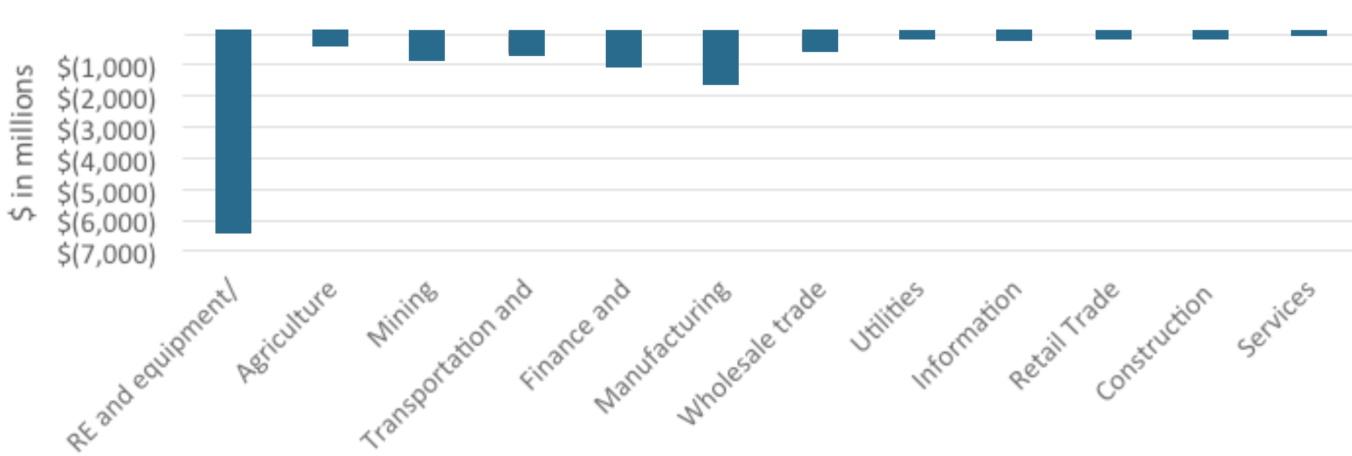
- **1031 exchanges are most frequently used by smaller investors.**
- **Studies by EY and a collaborative study between the University of Florida and Syracuse University suggest that a repeal would result in higher tax burdens, longer holding periods, increased leverage, and suboptimal capital allocations.**
- **A repeal is expected to reduce annual GDP by .7% in the long run.**
- **A repeal would reduce property values by an estimated 5%.**
- **Net-leased and retail assets that most frequently utilize the exchange likely to face the greatest impact.**
- **Markets with the highest rate of exchange utilization, particularly California's major cities, are likely to face the greatest impact from a repeal.**

The 1031 Exchange, created in 1921, currently allows investors, including real property investors, to exchange one property for another like-kind property while allowing the investor to defer capital gains on the property being sold. The purpose of this exchange is to reduce obstacles to the exchange of property, thereby making capital allocation more optimal and transactions more frequent. While the Biden administration could unilaterally redefine what qualifies as real property—the IRS released regulations in late 2020 redefining the term and excluding art, vehicles, and intellectual property from the definition—a full repeal would require Congressional approval. While no new legislation has appeared in Congress so far, President Biden's campaign website details what a change could look like. His site references "…rolling back unproductive and unequal tax breaks for real estate investors with incomes over $400,000…". The 1031 exchange is not mentioned by name, but it is a clear reference to the policy.

A variety of investors use this exchange, however, the primary users are not large institutional investors. Data from CoStar, Marcus & Millichap Research Services (MMRS), and the National Association of Realtors (NAR) reveals that the median price of a relinquished property used in a 1031 exchange was $500,000. Furthermore, CoStar's data only included transactions >$2,000,000, which indicated only 7% used the exchange, while MMRS and NAR, whose transaction sizes had no floor, saw 23% and 12%, respectively, that utilized the exchange.

According to both a 2015 Ernst & Young report prepared on behalf of the Section 1031 Like-Kind

FIGURE 1: ANNUAL GDP IMPACT OF REVENUE NETURAL INCREASE IN GOVERNMENT SPENDING (2013 IDOLLARS)



Exchange Coalition and 2020 research authored by David C. Ling of the University of Florida and Milena Petrova of Syracuse University, the repeal of this exchange would result in a higher tax burden, longer holding periods, increased leverage, and suboptimal capital deployment for real estate (RE) companies. (EY, 2015) (Ling and Petrova, 2020) The original proposal to repeal the exchange was intended to finance a decreased corporate tax rate, which, would still benefit the CRE sector through greater profitability of tenants and a lower tax bill.

Under the scenario where proceeds would finance a lower corporate tax rate, Ernst & Young concludes that the policy would reduce GDP, investment, and labor income. This outcome is likely amplified if the proceeds are used to increase government spending, as would be the case based on President Biden's proposal. Ernst & Young expects the repeal to reduce GDP by $13.1bn or .7% annually in the long term (2013 dollars). This GDP reduction would result from a reduction of investment incentives, longer holding periods, and less efficient capital allocation.

There is evidence of strong links between real estate prices and GDP growth in the US. The Q3 2002 BIS Quarterly Review determined housing prices increase by roughly .9% for every 1% increase in GNP from 1995-2001. (Sutton 49) Furthermore, a Pepperdine University study estimated the correlation of GDP and quarterly HPI to be 69% with an R2 value of .48. (Valadez 7) However, commercial properties are likely to behave differently than single-family properties. While access to the underlying data for the 1981-2000 period was not possible, the visual correlation between MSCI property returns and GDP appears to be relatively strong. Furthermore, over the 2011-2019 period, there is a modest positive correlation between annual GDP growth and MSCI all property total returns at 28%. (MSCI 1) Thus, what the proceeds from a 1031 exchange are spent on may have a material impact on CRE performance.

Both Ernst & Young, and to a greater extent, the Ling-Petrova study break out this economic impact on a more granular level. Ernst & Young conducted a case study to illustrate the impact on a particular investment. In the case of a multi-family owning pass-through entity, such as a REIT, Ernst & Young estimated that the holding period would increase by 37%, the after-tax return rate would decrease by 16%

FIGURE 2: EXPECTED ECONOMIC IMPACTS OF 1031 EXCHANGE REPEAL

	Amount ($mm)	% Change
GDP	-13,100	-0.07%
Consumption	-12,000	-0.11%
Investment	-11,200	-0.28%
Capital stock	-89,300	-0.24%
Labor income	-8,800	-0.07%
After-tax wages	n/a	-0.22%

FIGURE 3: USA GDP GROWTH AGAINST THE MSCI ALL PROPERTY TOTAL RETURN

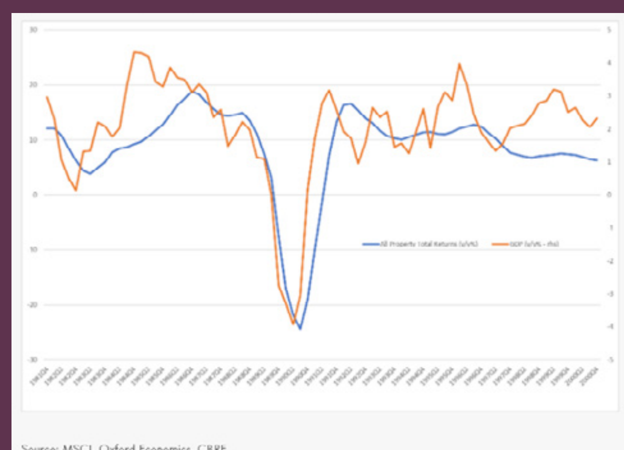


FIGURE 4: MSCI TOTAL RETURN VS. U.S. GDP GROWTH

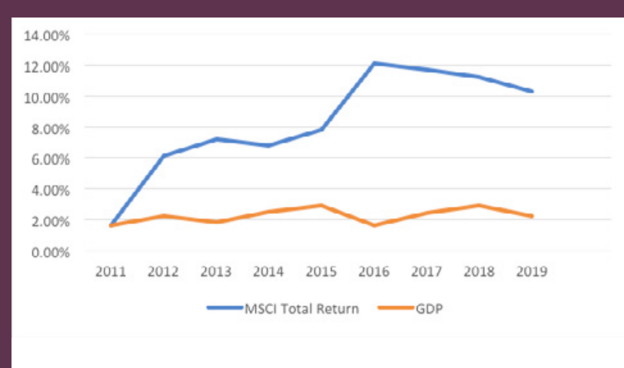


FIGURE 5: MARCUS & MILLICHAP % OF BROKERED TRANSACTIONS UTILIZING AN EXCHANGE

Asset class heat map

Period	Apartment	Office	Industrial	Retail	Total	Net Leased
2017Q1	22.80%	25.00%	25.00%	27.60%	24.20%	38.40%
2017Q2	24.30%	25.30%	15.80%	21.60%	23.40%	39.70%
2017Q3	21.80%	20.60%	30.40%	26.70%	23.20%	35.60%
2017Q4	23.00%	11.00%	24.00%	28.10%	22.80%	40.50%
2018Q1	28.40%	20.30%	12.80%	26.10%	**26.40%**	38.80%
2018Q2	20.90%	14.50%	20.90%	27.90%	21.40%	36.00%
2018Q3	25.70%	20.30%	25.00%	26.30%	25.40%	42.80%
2018Q4	20.30%	17.20%	23.90%	31.10%	22.30%	40.70%
2019Q1	25.90%	19.40%	26.10%	34.40%	26.80%	44.90%
2019Q2	22.60%	24.10%	25.00%	28.60%	24.00%	41.50%
2019Q3	19.20%	20.30%	15.30%	20.60%	19.30%	41.70%
2019Q4	16.50%	20.70%	9.10%	22.40%	17.70%	33.00%
Average	22.62%	19.89%	21.11%	26.78%	23.08%	39.47%

FIGURE 6

Period Heat map

Period	Apartment	Office	Industrial	Retail	Total	Net Leased
2017Q1	22.80%	25.00%	25.00%	27.60%	24.20%	38.40%
2017Q2	24.30%	25.30%	15.80%	21.60%	23.40%	39.70%
2017Q3	21.80%	20.60%	30.40%	26.70%	23.20%	35.60%
2017Q4	23.00%	11.00%	24.00%	28.10%	22.80%	40.50%
2018Q1	28.40%	20.30%	12.80%	26.10%	26.40%	38.80%
2018Q2	20.90%	14.50%	20.90%	27.90%	21.40%	36.00%
2018Q3	25.70%	20.30%	25.00%	26.30%	25.40%	42.80%
2018Q4	20.30%	17.20%	23.90%	31.10%	22.30%	40.70%
2019Q1	25.90%	19.40%	26.10%	34.40%	26.80%	44.90%
2019Q2	22.60%	24.10%	25.00%	28.60%	24.00%	41.50%
2019Q3	19.20%	20.30%	15.30%	20.60%	19.30%	41.70%
2019Q4	16.50%	20.70%	9.10%	22.40%	17.70%	33.00%
Average	22.62%	19.89%	21.11%	26.78%	23.08%	39.47%

and the increase in NOI required to hit a 7% hurdle rate would be 26%. This is due to realized capital gains tax and assumes an increase in leverage to make up for the tax expense.

Meanwhile, Ling-Petrova developed a model that captures the positive value of a tax deferral as well as the replacement property's reduced depreciation deductions and the eventual increased capital gains and depreciation recapture taxes realized by a taxable sale. The estimate for the PV of this tax deferral on non-residential properties ranged from .5-12% with a mean of 5% depending on factors including tax rates, amount of capital gains, time until taxable disposition etc. This estimate represents the necessary decrease in replacement property value, or, equivalently, the increase in rents required to break even in the absence of the exchange. Using the 2018 estimate of US CRE transaction volumes from Ten-X Commercial of $537bn, the 5% average expected PV of tax deferral benefits, and the most conservative estimate of 1031 exchange usage of 7%, we come to an estimate of $1.9bn in reduced CRE values due to the repeal of the exchange. However, this is not the only way a 1031 exchange repeal could negatively impact CRE markets.

1031 exchanges are also associated with greater capital investments in the replacement property. Eliminating the economic activity associated with increased capital investment would reduce the tax base of state and local governments, worsening the shortfalls many municipalities are facing due to the COVID-19 pandemic. Furthermore, properties sold in a 1031 exchange have an average holding period of .9 years or 8.7% shorter than those relinquished in a fully taxable sale. (Ling and Petrova, 75) The trifecta of lower property values, decreased capital investment, and reduced transaction activity due to longer holding periods could be a significant hit to many localities' largest source of tax revenue. A final risk to repeal would be a higher reliance on debt financing resulting in a greater systemic risk to the CRE market. Replacement properties in exchange transactions average 30% LTV while taxable transactions average 43%. (Ling and Petrova, 71) This 13% difference is very similar to the average difference in capital investments across transaction types.

The impact of a repeal would not be equal across geographic markets or asset classes. According to quarterly MMRS Data from 2017-2019, retail properties saw the highest rate of exchange usage, followed by multifamily, industrial, and finally office. (57) Exchange usage is particularly high for net leased properties, averaging nearly 40% per year. (See table 5). Furthermore, the exchange is more likely to be used in high tax jurisdictions as well as by those who have experienced the greatest rate of capital gains. This is most prevalent across the southwestern United States, but is most pronounced in California. The state makes up 35% of exchanges by dollar transaction volume and eight of the top fifteen Core Based Statistical Areas (CBSAs) by dollar volume. (59) Assuming that the present value and frequency of 1031 exchanges used in California matches the rest of the nation—both assumptions are likely significantly too low—the state would lose $665mm in CRE value alone.

CHANGES TO CORPORATE TAX RATES

Key Facts:

- **The Tax Foundation expects Biden's proposed corporate tax rate increase to reduce long run GDP by 1.62%.**
- **Given the current economic environment—rising market-based inflation indicators, globally low or negative yields—REITs may benefit from capital inflows if corporate tax rates are cut.**

The Biden Administration has proposed several changes to tax rates that would repeal changes made by the 2017 Tax Cuts and Jobs Act (TCJA). Two of the most relevant changes to the CRE industry would be an increase in the corporate tax rate from 21% to 28% and the elimination of the "carried interest loophole" which would raise the tax rate on long term capital gains from 20% to the ordinary income tax rate of 37%.

According to historical studies from the American Economic Association and the OECD, all else equal, an increase in the corporate tax rate would be a negative for the U.S. economy, including the CRE industry. (Mertens and Ravn) (OECD, 7) However, all else is generally not equal. In 1993, President Clinton signed into law a tax increase which saw the top income bracket rate increase from 31% to 39.6% while increasing the corporate tax rate and cutting government spending by $255bn over the course of five years. In 1993, the S&P edged down for a 1.5% loss before rebounding to 34% gain in 1994. Due to increased access to the internet and corresponding information technology boom, the S&P 500 did not return less than 19.5% until the Dot-Com bubble burst in 2000. That said, the Tax Foundation expects the Biden tax proposal to reduce long run GDP by 1.62%. (Watson et al.)

While an increased tax rate might be a modest economic drag, there remains a global mountain of negatively yielding debt hitting $18tn as of December 2020, $300bn+ of dry powder from private real estate investors and 10-year UST yielding a meager 1.67% (as of late March 2021). Furthermore, the spread between 10 year and 2-year treasury yields has steepened by nearly 100 bps since the start of 2020 while 10yr breakeven inflation rates have increased by 55 bps over the same period. This indicates that inflation expectations may be picking up given the massive fiscal stimulus of 2020 and 2021 and resulting increase in the national debt.

One beneficiary of the search for yield under a rising corporate tax regime and rising inflation expectations could be REITs due to their 0% corporate tax rate. All else equal, a 9% increase in the corporate tax rate would cause REITs to outperform the rest of the market by that same margin. Furthermore, it would increase the attractiveness of REITs relative to other CRE investment vehicles. While it is impossible to quantify the net impact on capital flows strictly resulting from such a change, the tax shelter value of REITs should increase any time corporate taxes are increased.

SECTION 8 EXPANSION

Key Facts:

- **Biden's proposed Section 8 expansion would expand the voucher program from $20.7bn to $90bn per year.**
- **The expansion has the potential to raise the floor on market rents and create multifamily investment opportunities, particularly for investors willing to accept increased oversight in exchange for steady, government backed cash flows.**

President Biden's sweeping $640bn affordable housing plan includes billions to encourage new, denser development, create permanent first-time homebuyer tax credits, and, most significantly, would effectively convert Section 8 housing vouchers into an entitlement while expanding support to those higher up the income ladder. The Section 8, or, Housing Choice Voucher (HCV) program, provides rental support to low-income populations by reducing rental payments to 30% of their current income and currently costs roughly $20.7bn annually. The Center on Budget and Policy Priorities (CBPP) estimates that only 23% of Americans eligible for the program receive assistance due to funding limitations. (CBPP) The program expansion would also seek to federally codify rules that prevent income-based discrimination. (While some states ban this practice, it is not codified at the federal level and enforcement remains inconsistent.)

Based on the current estimated $20.7billion annual cost of the program, converting to an entitlement would require an increase in program investment to $90bn per year. This could create multifamily opportunities for those who want to mitigate their tenant's credit risk via a steady stream of government-backed cash flows. An expansion such as this would also likely raise the floor on market rents across the country and create development opportunities, particularly in lower-cost neighborhoods where HCV users tend to reside.

COVID RELIEF PACKAGE

Key Facts:

- **There is an estimated $57 billion backlog in unpaid rent due to COVID-19. Stimulus checks and extended unemployment protections should help to reduce this sum.**
- **The Brookings Institute estimates state and local tax revenue will decrease by $544 billion through 2023. This is offset by $360 billion of the stimulus bill that was allocated towards state and local governments.**
- **Tax revenue shortfalls may increase pressures to raise taxes via property or real estate transaction-oriented taxes.**

The recently passed COVID-19 relief package is largely positive for the CRE industry and most directly impacts single and multifamily investors. Due to Senate procedural rules, the bill did not include the provision that would have extended the eviction and foreclosure moratorium to September 30th. Industry groups had argued that, while the intention is good, landlords are being forced to bear the financial burden of the pandemic with no direct relief. The current moratorium expires at the end of March. The bill includes an additional $1,400 payment to those making less than $75,000 and increase federal unemployment benefits to $300 per week through September 6th. This will assist in reducing the estimated $57bn backlog of unpaid rent. (Moody's Analytics, 3) However, this backlog is likely to increase given the recent CDC extension of the eviction moratorium through June 30, 2021.

An additional $360bn of the bill is slated to go to state and local governments. The funds may be used to cover increased costs related to the pandemic, help to reopen schools, and cover shortfalls in tax revenue. This may ease some of the pressure on municipalities to cut public programs and increase taxes. However, the tax shortfall is likely to extend into the next few years. The Brookings Institute estimates state and local tax revenues will decline by $188 bn, $189 bn, and $167bn in 2021, 2022, and 2023 respectively, a total of $544 bn. (Brookings) This shortfall could increase pressure to raise property tax rates. (72% of local tax collections come from property taxes while the percentage is 32% at the combined state and local level according to the Tax Foundation.) (Cammenga)

All in all, the relief package should boost the economy, and reduce revenue shortfalls at the state and local levels. However, while recognizing the eviction moratorium's intent to protect public health, the extension is a financial negative for multifamily properties, particularly in lower-income areas where the effects of the pandemic have been felt more dramatically and tenants may be less likely to have the financial resources to keep rents current. Blackrock estimates that the cumulative GDP loss in the United States from COVID-19 was less than a quarter of the losses incurred during the Global Financial Crisis while the discretionary fiscal support in 2020-2021 was more than four times that in 2008-2009. (Blackrock, 3) Given the expectations for a strong economic rebound once vaccines are widely distributed, some investors are concerned that inflation may rebound. This would increase borrowing costs for commercial real estate, though, real estate is generally considered to be an inflation hedge so this could be net neutral for the sector.

STATE AND LOCAL TAX REVENUES EXPECTED TO DECREASE BY

$544B

THROUGH 2023

STATE & LOCAL TAXES

Key Facts:

- **There is a trend towards higher real estate excise and transfer taxes, including in major CRE markets like Chicago and Washington D.C.**
- **The expanded use of tax incentives to attract certain companies and developments could create opportunities for developers.**
- **A University of Pennsylvania study concluded that property value declines were roughly equal to real estate transfer tax increases.**
- **Increases in real estate targeted taxes may accelerate the shift of investment to secondary markets with lower taxes.**

While the federal policy will have significant impacts on CRE at the macroeconomic level, real estate investors may be more directly impacted by the variety of proposed and recently enacted changes to state and local tax policy. Many involve tax increases that would negatively impact CRE values, as seen in Chicago, Washington D.C. , Washington state, and California,. However, there are also several positive changes for CRE investors including the increased use of development tax credits, as seen in Ohio and in the Amazon HQ2 process.

Real Estate Transfer & Property Tax Increases

Many of the recently proposed or enacted tax increases occur in high tax jurisdictions that were among the hardest hit by the COVID-19 crisis. Those already effective include an increase in the D.C. recordation and transfer tax in Q4 2019 and an increase in Washington state's real estate excise tax in January 2020. Those proposed include California's "Split Roll" initiative that would remove the 2% cap on taxable value and Chicago's proposal that would nearly quadruple the current real estate transfer tax. Each of these tax changes are examined below in more detail.

Washington Real Estate Excise Tax

Washington state recently increased its real estate excise tax (REET) which is triggered by the sale of a property or a transfer in the controlling interest. The former tax rate of 1.28% (regardless of transaction size) was already high when compared to the median rate of .33% among the thirty-four states with some form of excise or transfer tax. (ECONorthwest) This flat rate was amended to a graduated schedule with a high rate of 3% for properties of $3 million or more. (Newmark Night Frank, 5) The impact would be felt most heavily in urban areas that have the state's highest property values, such as Seattle. For reference, in 2015, the Puget Sound region was responsible for 70% of all REET revenue. (Martinell) However, according to the Up for Growth National Coalition (UFNGC), this increase will add an estimated $264 to mid-rise apartment rent and $348 to high-rise apartment rents which could potentially undermine the region's affordable housing objectives. Furthermore, Oregon and Idaho do not impose any REET (though California does). This, again, could shift investment away from urban areas to secondary markets or even to other nearby states. After Toronto enacted a 1.1% real estate transfer tax—significantly less than the 1.78% increase—a University of Pennsylvania study concluded that the number of sales declined by 15% and resulted in a welfare decrease of 12.5% of tax revenue relative to a comparable increase in the property tax rate. (Dachis et al., 1) Furthermore, the decline in property values was roughly equal to the increase in the tax.

THE TAX INCREASE IS ESTIMATED TO ADD

$264-$348

PER MONTH TO APARTMENT RENTS

Washington D.C. Recordation and Transfer Tax - Enacted

In a similar vein, the Washington D.C. recordation and transfer tax increased from 2.9% to 5% for properties valued at $2 million or more. This change led to a sharp uptick in Q3 2019 sales volume—roughly 100% y/y and 300% q/q—ahead of the tax going into effect. (Newmark Knight Frank, 2) For perspective, D.C. sales volume in 2019 was roughly $3.3bn. (Lincoln Property Company) Assuming no change in investor behavior, this would have increased investor's tax bills, and correspondingly decreased property values, by $126mm. In all likelihood, this tax increase would lengthen holding periods and decrease market liquidity in Washington D.C. and disincentivize investment in the District in favor of surrounding jurisdictions.

Chicago Transfer Tax - Proposed

There is currently a similar proposal to significantly increase transfer taxes in Chicago. The proposal has support from Mayor Lori Lightfoot, and separate bills have been presented in both the Illinois State House and Senate. (Earley) The tax was formerly 1.05% of the sale value but would increase to 4%. This proposal is, by far, the largest increase in real estate transaction-related taxes proposed thus far, and, if the UFNGC's estimates on rent increases are accurate, this proposal could have the unintended consequence of decreasing affordability. This effect will be more pronounced if a smaller fraction of the tax revenue goes towards housing affordability and anti-homelessness programs. In 2019, commercial real estate sales volumes were \$8.07bn. Again, assuming no changes in behavior, this would increase investor's tax bills and decrease property values by roughly \$234 million. (Since holding periods would likely increase, this number could be viewed as being closer to a cap.)

California Split Roll Initiative - Proposed

California's "Split Roll" initiative, which failed to pass by a small margin in the 2020 election (48.3% to 51.7%) would change how property taxes are levied in the state. Currently, taxes are based on the purchase price, and the assessed value, for tax purposes, can grow by no more than 2% per year until the property is sold. The proposal would tax commercial properties valued \$3 million or more based on their current assessed values. However, the proposal would not apply to residential properties including multifamily. While there is an ongoing debate regarding the fairness of the 2% assessed value increase cap, our focus will remain on analyzing its potential impacts. California's Legislative Analyst's Office (LAO) estimates tax revenues would increase by \$8-12.5bn due to the change. (Boesen) However, a 2012 Pepperdine University study estimated that the tax increase would reduce economic output by \$71.8bn and cause a loss of nearly 400,000 jobs over the first five years. (Frates and Shires, iii) The estimated losses would be even larger in the following years. Another potential unintended consequence of the proposal is increased volatility in local government finances. This is because tax revenues would become highly dependent on property market values. In fact, during the financial crisis, property tax revenues from commercial properties rose 5% despite a 6.5% decline in value of those same properties. (Frates and Shires, iii) The brunt of the impact is anticipated to be felt by smaller businesses that are less able to absorb the impact of increased tax payments. While much has changed since 2009, counties with some of the highest disparity between tax assessed values and estimated market values also had some of the highest concentrations of small firms as of that year. As with some of the other tax policy changes, this tax increase would reduce investor returns and decrease California's property market competitiveness. Investors could be attracted by nearby non-split roll states such as Oregon, Idaho, and Nevada.

WHEN SAN FRANCISCO ENACTED RENT CONTROL, RENTAL SUPPLY DECREASED BY

15%

Municipal Tax Incentives

While there is certainly a trend towards higher real estate transaction and property taxes in traditionally higher tax, higher regulation markets, there has also been a trend towards greater municipal incentives for development in some areas. The highest-profile example of this is with regards to Amazon's search for HQ2, where many municipalities offered significant tax incentives to attract the company's new headquarters and the thousands of jobs it would bring. While community leaders in New York opposed these incentives and caused Amazon to pull out of the project, Arlington County, Virginia has become the winner of the HQ2 search. Jurisdictions that are more willing to use incentives to attract major developments may be more competitive than those that are not.

Ohio Transformational Mixed-Use Development Tax Credit

One example of a major, formal tax credit program is Ohio's Transformational Mixed-Use Development Tax Credit (TMUDTC). This program sets aside $100mm in tax credits per year in 2020-2023 to be levied against Ohio's insurance premium taxes. (In practice, this means that it would likely only be claimed by insurance companies.) This tax credit is intended to encourage major mixed-use developments—greater than $50mm in development costs—that would have a broadly defined "transformational impact." In practice, the estimated increase in tax collections, including due to synergistic impacts of the development, must exceed 10% of development costs within five years.

RENT CONTROL

Key Facts:

- **Housing costs have outpaced wage growth and inflation in the past decade.**
- **The NBER found that NYC rent control decreased tenant mobility led to apartment misallocation, resulting in an $809 million reduction in welfare.**
- **Rent control may have the unintended consequence of reducing the supply of affordable housing in the long run even as existing tenants benefit.**
- **Biden's affordable housing plan primarily calls for housing voucher expansion while attempting to incentivize densification and transit-oriented development.**

Nationally, housing has grown more expensive during the post financial crisis expansion. Federal Reserve Economic Data (FRED) shows that nominal wages grew by an average of 3.31% and inflation running at a 1.75% average, home price appreciation averaged 3.89%. Until COVID-19, this was felt most acutely in major gateway and coastal cities like San Francisco, Chicago, and New York. Along with the pressure to make housing more affordable, there has been a growing push to implement rent control programs.

State-wide Rent Control

In 2019, Oregon became the first state to implement rent control statewide with a 7% cap on rent hikes. California soon implemented its policy with a 5% inflation spread cap in 2020. In 2019, New York State passed a law that restricted the ability of landlords to deregulate rent-controlled apartments and decreased the 6% cap on rent hikes for rent-stabilized apartments based on building improvements to 2%. Maryland, New Jersey, and the District of Columbia also have some form of rent control, while Colorado, Illinois, and Nevada have introduced bills to repeal their statewide bans on rent control policies, though none have gone beyond their respective state house committees.

Impact of Rent Control on Housing Affordability

While housing affordability is a pressing issue, there is substantial evidence that rent control policies do not increase housing affordability and may have the opposite of the desired effect. A 1997 working paper from the National Bureau of Economic Research found that rent control in New York City (NYC) led to a reduction in mobility and misallocation of apartments. For example, empty nesters may be holding onto a rent-controlled three-bedroom apartment while a family with children occupied a one-bedroom apartment. This misallocation resulted in an annual loss in welfare of $200 million or $330 million in 2021 dollars. (Glaeser and Luttmer, 6) Furthermore, a 2019 Stanford University study found that rent control measures in San Francisco reduced mobility by 10%-20%. Landlords responded by converting rental units to Condos or TICs reducing available rental supply by 15% and reducing the number of tenants in rent-controlled housing by 25%. (Diamond et al., 25) The combined mobility and supply reduction effects may increase overall rents in the longer term, even as in-place tenants benefit from rental hike limits. Similarly, if measures

APPENDIX

	All CoStar sales				CoStar sales involving exchange				
CBSA	Number transacti	% of all sa	$Volume (I	% total $ volu	Number transacti	% of all sa	$Volume (I	% total $ volu	Rank
Los Angeles	46,214	5.70%	214	6.20%	6,950	12.80%	31	15.40%	1
Portland	13,247	1.60%	49	1.40%	1,803	2.60%	6	4.00%	2
San Diego	11,941	1.50%	60	1.70%	1,818	3.50%	8	4.00%	2
Phoenix	21,617	2.60%	101	2.90%	1,713	3.40%	8	3.80%	4
Inland Empire (CA)	15,317	1.90%	61	1.80%	1,641	2.60%	6	3.60%	5
Denver	19,451	2.40%	97	2.80%	1,520	3.70%	9	3.40%	6
Seattle/Puget Sound	13,211	1.60%	101	2.90%	1,557	3.50%	8	3.40%	6
Orange County (CA)	10,302	1.30%	59	1.70%	1,559	3.20%	8	3.40%	6
Minneapolis/St Paul	10,387	1.30%	39	1.10%	1,050	2.10%	5	2.30%	9
East Bay/Oakland	9,169	1.10%	49	1.40%	968	2.20%	5	2.10%	10
San Francisco	7,267	0.90%	88	2.50%	942	3.50%	8	2.10%	10
Sacramento	8,702	1.10%	29	0.90%	912	1.70%	4	2.00%	12
Chicago	28,724	3.50%	138	4.00%	720	1.80%	4	1.60%	13
South Bay/San Jose	6,341	0.80%	55	1.60%	742	2.20%	5	1.60%	13
South Florida	24,306	3.00%	111	3.20%	661	1.80%	4	1.50%	15
Long Island (NY)	25,683	3.10%	90	2.60%	629	2.00%	5	1.40%	16
Las Vegas	8,474	1.00%	51	1.50%	644	1.70%	4	1.40%	16
Atlanta	24,738	3.00%	122	3.50%	594	1.30%	3	1.30%	18
North Bay/Santa Rosa	4,657	0.60%	19	0.60%	606	1.10%	3	1.30%	18
Northern NJ	20,730	2.50%	82	2.40%	552	2.10%	5	1.20%	20
Tampa/St Petersburg	17,544	2.10%	64	1.90%	470	1.20%	3	1%	21
Washington DC	14,977	1.80%	161	4.70%	469	3.30%	8	1.00%	21
Dallas/Ft Worth	9,661	1.20%	86	2.50%	449	1.70%	4	1.00%	21
Fresno	4,206	0.50%	8	0.20%	442	0.50%	1	1.00%	21
Philadelphia	23,999	2.90%	81	2.30%	398	0.90%	2	0.90%	25
Boston	16,661	2.00%	117	3.40%	413	1.10%	3	0.90%	25
Charlotte	10,977	1.30%	45	1.30%	342	0.90%	2	0.80%	27
New York City	6,622	0.80%	215	6.20%	368	5.50%	13	0.80%	27
Houston	8,256	1.00%	66	1.90%	311	1.40%	3	0.70%	29
Tucson	3,851	0.50%	10	0.30%	300	0.40%	1	0.70%	29
Salt Lake City	3,789	0.50%	14	0.40%	331	0.60%	1	0.70%	29
Orlando	11,812	1.40%	52	1.50%	283	1.40%	3	0.60%	32
Westchester/So CT	10,118	1.20%	40	1.20%	263	0.90%	2	0.60%	32
Milwaukee/Madison	9,725	1.20%	19	0.50%	254	0.30%	1	0.60%	32
Raleigh/Durham	6,919	0.80%	36	1.00%	278	0.80%	2	0.60%	32
Other Market Areas	5,573	0.70%	14	0.40%	221	0.30%	1	0.50%	36
Nashville	7,971	1.00%	34	1.00%	199	0.40%	1	0.40%	37
Southwest Florida	6,434	0.80%	17	0.50%	163	0.20%	1	0.40%	37
Oklahoma City	5,798	0.70%	12	0.30%	180	0.30%	1	0.40%	37
St. Louis	5,783	0.70%	16	0.40%	162	0.20%	1	0.40%	37
Kansas City	5,682	0.70%	18	0.50%	160	0.30%	1	0.40%	37
Greenville/Spartanburg	5,154	0.60%	11	0.30%	171	0.20%	1	0.40%	37
Greensboro/Winston-Salem	4,954	0.60%	12	0.30%	167	0.30%	1	0.40%	37
Detroit	13,960	1.70%	22	0.60%	133	0.30%	1	0.30%	44
Cincinnati/Dayton	9,053	1.10%	20	0.60%	133	0.20%	1	0.30%	44
Cleveland	8,556	1.00%	14	0.40%	156	0.20%	1	0.30%	44
Baltimore	6,614	0.80%	36	1.00%	137	0.60%	1	0.30%	44
Columbus	5,890	0.70%	18	0.50%	116	0.20%	0	0.30%	44
Indianapolis	5,769	0.70%	19	0.60%	139	0.30%	1	0.30%	44
Jacksonville (FL)	5,632	0.70%	20	0.60%	108	0.20%	1	0.20%	50
Hartford	5,329	0.70%	11	0.30%	80	0.10%	0	0.20%	50
Hampton Roads	4,139	0.50%	13	0.40%	95	0.30%	1	0.20%	50
Memphis	4,124	0.50%	12	0.40%	103	0.10%	0	0.20%	50
Pittsburgh	5,602	0.70%	11	0.30%	64	0.10%	0	0.10%	54
West Michigan	4,948	0.60%	8	0.20%	59	0.10%	0	0.10%	54

to expand rent control go into effect, landlords with market rate properties may be able to increase rents at a greater pace. In the case of state-wide rent control, landlords may be disincentivized to make property improvements, which would increase the rate of deterioration for such properties.

Expansion of rent control may also cause a migratory effect of capital from primary to secondary markets. The share of investment in primary markets averaged 41% from 2010-2014 but averaged 31% from 2015-2019. (Newmark Knight Frank, 1) Some of this effect is likely explained by the long post-crisis expansion and the search for yield that accompanied it.

CONCLUSION

Across several public policies and proposals, a consistent potential impact is to decrease values or reduce investment incentives in many major primary markets. This is particularly the case in certain states and cities that typically have liberal political leanings. 1031 Exchanges are used heavily in California and other major gateway markets and a repeal would decrease values, lengthen holding periods, and increase leverage. Meanwhile, tax shortfalls, that have been exacerbated by the COVID-19 crisis, may incentivize state and local governments to increase real estate-oriented taxes. These shortfalls are likely to be larger in cities that experienced population outflows during the pandemic, and which have high levels of local government spending. Even before the pandemic, there was a trend towards increased real estate transaction-related taxes including transfer and excise taxes. Jurisdictions such as Washington State, Washington D.C., Chicago, and California have either enacted or proposed significant increases to transfer and property taxes which could reduce their CRE market competitiveness relative to nearby markets that have lower taxes. Finally, recent expansions of rent control in states such as Oregon, California, New York, and New Jersey, lead to apartment misallocation, reductions in welfare, and reduce incentives to invest in property improvements. Meanwhile, jurisdictions that have been willing to use tax incentives to attract developments such as Arlington County, VA in the case of Amazon's HQ2 and Ohio's TMUTDC may increase their CRE market competitiveness and incentivize investment.

Other potential public policy impacts on CRE markets include increasing the attractiveness of REITs as an investment vehicle in the case of a corporate tax increase, raising the floor on market rents and creating development opportunities in the case of an HCV expansion, and reducing the financial impact of the COVID-19 crisis on CRE performance through substantial fiscal stimulus. All in all, public policy produces many cross winds for the CRE market, but the amalgamation of policies may reduce the attractiveness of several major coastal and gateway CRE markets.

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AUTHOR:
KATHERINE SELCH

FINANCING ENVIRONMENTALLY, SOCIALLY, & ECONOMICALLY

SUSTAINABLE REAL ESTATE DEVELOPMENT

INTRODUCTION

The market for real estate projects aligned with Environmental, Social & Governance (ESG) priorities has never been more active. Tenants are increasingly demanding green accommodation in their workplaces and homes, and everyone from investors to the public are looking for projects that impact the community and the environment in measurable ways. Implementing these elements in new construction and adaptive reuse projects, along with projects in existing portfolios, allows developers and owners to take advantage of a multitude of unique financing options. In this introductory overview, some of the main funding opportunities available for layering in the capital stack of environmentally, economically, and socially conscious real estate undertakings will be explored.

The recent history of green bonds, a fixed-income financial instrument specifically designed to finance environmental projects, provides a useful framework for analyzing the growing demand for these financing initiatives. Throughout the 2010s, the development of green bonds increased the ability of retail investors to participate in these initiatives. Numerous asset management and investment companies, including Allianz SE, Axa SA, State Street Corporation, TIAA-CREF, Blackrock, ax World Funds, and HSBC have sponsored green bond mutual funds or ETFs in the last decade.[8] These immensely popular bonds are not exclusively issued by private companies. The first green muni bond was issued by Massachusetts in June 2013 and the biggest ABS (asset-backed security) issuer is Fannie Mae. There are over $500 billion in green bonds currently outstanding[7]. For example, in March of 2021, the office REIT Boston Properties issued an $850 million green bond offering - its third since November 2018.

Significant funding opportunities for ESG real estate projects are administered at the federal, state, and local levels. Many programs are awarded by lottery or competitive selection. Most require an extensive and time-consuming application process, along with a robust ongoing reporting requirement. They are commonly layered with other public and private funding sources in the capital stack of all types of projects.

The following table showcases some of the main funding sources used by developers to finance sustainable and impactful projects. While it is not an exhaustive list, major categories and funding styles are highlighted and explored.

Program	Offered by	Goals/Benefits	Additional Information
Programs Administered by Governmental Entities			
Section 108 Loan Guarantee Program	**Department of Housing & Urban Development (HUD)**	**To provide "access (to) low-cost, flexible financing for economic development, housing, public facility, and infrastructure projects"** [5]	**Provides an avenue for communities to undertake large projects with higher costs, where they may have limited resources to invest upfront**
New Market Tax Credits (NMTC)	**US Treasury Department**	**The New Markets Tax Credit Program, offered by the Department of the Treasury "incentivizes community development and economic growth through the use of tax credits that attract private investment to distressed communities"** [10]	**Entities that make loans or investments in qualified communities, including banks, developers, CDFIs, and local governments, receive tax credit authority from the Treasury. This allows them to sell federal tax credits for capital funding on appropriate projects.**
Low-Income Housing Tax Credits (LIHTC)	**Joint federal/state program**	**"To issue tax credits for the acquisition, rehabilitation, or new construction of rental housing targeted to lower-income households"** [13]	**Federally-issued LIHTC credits are awarded by state housing agencies to private developers of affordable housing, who then sell the credits to investors for project funding.**
Property Assessed Clean Energy (PACE)	**State-based, administered at the state or local level, and financing is supplied by a private lender who is repaid over time via a special tax assessment**	**To "allow a property owner to finance the up-front cost of energy or other eligible improvements on a property and then pay the costs back over time through a voluntary assessment"** [9]	**This financing exists for both residential and commercial properties and acts as a low-cost replacement for other, more expensive sources of debt and equity.**

EPA Grant Funding	Environmental Protection Agency (EPA)	Address coastal resilience, remediation, infrastructure, and brownfield cleanup	A number of grants and funding opportunities are available
Healthy Housing Rewards	Fannie Mae	To provide "a financial incentive for borrowers who incorporate healthy design features for newly constructed or rehabilitated affordable multifamily rental properties" [15]	This program targets design and operational features, including indoor air quality, exercise space and walking paths, and common areas outdoors. Qualifying developers receive reduced rates and complimentary Fitwel Program certification for the property
Tax Increment Financing (TIF)	Municipalities	To "finance redevelopment projects or other investments using the anticipation of future tax revenue resulting from new development " [17]	Through the formation of a TIF district, property values are frozen in advance of development. Appreciation in property values above this initial amount would be allocated as funding for projects in the district. Often TIFs are initially funded by municipal bonds, which are then repaid by ensuing TIF revenues.
Historic Tax Credits	Federal (National Park Service) and state programs	Encourage and subsidize rehabilitation and adaptive reuse	Federal 20% income tax credit to developers of income-producing projects that involve the rehabilitation of historic buildings
Opportunity Zones/ Special Districts	Municipalities, regions, and states	To entice specific types of development in low-income, low-growth urban and rural areas	Various tax benefits may be available for developing projects in the zone/district, including capital gains benefits and state/ local business and real estate tax abatement or reduction

Select Financing Targeting Environmental Sustainability Outcomes			
Green Bonds	Investment companies, asset management firms, and others	Fixed-income, asset-linked, and specifically designated for environmental and climate projects and efforts	Green bonds are commonly used by large portfolios to finance major sustainability efforts
Conservation Easements	Voluntary legal agreement between landowners and a land trust or government agency	Protect land conservation value and public benefits, including scenic views, wildlife habitats, and historic preservation	Permanently limits the permitted use on the land. Donating this easement typically results in a significant reduction of state and federal income taxes.

Select Financing Targeting Community & Housing Initiatives			
Community Development Financial Institutions (CDFIs)	Private financial institutions, including banks, credit unions, funds, and venture capital funds	Dedicated to responsible, affordable lending by financing community businesses and projects. They typically receive funding from the Treasury Department, corporations, or foundations	Some level of CDFI funding is common in multiple asset classes in markets across the country. This funding may include grants, tax credits, or loans
Impact Investing	Major investor bases include CDFIs, pension funds/insurance companies, banks, foundations, family offices, and others	Affordable housing is a major target, although investments are not limited to this asset class	Impact investments have a dual, measurable, and intertwined purpose, requiring both a financial return and a social/environmental impact objective.
Crowd-Funded Impact Investing	Several platforms are active in the space, including Fundrise, Small Change, and Rabble	Reduce the amount of equity the developer must provide to the project, democratize the real estate investment industry	Platforms identify investment opportunities and perform necessary due diligence before structuring the financing. Investors earn dividend income that is distributed by the platform, in addition to a pro-rata share of the project's sale price

USE OF FINANCING IN REAL-LIFE PROJECTS

Examination of macro-trends is useful in exploring the wider marketplace for ESG financing. However, a review of the capital stack for development projects provides useful insight into the actual application of this funding. A variety of capital sources, layering, and so-called 'piggybacking' can be seen in these breakdowns, along with more traditional funding sources.

Mercantile Place

Take, for example, Mercantile Place, an adaptive-reuse multifamily project in Dallas TX [2]. This property has 704 total rental units, with approximately 40 affordable apartments. In reviewing the project's capital stack, the developers were able to utilize several avenues for financing in addition to conventional loans and developer equity. They received substantial federal historic tax credits, a specialty HUD 108 loan, and funds were also loaned directly from the city's Housing Department at a favorable rate.

BG Group Place

Another illustrative example of sourcing funds for sustainable projects is seen in BG Group Place, a 96,000 sq.ft LEED Platinum office building in Houston TX [3]. As part of the developer's equity portion of the financing, the project received an investment from a green development fund.

FIGURE 2: BG GROUP PLACE

Construction financing	50%
JP Morgan Chase, Wells Fargo, Bank of America, BBVA Compass, Whitney Bank, Oklahoma Fidelity	
Approximate total debt	$162-$175 million
Development equity	50%
Hines CalPERS Green Development Fund	$380,000
Approximate total equity	$162-$175 million
Approximate total debt and equity	$325-$350 million

FIGURE 1A: MERCANTILE PLACE

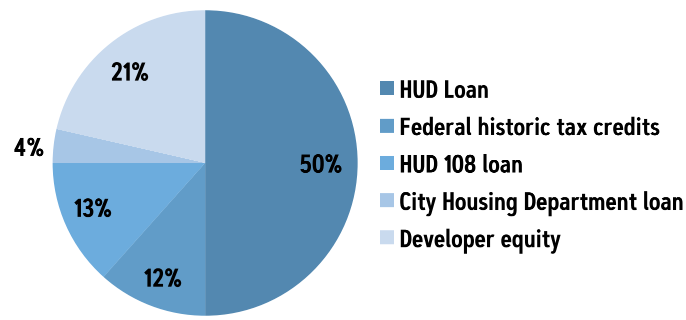
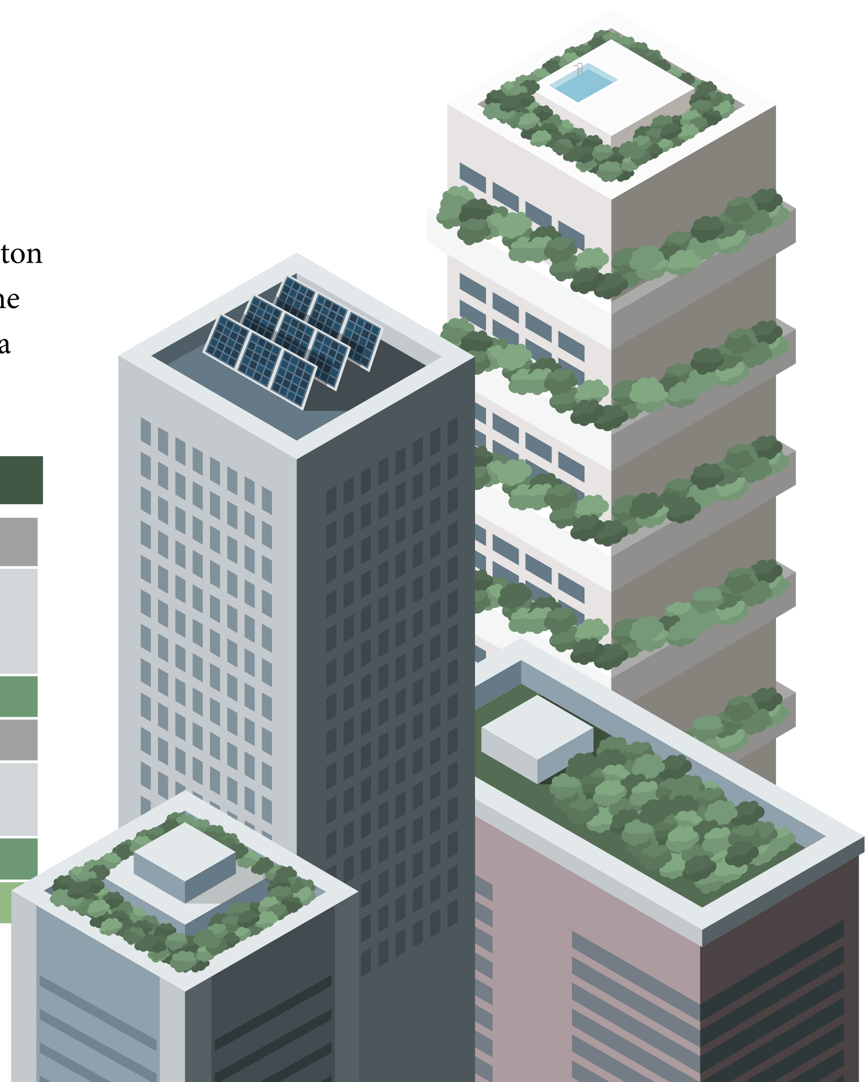


FIGURE 1B: MERCANTILE PLACE

Department of Housing & Urban Development (HUD) loan	$28,000,000
Federal historic tax credits	$6,500,000
HUD 108 loan	$7,500,000
Dallas City Housing Department loan	$2,000,000
Developer equity	$12,000,000
Total	$56,000,000



Sun Crest Heights

Specialty funding is also available for smaller projects, such as Sun Crest Heights, a 44 unit workforce/affordable housing project in Capitol Heights MD[4]. This project was able to utilize substantial CDFI funding, along with crowdfunded impact investment and a solar capital grant to finance construction.

FIGURE 3A: SUN CREST HEIGHTS

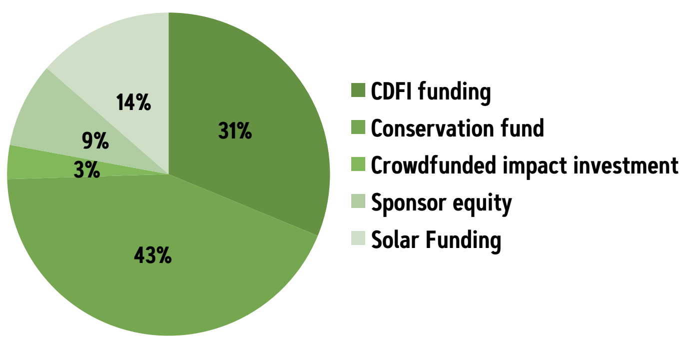
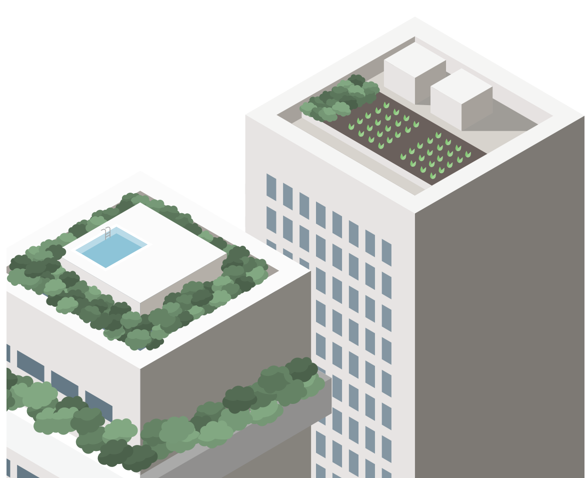


FIGURE 3B: SUN CREST HEIGHTS

Debt Capital	
Enterprise Community Loan Fund (CDFI)	$1,395,520
Enterprise Maryland conservation fund	$2,546,000
City First Enterprises (subordinate B-Corp CDFI)	$442,000
Small Change (mezzanine impact investment crowdfunding)	$200,000
Equity Capital	
Sponsor equity	$500,000
Other Capital	
HESP, via Grid Alternatives (solar capital cost)	$800,000
Total	$5,883,520



Via Verde

Layering financing and funding sources can result in a complex capital stack, such as the one for Via Verde, a mixed income, mixed use project in the Bronx[1]. This building has 222 total units and 151 affordable rental apartments. This project utilized funding from multiple city, state, and federal affordable housing programs to successfully complete development and construction work.

Rapacious public and investor demand for "green" and impactful real estate has created immense opportunity in the development world. While there are numerous financing sources potentially available to support this work, it can be difficult to navigate the various programs to determine fit. Partnership with experienced impact developers is an excellent option, as well as the use of a range of resources, from specialty consultants to economic development organizations. Although these funding opportunities are certainly not guaranteed for every project, their existence and accessibility provide financial incentive, and even feasibility, for the development of environmentally, socially, and economically sustainable projects across the country. Some developers using these tools are seeking to maximize their financial return, while others are pursuing subsidized or reduced returns in order to maximize the social or environmental value of their projects. In the current, market-driven development landscape, there is room for any and all of these motivations. The key driver is the absolutely vital need for affordable housing, impact-driven projects, and sustainability measures across the country, and the globe.

FIGURE 4A: VIVA VERDE

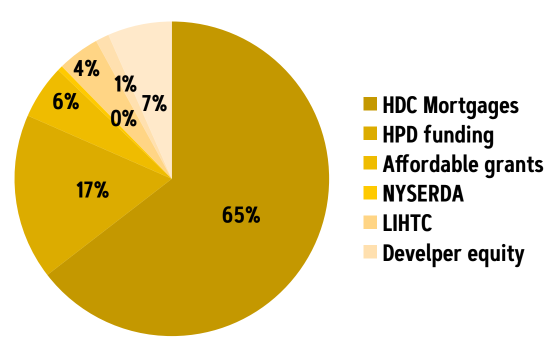


FIGURE 4B: VIVA VERDE

	Construction	Permanent
Debt		
NYC Housing Development Corporation (HDC) first mortgage (taxable bonds, floated during construction with a JP Morgan Chase LOC @ 7.7% fixed rate	$33,690,000	$4,370,000
HDC second mortgage	$12,835,000	$12,835,000
NY Department of Housing Preservation & Development (HPD) capital subsidy	$9,767,756	$9,767,756
HPD HOME program	$2,516,580	$2,516,580
FHLBNY Affordable Housing Program (HSBC member)	$1,900,000	$1,900,000
NYS Affordable Housing Corp.	$2,117,500	$2,117,500
Other		
NY State Energy Research & Development Authority (NY-SERDA)	$380,000	$380,000
Low-Income Housing Tax Credit (LIHTC) equity (Federal at $0.82, NY State at $0.49, equity investment from Chase)	$3,122,165	$32,083,651
Co-op sales proceeds- equity	$0	$10,852,165
Developer equity	$1,000,000	$1,000,000
Deferred developer fee	$4,763,651	$2,000,000
Total	$66,852,987	$66,852,987

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CAN ANYBODY "SAVE THE SUPERMAN"?

EXAMINING THE POTENTIAL FOR ADAPTIVE REUSE OF THE HISTORIC INDUSTRIAL TRUST BUILDING

AUTHOR:
ADAM WELCH

INTRODUCTION

For almost nine decades, a green beacon has illuminated the skyline of Providence, Rhode Island, the capital and largest city in the smallest state in the U.S. Constructed as a symbol of Providence's growing industrial strength in 1928, the Industrial Trust Building, also known as the Superman Building for its resemblance to the Daily Planet Building of comic book fame, has sat empty for the past eight years. In 2013, its sole tenant Bank of America vacated the building to consolidate its offices in the suburbs. Designed in the Art Deco style and reminiscent of New York City buildings from the early 20th century with symmetrical stepped massing, the building has long stood as a monument - the tallest building in a city that is still working to reinvent itself in the wake of deindustrialization.

Having been included on the National Trust for Historic Preservation's list of "Most Endangered Historic Places" since 2019, both local and national preservationists have mounted campaigns to "Save the Superman," but the question of its feasibility remains. With estimates of $100-150 million to upgrade the building's systems to modern standards, the current owner, Massachusetts-based High Rock Development has been reluctant to move forward in any significant manner without assistance from the state (Mooney, 2019).

HISTORY

The Industrial Trust Building opened to tenants in October of 1928. In the 1920's Providence was experiencing a boom in both construction and industrial growth. The textiles, machine parts manufacturing, and jewelry industries had helped the city grow into a premier metropolis with plenty of jobs for immigrants arriving in the United States. The Industrial Trust Company had grown into one of the largest banks in New England and executives sought to construct a grand headquarters in the middle of the city signifying the bank's strength. The 420-foot limestone-clad tower, designed by the New York firm, Walker & Gillette, alongside local architect George Frederick Hall, spared no expense or detail (Sarappo, 2019). From the stone eagles perched upon the tower's dome to the massive bronze doors, an illuminated green lantern at its pinnacle, and relief art panels adorning the base that depict Rhode Island's industrial history - the tower was a quintessential Art Deco masterpiece.

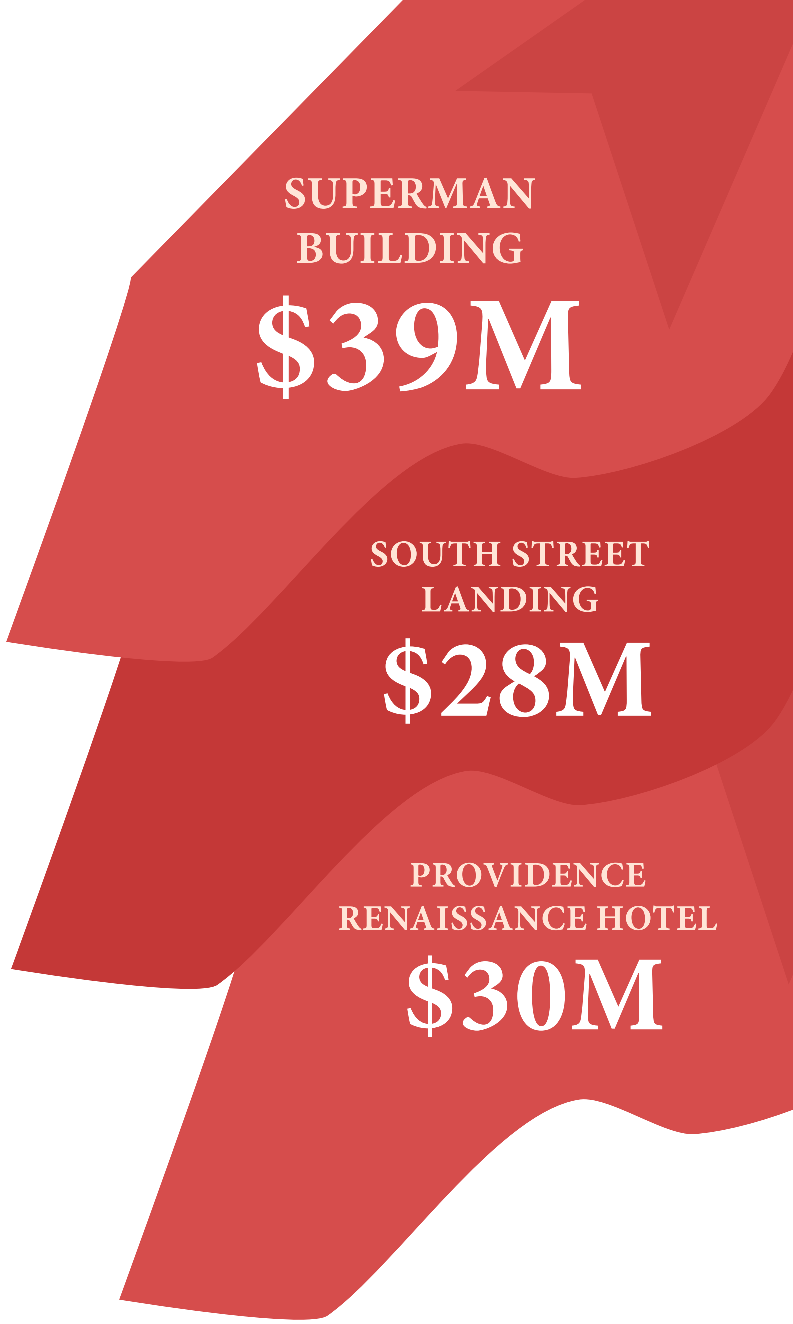
When the building was purchased by High Rock Development in 2008 for $33 million, its sole tenant, Bank of America, was about 5 years into a 10-year lease and had just invested $7 million in an upgraded sprinkler system. There were few signs that the Bank intended to vacate, but over the next few years, the bank gradually used less and less of the building's 350,000 square feet, eventually occupying just 25% before vacating in 2012 (Kalunian, 2014). The initial plan in 2013 was to transform the building into 278 high-end apartments with shops and restaurants on the ground level. Converting and stabilizing the building was estimated to cost $100-150 million in a report commissioned by the owner in conjunction with local developer Cornish Associates. Key upgrades and improvements cited in the report included new mechanical systems, electrical system upgrades, window replacements, major façade repairs to the masonry, upgrades to interior circulation, building safety, and fire code issues including elevators and stairs. High Rock proposed a financing package consisting of $39 million from the state, $10-15 million from the city, and $21 million in federal historic tax credits. Without any significant political support, the plan never advanced (Grimaldi, 2014). Despite brief interest from Citizens Bank, the large Rhode Island-based financial institution, the company eventually opted to build its new suburban office campus. As a result, High Rock continues to spend about $2 million a year on security, utilities, and property taxes while the Indiana limestone façade cracks and crumbles, depositing debris on the sidewalk below.

"IT'S TOO BIG OF A BUILDING TO DO, AND NO PRIVATE INVESTOR IS GOING TO BE ABLE TO DO THAT BY THEMSELVES. IT HAS TO BE A COMMUNITY PROJECT. AND YOU NEED STRONG, NOT-TAKE-NO-FOR-AN-ANSWER LEADERSHIP BY CITY HALL AND THE STATE HOUSE. THEY HAVE TO BE A BULLDOG ON THIS." – JOSEPH PAOLINO, FORMER MAYOR OF PROVIDENCE AND CURRENT MANAGING PRINCIPAL OF PAOLINO PROPERTIES

TAX BREAKS & POLITICAL WILL

Rarely are tax breaks or public assistance mentioned in the state of Rhode Island without discussion over what has become known as the "38 Studios debacle." 38 Studios was a video game company started in Massachusetts by former Boston Red Sox pitcher Curt Schilling. In its growth phase, the company began negotiating a deal to bring 450 jobs to a new headquarters in Rhode Island. In exchange, the RI Economic Development Corporation approved a $75 million loan guarantee backed by taxpayer dollars. By 2012 the company had defaulted on the loan and was forced to declare bankruptcy, costing the state tens of millions of dollars (Bai, 2013). This failure has lingered in the consciousness of a population with a longstanding distrust in local government due to numerous scandals and incidents of corruption over the state's history. Citizens, and their elected officials, have since been incredibly selective, and even dismissive of requests for public assistance to otherwise attractive proposals. One recent example is the failed effort in 2018 to involve public subsidies in building a new stadium for the Pawtucket Red Sox, the minor league team that has called Rhode Island home since 1970. That effort failed and the club has now found a new, more welcoming home across the border in Worcester, Massachusetts._

Of course, real estate is a vastly different industry than video games. Public assistance is regularly offered to developers proposing complex and expensive projects that have the potential to create jobs or revitalize a neighborhood. The $220 million transformation of a decommissioned power plant into South Street Landing, a thriving mixed-use development, is a prime example of this happening in Providence. South Street Landing, located in the city's Jewelry District, consists of 265,000 square feet of office space whose tenants include Brown University, a nursing education center that is a partnership between the University of Rhode Island and Rhode Island College, and 153,000 square feet of graduate student housing. Boston-based CV Properties and capital partner Wexford Science + Technology put this development's plan together, including negotiating the required approval of the Rhode Island legislature, due to the involvement of Rhode Island state schools in the project (Warren, 2019). The difference between this project and the Superman Building is that South Street Landing had the political support to receive $28 million in state historic tax credits, on top of $26 million in federal historic tax credits, and a property tax stabilization agreement with the city. Although the state historic tax credit program expired in June 2020, the Rhode Island Commerce Corporation offers up to $15 million in tax credits as part of a program for historic renovation called Rebuild RI. "Applicants are sought in the following categories: smaller manufacturers, smaller historic rehabilitation projects, and mixed-use development in an Opportunity Zone or that supports new affordable/workforce housing (Commerce RI)." $15 million would certainly help, but



"[HIGH ROCK'S OWNER] DAVID SWEETSER IS BULLISH ON PROVIDENCE, HE'S BULLISH ON THIS BUILDING. HE'S BEEN INCREDIBLY PATIENT. IT HAS A FUTURE HISTORY, IT'S JUST NOT WRITTEN. WE NEED TO WRITE IT. THERE'S A SOLUTION TO THIS PROBLEM, IT JUST TAKES A COLLECTIVE WILL TO SOLVE IT." – BILL FISCHER, SPOKESPERSON FOR HIGH ROCK DEVELOPMENT

the Superman Building is going to need more for an economically viable redevelopment to move forward.

One possible reason for the lack of recent progress in plans for the Superman Building is the ongoing effort at the state and city level to save another historic landmark, the Cranston Street Armory. Built in 1907 in the Broadway-Armory Historic District southwest of Downtown, the building was used by the Rhode Island National Guard for 89 years. Structural issues began to emerge in the 1980s and the National Guard began using incrementally less of the building's 191,000 square feet until the state took over the building in 1996. Despite briefly being used as a sound stage for a few films and hosting inaugural balls for governors and mayors, the building has largely been closed for decades. Since the building is owned by the state and not a private developer, the Armory's reuse plan appears to be more of a political priority. The $4.8 million invested by the state over the past five years and the $40 to $70 million estimated to renovate the structure have pushed the government to prioritize its restoration through a public-private partnership. The Steering Committee charged with leading its reuse released a Request for Proposal to interested parties in February 2020 with two groups presenting plans in October 2020. Due to the size and layout of the building, with two towers flanking a massive drill hall, there are numerous potential uses within the space, with both proposals placing significant focus on community and neighborhood uses (Cranston Street Armory Reuse Proposals).

CAN THE SUPERMAN BE SAVED?

This leaves the important question of whether demolition of the Superman Building is inevitable. In short – not necessarily, and it is not as if demolition comes at no cost. First, the building sits directly on Kennedy Plaza, the city's main transportation hub, and demolition would require a portion of Westminster Street to be closed for approximately two years. According to a study commissioned by the Providence Preservation Society and the firm Building Enclosure Science, the cost of demolition alone could range from $40 to 60 million. The study also discusses the structural integrity of the building. Despite the well-known issues with cracks in the limestone façade, the windows continue to keep the elements out and the overall structure is otherwise sound. Ultimately, the demolition and replacement of the building with a new modern skyscraper is not a cost-effective alternative to renovating the building, not to mention the loss of an irreplaceable icon of historic architecture.

"WE THINK THAT REUSING AND PRESERVING THE BUILDING MAKES A STATEMENT THAT OUR MORALE IS STRONG. IT'S LESS ABOUT PRESERVATION FOR THE SAKE OF PRESERVATION AND MORE ABOUT WHAT ARE WE LOSING IF WE LOSE THAT BUILDING. – BRENT RUNYON, EXECUTIVE DIRECTOR, PROVIDENCE PRESERVATION SOCIETY

There is likely no better proof that a complex, historic, adaptive-reuse project can succeed in the city of Providence than the Marriott Renaissance Hotel, located a short walk from the Superman Building. The large neo-classical Masonic temple across the street from the Rhode Island State House was abandoned in 1928 while still under construction. 78 years later, the 272-room hotel opened as a symbol of the city's renaissance. Over five years, Sage Hospitality Resources and partners spent approximately $87 million to convert the abandoned structure into a modern hotel, but ironically there was not much conversion to complete. The eight-story interior was largely empty, covered in graffiti and rust, missing its copper roof, which had been pillaged over the decades that it sat incomplete. Key to the project's completion was, of course, tax credits in the form of a federal tax credit of 20 percent of the construction costs, state tax credits worth another 30 percent, and additional tax deferrals from the city (Gregor, 2006). To be clear, this was in the boom years preceding the Great Financial Crisis, and before 38 Studios left the state on the hook for tens of millions of dollars, but the project demonstrates the fact that the complexities associated with the Superman Building are not insurmountable.

The most viable path forward would be for High Rock to revisit its plans and propose a forward-thinking mixed-use development. At this point, selling the property to another developer, whether that firm was interested in reuse or demolition, is not economically feasible. It is difficult to imagine anybody paying close to what High Rock did in 2008, and given the time and effort involved in their holding of the property, it is unlikely the developer would part with it for any reasonable sum. The lobby, at 17,000 square feet with soaring ceilings and ornamental details could function as an event space, restaurant, or other entertainment use that would draw the public in. The rest of the lower floors, with their similarly large floor plates, would not be suitable for residences but could accommodate approximately 120,000 square feet of offices. Pre-pandemic, office leasing in Providence for small blocks of space was faring quite well. One recently renovated historic property downtown, the 165,000 square foot 75 Fountain Street, has had success attracting technology and healthcare tenants such as GE Digital, Virgin Pulse,

Industrial Trust Building – 111 Westminster Street, Providence, RI	
Construction Complete	**1928**
Vacant Since	**2013**
Height	**428 feet/26 stories**
Gross Square Footage (approx.)	**441,000**
Rentable Square Footage (approx.)	**350,000**
Purchase Price (2008)	**$33 Million**
Estimated Renovation Costs	**$100-150 Million**
State Assistance Requested	**$39 Million**
Federal Historic Tax Credit Equity Proposed	**$21 Million**
City Tax Stabilization Agreement Proposed	**$10-15 Million**

Estimates taken from 2013 Report prepared by Cornish Associates on behalf of High Rock Development

and Tufts Health Plan. On the higher floors could be some of the most highly sought-after apartments in the city, with unmatched views across downtown and out to Narragansett Bay. Between the South Street Landing, ongoing efforts to revitalize the Cranston Street Armory, and the legendary reuse of the Masonic Temple into a remarkable hotel, it has been demonstrated that this type of project can succeed in the city of Providence. It simply requires a well-thought-out vision and the political willpower to assemble the support, both financially and in the public consciousness. If these elements can align, perhaps there is hope for the Superman Building's survival.

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