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INCREASING INSTITUTIONAL ASSET OWNER CAPITAL INTO MIXED INCOME HOUSING IN THE US

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This dissertation, written by Frederick White, and entitled Increasing Institutional Asset Owner Capital into Mixed Income Housing in the US, having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this dissertation and recommend that it be approved.

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Florida International University, 2022

DEDICATION

I dedicate this dissertation to my mother, Delores White and grandmother, Sarah James, whose perseverance, and support serves as a constant inspiration. Also, I dedicate this dissertation to my two sisters, Wanda Tranquille and Sonia Stafford, my lifelong advocates. Additionally, I dedicate this to family, friends, classmates, and colleagues who have sustained me through this enriching experience. Finally, I dedicate this dissertation to the memory of my mentor, Dr. James A. Joyner, who helped me to visualize this goal.

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ABSTRACT OF THE DISSERTATION

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In this Dissertation manuscript, I present a framework that assesses certain characteristics considered by an Institutional Asset Owner (IAO) when considering allocating capital into Mixed-Income Housing (MIH) Housing in the United States (US). An Institutional Asset Owner (IAO) firm, as defined by this manuscript include Life Insurance Companies, Pension Funds, Endowments, Registered Investment Advisors, and Real Estate Fund Operators. US Institutional Asset Owners (IAOs) account for trillions in investable cash that must be deployed on an annual basis into various investment opportunities including stocks, bonds, real estate, and other asset classes for the benefit of its participants and clients. This level of investable capital available annually can make significant inroads in the production and preservation of affordable housing in the US while simultaneously helping municipalities reduce rent burdens for their most vulnerable residents with the addition of more affordable and essential housing. This study will benefit US Institutional Asset Owners (IAOs), nonprofits, municipalities, developers,

intermediaries, and residents. For decades, an Institutional Asset Owner (IAO) looking to diversify its vast investment portfolio has purchased multifamily properties in the United States. Utilizing private-sector research data and a survey, this study highlights perceptions, intentions, and willingness of an Institutional Asset Owner (IAO) to invest in Mixed-Income Housing (MIH).

For the main study, we tested the research model (Figure 1) via two separate survey instruments that included a total of 59 completed survey responses. The results for both studies indicated a conclusive effect for the independent variables on the dependent variable in the research model (Figure 1) including significant support for the following independent variables: risk-adjusted returns, investment vehicles, geographic diversification, policy, and incentives. The survey results revealed that Environmental Social Governance (ESG) moderates the relationships amongst risk-adjusted returns, investment vehicles, geographic diversification, investment scale, and the dependent variable, Institutional Asset Owner capital into Mixed-Income Housing (IAOMIH). In addition, the survey results revealed that Corporate Social Responsibility (CSR) strongly moderates the relationship between incentives and the dependent variable, Institutional Asset Owner capital into Mixed-Income Housing (IAOMIH).

Keywords: Multiple Regression Analysis, Modern Portfolio Theory, Pensions, Life Insurance Company, Multifamily, Housing Policy, Real Estate Capital Markets, Environmental, Social, Governance (ESG)

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ABBREVIATIONS AND ACRONYMS

IAO	Institutional Asset Owner
MIH	Mixed Income Housing
RAR	Risk Adjusted Returns
LIQ	Liquidity
INV	Investment Vehicles
GEO	Geographic Diversification
IS	Investment Scale
SPEC	Specialization
INC	Incentives
POL	Policy
LIHTC	Low Income Housing Tax Credit
RECM	Real Estate Capital Markets
AMI	Area Median Income
ESG	Environmental Social Governance
CSR	Corporate Social Responsibility

I. INTRODUCTION

According to a report conducted in 2019 by the Joint Center for Housing Studies at Harvard University, nearly half of renters (47.4%) in the United States were cost-burdened (defined as spending 30 percent or more of their income on rent). From a macroeconomic view, inadequate supply relative to increased demand, rising construction costs, stagnate wages, demographic shifts, public policy decisions, public subsidy availability, and limited access to private capital have created significant barriers for the creation and preservation of affordable housing in the US. Cities across the nation are struggling to provide enough housing for its residents (even with federal and state subsidies).

The current public subsidy programs in place that support the development and ongoing operation of affordable housing focus on the most vulnerable population in cities across the US. As established by the Housing and Urban Development (HUD) department of the federal government, this population is defined by residents making 60% or less of the Area Median Income (AMI). One of the most important federal subsidy programs created to support the construction of multifamily rental units for low-income residents is the Low-Income Housing Tax Credit (LIHTC). The LIHTC program was established in 1986 (HR.3838) and is a significant component of federal housing policy, funding 21 percent of all multifamily developments over the period of 1987–2008. With the construction of publicly run housing projects expected to continue to decline, the LIHTC program will remain one of the main tools that the federal government has to ensure access to affordable housing (Diamond, 2019).

The federally sponsored Section 8 voucher program is another subsidy that provides rent support to residents earning 60% of AMI or below. The aforementioned public programs (as well numerous other programs) help build housing and support residents considered to be the most vulnerable income cohort in the US but still are not enough to support all the residents in this cohort. In addition, cost burdens continue to be the greatest among the most vulnerable population in this income cohort (those at 0% of AMI to 30% of AMI) that are in rental housing, which include households earning less than $30,000. 81% of this population is cost burdened. (JCHS, 2020).

As cities continue to struggle to house their most vulnerable populations, residents in the income cohort considered to be middle-income/essential workforce households (61%-150% of AMI and often referred to as the "missing middle") are experiencing housing costs burdens as well. The spread of cost burdens up the income scale coincides with the ongoing decline in lower-cost rentals. With limited funds available for subsidies and as the global/US economy slows, expanding the supply of market-rate rentals affordable to middle-income/workforce households is critical.

Local, state, and federal governments are permanent stakeholders of housing in the US and have worked to address housing challenges through policy. However, these initiatives take time for a significant effect, and many times developers (that build affordable housing) are not aware of the new programs, and if they are aware of them, they often struggle to utilize the programs due to process obstacles that were not contemplated in the development of the policy and programs. As more and more local housing policies are implemented, ineffective or poorly structured policies are

increasingly resulting in unintended consequences. Policies meant to improve housing affordability might have the opposite of their intended effect: they increase housing costs and decrease housing affordability by discouraging housing development. (National Multifamily Housing Council, 2019).

Drilling further into the affordable housing challenge, it is evident that there are minimal subsidy sources of funding for moderate/middle-income and workforce households (61%- 150% of AMI) for rental housing. See Table 1 below.

Table 1- Funding Sources

Income Level (% of AMI)	US Sources of Funding for Affordable Rental Housing			
	Local	State	Federal	Institutional Asset Owner (IAO)
0%-30%	✓	✓	✓	✓
31%-50%	✓	✓	✓	✓
51%-60%	✓	✓	✓	✓
61%-80%	✓	✗	✗	✓
81%-120%	✗	✗	✗	✓
121%-150%	✗	✗	✗	✓

Housing cost burdens for this income cohort continue to increase with rising rental rates and wage increases that are not commensurate. This income cohort is vital to the local economy of cities across the United States and represents a vast population. As their cost burdens increase, they consume less which could destabilize a local economy. Cities benefit financially from having more middle-class residents. With more middle-income residents renting or purchasing homes, cities collect more property tax revenues from a broader cross-section of households. (Ford & Schuetz, 2019).

From a public sector perspective, establishing affordable housing that includes middle-income renters is not new. There are several examples of local, state, and federal governments targeting US cities for the creation of mixed-income housing and leveraging private sector capital availability. The HOPE VI (National Commission on Severely Distressed Public Housing, 1992) federal program helped to create over 250 projects in Chicago, Boston, New Orleans, Washington D.C, and Atlanta. New York City created Stuyvesant Town in a public-private partnership with the Metropolitan Life Insurance (Met Life) company. Stuyvesant contains over 11,000 apartment units that targeted the middle-income cohort. (Ford and Schuetz, 2019). Considering a housing subsidy targeted at middle-income residents carries political and financial costs. Public resources are already scarce and local and state governments don't have the bandwidth to maintain the necessary capital to expand limited resources to this income cohort. As a result, state and local governments expand their focus on modifying and expanding housing policy that eases burdens on entitlements, parking requirements, transit -oriented developments that support reduction in emissions, and advancing promising solutions such as modular construction. Occasionally, voter approved measures infuse cash into City and State housing agencies, but the lion-share of these public proceeds, through financial engineering of existing funding sources (such as private activity bond recycling) target low-income residents (0% of AMI to 60% of AMI). Voter approved measures where the voter taxes themselves for public benefit are limited and rare which leaves a persistent and sizable gap for the funding of affordable housing for all income levels. This becomes an opportunity to not only target low-income households but also middle-income

households (as defined in this manuscript) while further leveraging the private sector's access to real estate capital markets.

Social/Principle-based Investing

Environmental Social Governance (ESG): Responsible investing takes Environmental, Social, Governance (ESG) factors into consideration in investment decision-making. Impact Investing is a sub-set of responsible investing. The investor intentionally invests to achieve positive social and/or environmental impact in addition to financial return. (Hebb, 2013). Such impact investments have received increasing attention in recent years including that of policymakers drawn by the promise of leveraging private capital to support the public purpose and by the opportunity to make better use of scarce resources. (Wood, et, al, 2013). In theory, mixed-income housing development strategies leverage market forces, economic profit incentives, and the skills of real estate developers to expand the housing stock. Developers place their social, political, and financial capital at risk and seek to earn risk-appropriate returns. Policymakers and public officials create zoning, process, and political incentives designed to attract capital to projects that include both market-rate renters and affordable renters. (Read & Sanderford, 2017).

Corporate Social Responsibility (CSR): Corporate Social responsibility (CSR) is an evolving concept that reflects various views and approaches regarding corporate relationships with broader society. (Fordham and Robinson, 2018). This manuscript explores the use of CSR in the context of integration into government and policy and incentive creation for the benefit of increased Institutional Asset Owner (IAO) capital into Mixed Income Housing (MIH). Although there is broad consensus that Corporate

Social Responsibility (CSR) has a business-driven approach and that the focus of CSR development is the business sector, attention must also be paid to the development and application of CSR within the framework of other stakeholders, such as governments, from a relational perspective. (Albareda, et. al, 2008). Looking at the political agenda, the increasing profile of CSR as a concept in government action is linked to other challenges brought about by globalization and economic change in the late 20th century (Aaronson and Reeves, 2002; Fox et al. 2002), such as the debate on corporate citizenship, the changing role of business in society (Detomasi, 2007) and the interrelationship between trade, investment, and sustainable development. (Albareda, et. al, 2008).

The subject study focused on the perceptions, motivations, and attitudes of an Institutional Asset Owner (IAO) firms and their willingness to invest in Mixed-Income Housing. The study proposes there are financial determinants and a public sector role as well as moderating social/principle-based factors that enhance certain perceptions, motivations, and attitudes of an Institutional Asset Owner (IAO) to fill in this funding gap for the creation and preservation of Mixed Income Housing.

Considering the aforementioned discussion, this study aims to further industry focus and academic research on the investment relationship between Institutional Asset Owner (IAO) capital and Mixed-Income Housing (MIH). As previously stated, the research will center on the interest, motivations, perceptions, and appetite of institutional investors whether driven by financial characteristics, the public sector's role, and through a lens that considers moderating conditions such as social/principle-based investing

integration into the decision making of an Institutional Asset Owner (IAO). Specifically, this research is concerned with the following question: What are the primary determinants that drive Institutional Asset Owner (IAO) capital into Mixed-Income Housing (IAO into MIH) in the U.S.?

In the above research question, the categorical determinants include social/principle-based determinants which are proposed as moderators to the financial determinants and public sector role determinants. These financial determinants and public sector role determinants consist of several independent variables that were measured directly and in relation to certain proposed social/principle-based moderators and the dependent variable in the research question. For this manuscript, social/principle-based integration includes Corporate Social Responsibility (CSR) and Environmental, Social, Governance (ESG). The willingness of Institutional Asset Owners (IAOs) to invest/allocate capital into Mixed-Income Housing (MIH) is the dependent variable (IAOMIH).

According to (Emerson and Bonini, 2003), all investors create value that consists of economic, social, and environmental value components and simultaneously generate all three forms of value through providing capital to organizations. For this study, Mixed-Income Housing (MIH) is defined as rental projects that include the income cohort range of 61% of AMI to 150% of AMI (often referred to as the “missing middle” or essential/workforce housing) and market rate renters in cities across the US. The term does not carry a formal definition in the housing field. It means different things to different people and varies by the housing market. (Brophy and Smith, 1997). In terms of

boundary conditions for the dependent variable, the research is from the perspective of an Institutional Asset Owner (IAO). This class of investors is recognized by the (Chartered Financial Analyst Institute, 2018) and the Pension Real Estate Association (PREA). Addressing the research question is meant to target gaps in academic research and further existing industry concepts including increasing investing into mixed-income housing, simplifying housing finance, broadening the capital landscape (for the creation of housing), reducing the cost of housing (through less use of public subsidies), and collecting data on the willingness of an Institutional Asset Owner (IAO) to invest capital and the relationship to certain social/principle-based and financial determinants, and the public sector.

Housing is critical to the well-being of all globally. It sets the foundation for safety, health, life pursuits and enables creativity and innovation that produces productive citizens. The importance of having an affordable place to live is embedded in the United Nations Universal Declaration of Human Rights. United Nations, (1948). Nevertheless, cities struggle with ensuring that all its residents have adequate, convenient, and affordable housing. Globally, to replace today's substandard housing and build the additional units needed would require an investment of $9 trillion to $11 trillion for construction; with land, the total cost could be $16 trillion. Of this amount, $1 trillion to $3 trillion may have to come from public funding. (Dobbs, et, al, 2014). Globally, this leaves an estimated $13 trillion gap. In terms of the US, federal, state, and local governments can't cover the capital gap associated with the US's portion of the $13 trillion estimated need. However, it is estimated that collectively US Institutional Asset

Owners (IAOs) control over $60 trillion in assets and could be a viable option to assist with filling this capital gap.

As mentioned in the introduction of this manuscript, a multitude of challenges contribute to the current housing affordability issue in the United States. These challenges include an imbalance in the supply of housing relative to the current demand, outdated land use policy, confusing and bureaucratic public policy, declining public subsidies, lack of scalable coordination between the public and private sector, lack of an organized clearinghouse of market information/current product offerings, limited investment options, and exorbitant construction costs. The relevance of addressing the subject research question adds to policy tools and housing solutions innovated over the past 5 decades. The value creation potential from this research through targeting Mixed-Income Housing (MIH) production and preservation will further the discussion around private sector investment decision making to improve housing affordability through an increase in capital from an Institutional Asset Owner (IAO). A portion of the $60 trillion in US institutional capital can be harnessed to address the significant housing challenge faced in the US, yielding substantial non-public funding for affordable housing creation including Mixed-Income Housing (MIH) which will positively impact the livelihoods, stability, mobility, and well-being of residents of all incomes in the US. This will keep US cities economically stable as the stock of housing available for all residents with a variety of income levels is increased. Table 2 (below) summarizes the definitions of the main concepts within the study's framework.

Table 2 -Definitions

PREDICTOR	Definition	Source
RAR	A risk-adjusted return is a measure that puts returns into context based on the amount of risk involved in an investment. In short, the higher the risk, the higher return an investor should expect.	(Alphainvesting, 2020); (Kuepper, 2019); (Morningstar, 2015)
LIQ	Addressing this problem of liquidity again leads to the exploration of new product structures that create more accessible entry points for mission investors.	(Ritter, 2014)
INV	There is a need for new housing products that better engage mission investors.	(Ritter, 2014)
GEO	Unlike other financial assets, much of the variation in house prices is local, not national.	(Goetzmann and Spiegel, 1997)
IS	When making investments, institutional asset owners follow the conventions of fiduciary duty and portfolio management, as well as the institutional structures that design and implement investment strategies. Such conventions include diversified portfolios, standardized forms of investment that exist at scale	(Ritter, 2014)
SPEC	Ecologists have typically defined a specialist as a species that occupies a relatively narrow niche or restricted range of habitats, or alternatively a species or population that selects resources out of proportion to availability.	Futuyma and Moreno, (1988); Sherry (1990); and Ferry-Graham et al. (2002).
POL	Anything a government chooses to do or not to do.	(Dye, 1972:2)
INC	Regulatory incentives or concessions proposed by the city that result in identifiable and actual cost reductions to provide for affordable housing costs or affordable rents for the targeted units.	Gardena, CA., Density Bonuses and other Incentives, Chapter 18.43.50 (1979)
ESG	Environmental, social and governance (ESG) investing incorporates an analysis of ESG credentials into the decision to invest, in addition to traditional financial metrics.	Longitude research/State Street Global Advisors, 2016
CSR	Corporate Social Responsibility (CSR) is defined as the economic, legal, ethical, and philanthropic expectations placed on organizations by society at a given point in time.	(Carroll and Buchholtz, 2003)

II. LITERATURE REVIEW

The literature review frames the categorical factors of the subject research and includes financial determinants, the public sector's role, and social/principle-based determinants that will be measured as moderators (including the integration of Environmental Social Governance (ESG) and Corporate Social Responsibility (CSR). From the point of view of a property owner or core investor, the success of a real estate investment is measured in terms of its financial performance (Bywater, 2011). According to a Global Impact Investment Network (GIIN) study, factors cited by investor survey respondents as important to US Community Investors (USCI) investment decisions include 1) reliable and meaningful social impact; 2) performance of the investment; 3) attractive risk-adjusted return; 4) low loss rates; 4) liquidity/ability to exit investment; 5) low transaction costs, and 6) investment ratings from third parties.

2.1. Financial Determinants

Modern Portfolio Theory assesses performance and correlation among different asset classes. (Markowitz, 1952). Arguably, this theory is the most prominent theory driving the decisions of an institutional asset owner. There are numerous studies that demonstrate the benefits of housing in a well-balanced portfolio. The asset class has shown a low correlation to traditional and more liquid asset classes.

The institutional allocation towards residential property may be justified by two major financial reasons. First, housing property should help to reduce the risk of a portfolio because as it has a low correlation with the classic asset classes

> considered by institutional investors (stocks and bonds). Second, residential property appears to provide a hedge against inflation, the correlations between housing returns and both expected and unexpected inflation are substantially higher than zero. (Montezuma, 2003).

The subject study focuses on Risk-Adjusted Returns (RAR), Liquidity (LIQ), Investment Vehicles (INV), Geographic Diversification (GEO), Investment Scale (IS), and Specialization (SPEC) as theses variables relate to Modern Portfolio Theory (MPT). Numerous studies use components of Modern Portfolio Theory (MPT) to advance the hypothesis that housing is an inflation hedge in a well-balanced portfolio. One of the earliest studies of the relative ability of housing to diversify institutional portfolio investment is that of (Ibbotson and Siegel, 1984). Other studies by (Hartzell et, al.,1987 and Liang et, al, 1996), further provide data that supports the hypothesis that housing provides diversification and inflation hedging benefits in a well-balanced investment portfolio. Spreading investment risk across a significant number of different assets improves performance and reduces the volatility of portfolio performance. Understanding how an Institutional Asset Owner (IAO) approach their investment decisions, taking into consideration both real and perceived obstacles, is important for developing appropriate strategies for engagement on impact investing, particularly in policy discussions. (Wood, et, al, 2013). Financial characteristics as discussed in this manuscript from the research question to the research model (Figure 1) are measured by key institutional investor perceptions and preferences. These preferences and perceptions include considerations for risk-adjusted returns, liquidity, diversification of assets, investment vehicle access, investment scale, and specialization. Large institutions may also be concerned about the

lack of complete and robust market information on the performance of this asset, poor tenancy, and property management skills in the housing sector, and the negative public image effects of tenant evictions (Berry, 2000, 2002).

Risk-Adjusted Returns (RAR): The consideration of Mixed-Income Housing (MIH) in an investment portfolio must pass the same litmus test as all other investment considerations of an Institutional Asset Owner (IAO). That litmus test is delivering risk-adjusted returns as well as the potential for positive social outcomes for its participants. A risk-adjusted return is a measure that puts returns into context based on the amount of risk involved in an investment. In short, the higher the risk, the higher the return an investor should expect. A frequent manner to measure risk is by using the Sharpe Ratio. The concept was first introduced by (Sharpe, 1966) as the reward to variability ratio. The Sharpe Ratio uses standard deviation to measure a fund's risk-adjusted returns. The higher a fund's Sharpe Ratio, the better a fund's returns have been relative to the risk it has taken on. Morningstar, (2015). The measure for calculating risk-adjusted returns by taking the average return earned above the risk-free rate per unit of volatility or total risk. (Kuepper, 2019). Comparable to traditional real estate development, the production of mixed-income housing is a profit-motivated enterprise where developers seek to earn sufficient risk-adjusted returns to warrant putting their scarce capital at risk. (Read and Sanderford, 2017). In theory, mixed-income housing development strategies leverage market forces, economic profit incentives, and the skills of real estate developers to expand the housing stock. Developers place their social, political, and financial capital at risk and seek to earn risk-appropriate returns. Policymakers and public officials create

zoning, process, and political incentives designed to attract capital to projects that include both market-rate and affordable. (Read & Sanderford, 2017).

The focus of an Institutional Asset Owner (IAO) to create profit viability in affordable housing bodes well for Mixed-Income Housing (MIH) opportunities when middle-income renters and market renters are included in the project mix. Public-private partnerships formed to develop mixed-income housing serve as a means of accomplishing this goal, while simultaneously addressing the needs of poor households as well as delivering public benefit. The inclusion of multiple income cohorts often garners community support as well as the economic incentives from the public sector (density bonuses, streamlined entitlements, and other incentives) which further stabilizes risk-adjusted returns. (Chaskin, and Joseph, 2007).

RAR and Interest Rate Risk: Interest Rate Risk is a common consideration when assessing investments in Commercial Real Estate (CRE). United States Treasury rates are the benchmarks that commercial mortgage lenders price commercial mortgage rates. A common benchmark is the 10-year US treasury rate. When treasury yields are low commercial real estate debt is low-cost. As treasury rates increase (through various actions by Federal Reserve Board) interest rates on commercial debt increase and have an impact on feasibility of real transactions and real estate values. For the purposes of this manuscript, the Commercial Real Estate Market (CRE) consists of multifamily rentals (which includes affordable, workforce and mixed-income housing), office, industrial, and retail. The CRE market is saturated with participants that rely on commercial mortgage debt to execute a transaction. An Institutional Asset Owner (IAO) has an advantage in

this regard. Because these organizations possess significant amounts of capital to deploy on a yearly basis through their investment program mandates, they tend to utilize all cash when executing real estate acquisitions. The Institutional Asset Owner (IAO) may add debt to an asset after acquisition to enhance its yields but typically an Institutional Asset Owner (IAO) does not need commercial mortgage debt to make the transaction occur. Because of this advantage and the need for commercial mortgages in the marketplace, an Institutional Asset Owner (IAO) tends to invest on the debt side (as a commercial mortgage lender) and on the equity side (as an owner). This explains the level of commercial mortgage debt held by Institutional Asset Owners (IAOs) such as Life Insurance companies. Life Insurance Companies accounted for approximately $579 billion in commercial mortgage debt outstanding at the end of 2019. (Johnson and Abramov, 2020). Multifamily rentals (which includes Mixed-Income Housing) accounted for approximately $155 billion of the total mortgage debt of Life Insurance companies. The higher commercial mortgage costs affect some investors more than others. It is an advantage to Life Insurance Companies and pension funds. Insurers and pension funds have various tools to address the risk of persistently low interest rates. If the Life Insurance Companies expect a further downward slide in interest rates, they can seek to increase the duration of their assets to ensure a better duration match between assets and liabilities. (Antolin, Schich, and Yermo, 2011). This manuscript assumes that an Institutional Asset Owner (IAO) as defined in the subject research would operate through debt and equity investment vehicles for Mixed-Income Housing discussed further in the Liquidity and Investment Vehicle sections of this Literature review.

RAR and Property Market Fundamentals: Investment rates in real estate react strongly to rental rates, which is supported by decades of empirical research. Investments in real estate will be determined by the expected return and the return compared with existing holdings of stocks and bonds. Institutional investors began noticing opportunities for entry into real estate markets because of the possibility of returns rising from real estate holdings when the rest of the portfolio is declining. (Hekman, 1985). While rental rates are restricted in affordable housing projects (including Mixed-Income Housing), the restrictions often come with guaranteed payments backed by public sector incentives and public sector programs. In economic downturns, affordable housing has been known to demonstrate resiliency. Affordable housing is well known for maintaining stability during an economic recession. Data shows that the asset class has better occupancy and more stable rents during past recessions, making affordable housing a recently popular investment class for investors. (Borland, 2020). Not only does housing provide an inflation hedge as noted in this manuscript, but there is also growing consensus that affordable housing provides a level of consistency and predictability in terms of returns. From 2007 to 2011, renter cost burdens increased before starting to decline. As distressed homeowners moved out of their homes following foreclosure, they entered the rental market, putting additional pressure on rents. The pressure on multifamily rental rates exacerbates the affordable rental housing available for vulnerable populations. (Crump and Schuetz, 2021).

The vacancy rate is the percentage of unoccupied units in a metropolitan statistical area (MSA). Academic real estate research has for decades incorporated vacancy rates into its models. In 1988, Wheaton and Torto reported a strong connection

between excess vacancy and real rents. (Wheaton & Torto, 1988). Such analysis across markets was only possible with greater data about real estate markets to conduct such analysis. The vacancy rate is a strong property fundamental metric that illustrates the level of demand for real estate. Multifamily vacancy rates have averaged 5% or below for well over a decade and have maintained these levels during the global recession (2008) and during this most recent pandemic (2020).

Liquidity: When considering Mixed-Income Housing (MIH), liquidity becomes a concern. The concerns often vary amongst investor categories. This study assumes an Institutional Asset Owner (IAO) has a long-term investment horizon and focuses on opportunities that match its asset-liability obligations. This is of particular concern for an Institutional Asset Owner (IAO) who invests with long-term time horizons. (Wood, Thornley, and Grace, 2012). As it relates to Mixed-Income Housing (MIH), the concern regarding liquidity can be mitigated. Mixed-Income Housing (MIH) is part of the broader real estate sector. This sector has grown in sophistication from the introduction of Member Appraisal Institute (MAI) valuation standards to the achievement of records in real estate transaction volume over the past 20 years. According to data from Statista, the volume of transactions in 2018 reached $471 billion. (Rudden, 2019). The community of intermediaries, investment managers, mission driven organizations, and consultants that provide coverage of the sector is vast. Opportunities from equity to debt placement are readily available. From a capital perspective, the outlook is good and both debt and equity continue to be accessible. As reported by Fitch Ratings in 2021, the firm said it views the community development and social lending sector to be “stable with a neutral

outlook for 2022. (Kimura, 2022). Liquidity concerns are largely mitigated because of the level of transactional institutional dollars prevalent in the broader real estate sector.

Investment Vehicles: There are other financial considerations for an Institutional Asset Owner (IAO) including imperfect information, skepticism about achieving both financial returns and social impact, inflexible institutional practices, small deal size, and governance problems. Non-concessionary impact investors are especially likely to have investment impact in conditions of imperfect information. (Brest and Born, 2013). This becomes an opportunity for socially and financially motivated Institutional Asset Owner (IAO) firms and third-party advisors. There are not enough options in this market environment. Access to product and a viable pipeline of transactions and investment vehicle options is another dynamic of financial determinants relative to Institutional Asset Owner (IAO) capital allocation interest. Mixed-Income Housing (MIH) investments are typically not available through broad markets that trade assets freely. This is the case for direct real estate. Investing in a location with assessed market growth potential is a way for investment vehicles to achieve scale and realize the targeted returns. (Hagerman, et. al, 2007). There are a variety of investment options to match different investor profiles, across spectrums of risk (ranging from senior debt to equity positions) and return (ranging from at-market to below- market rates of return). (Speroni, 2020).

Geographic Diversification: Geographic diversification is important in Commercial Real Estate (CRE). An Institutional Asset Owner (IAO) with substantial CRE portfolios benefits from property diversification throughout the US including multifamily

investments. This same preference is expected when targeting Mixed-Income Housing (MIH). As noted in a study by the Global Impact Investing Network (GIIN) and the University of Hampshire, Program Related Investors (PRI) such as foundations can have a very specific program, impact, and geographic targets, which can create challenges from the practitioner's perspective in raising and managing impact assets. (Hangen and Swack, 2015).

The geographic preference that drives Commercial Real Estate (CRE) investing is portfolio market diversification. Something that can be achieved in the US as the housing crisis impacts most regions. (Read and Sanderford, 2017). Even if housing markets are not directly linked there may be underlying local characteristics such as employment and income levels that may themselves be linked in an interregional manner leading to dependencies in housing markets across regions. (Adams, Fuss, Schindler, 2015). Geographic diversification is important as well knowledge of economics and portfolio theory when considering capital allocation decisions into mixed income housing.

Investment Scale: A primary barrier to Mixed-Income Housing (MIH) investing is scale. An Institutional Asset Owner (IAO) tends to make significant investment allocations.. The investment vehicle reaches scale in their investments by pooling assets, reducing transaction costs, and partnering with community development corporations. (Hagerman et, al, 2007). There is a concern that there is not enough housing product to satisfy institutional investor scale preferences and requirements. Third-party advisors and investment consultants tend to bypass investments for scale reasons as a threshold item of concern. Understanding the issue of scale is an important factor in connecting

institutional capital to affordable housing creation. There has to be opportunity and policy that helps to satisfy the needs of institutional investors for broad-scale investment prospects. Investment opportunities must be of a sufficient size and structure to attract institutional investor interest. (Eccles, et, al, 2017).

The global venture capital fund, Acumen, uses the term “patient capital” to describe its investments, which serves to bridge the gap between the efficiency and scale of market-based approaches and the social impact of philanthropy with higher risk tolerance and a longer time horizon than other forms of capital. (Clarkin and Cangioni, 2015).

The universe of available mixed income housing product is sophisticated. There is a range of options for an Institutional Asset Owner from naturally occurring affordable housing (NOAH) and LIHTC investments to true mixed-income housing options that include low-income residents and workforce residents (Workforce Housing) through residents that can afford a market rental rate. NOAH owners typically target residents with incomes at 80 percent or less of AMI. Workforce housing opportunities includes NOAH and targets residents with incomes of 120 percent or less of AMI. (Boesky and Fadairo, 2019).

There are ample multifamily rental opportunities across the US and many of those properties require significant capital for maintenance. These Class B/C opportunities expands the investment scale potential of mixed income housing prospects. Investing in Class B and C multifamily properties and renovating them keeps units available for rent

while renovations are underway and produces benefits to both workforce residents and investors. (Parsi, 2020).

Specialization: An Institutional Asset Owner (IAO) may not have enough of the necessary background knowledge to make an educated investment decision about Mixed-Income Housing (MIH). It is important to have on-team expertise and/or partner with fund operators/developers with deep private and public sector experience. For example, Centennial Place of Atlanta, the nation's first mixed-income housing development, became a national model for utilizing a public-private partnership to create mixed-income housing in Atlanta. The project consisted of mixed-income and affordable housing developer specialists, the Integral Group, and McCormack Baron Salazar in partnership with the Atlanta Housing Authority. Many for-profit multifamily developers, owners, and fund operators have in-house teams that specialize in affordable housing and workforce housing. Large institutional investors, such as public sector pension funds, invest in affordable housing and mixed income housing under the rubric of urban revitalization or economic development. Investment intermediaries link institutional investors to urban revitalization. As a pension fund does not have urban investing expertise, they turn to an investment intermediary, often referred to as an investment fund manager or termed "investment vehicle", to deploy large pools of capital. (Hagerman, et. al, 2007). The institutional investor relies on the investment fund manager for their expertise in successfully deploying capital to deliver both financial and ancillary results. (Hagerman, et. al, 2007).

2.2 Public Sector Role Determinants

Public Sector Incentives and Policy: While there is a multitude of theories that encompass the public sector's role in providing substantial benefit to the public (including providing adequate and affordable housing), the subject research utilizes Housing Policy as its primary theory relative to the public sector's role as a determinant that drives Institutional Asset Owner (IAO) capital into Mixed-Income Housing (MIH). Housing Policy can be directly related to housing theories and housing maybe viewed as a subset of the more general class of assets called real estate. (Jaffe, 1989). A substantial number of policies have been enacted over the past century that has aided in the development of the public sector's role in housing creation in the US. Although at times these policies may not have been equitable. US public policies have long played a central role in creating and perpetuating residential segregation by contributing to disinvestment and neglect in neighborhoods where people of color and lower-income families live and blocking access to well-resourced and opportunity-rich neighborhoods. (Greene, Turner, Rush, 2020). The noteworthy policies with significant impact on housing in the US include the "New Deal" (1933) which created "public housing", the creation of the Federal Housing Administration (1934) in which "redlining" of African American neighborhoods endured, the Fair Housing Act (1968) which sought to end discriminatory housing practices, the Community Reinvestment Act (1977), which encouraged financial institutions to invest in low- and moderate-income neighborhoods, the creation of the Low Income Housing Tax Credits program (1986), the creation of Opportunity Zones through the Tax Cuts and Jobs Act of 2017, and the reinstatement of the 2015 Affirmatively Furthering Fair Housing rule (2021). Notably, the US and several western

European nations, where subsidies delivered through the taxation system or regulatory guarantees to investors encourage a significant degree of private sector involvement. Public policy can influence investment patterns into housing. (McLure, 2000; Berry and Hall, 2001).

Besides some policies and programs promoting disinvestment in certain neighborhoods throughout the US over the past century and the policy that worked to correct disinvestment and encourage the private sector's participation in creating adequate affordable housing, many of these programs largely miss the moderate/middle-income cohort. Based on a significant number of academic articles as well as through the guidance of community advocates, and professionals in private/public sector settings, mixed-income comprises the integration of the 60% of Area Median Income (AMI) and lower-income household renters and market renters into multifamily rental projects. Oftentimes, policy and public sector capital are mobilized based on these assertions and guidance. This becomes a barrier to increasing institutional capital allocations into mixed-income housing primarily because the focus on income cohorts largely disregards what is known as the "missing middle" (61% of AMI to 150% of AMI), a significant income-producing and consumer spending population. As a result, the term middle-income in the context of housing development implies that project income is severely constrained driven by the level of lower-income residents in the project and private investors are hesitant to invest in the asset class.

This call to understand the effect of affordable housing on private market home values is especially pertinent currently, when the federal housing policies are

> emphasizing the integration of low-income households into more economically and socially advantageous neighborhoods. Federal programs, such as Moving to Opportunity, Gautreaux, Housing Choice Voucher Program (e.g., Section 8), and Hope VI are reliant on host communities accepting the entrance of low-income households and low-income housing. (Nguyen, 2005).

It is understandable that the public sector's focus is on the most vulnerable population. The purpose of this study is not to suggest the reduction in limited public resources and incentives for the most vulnerable populations. The intention is to underscore a segment of the US population that could attract additional private capital and resources to the overall affordable housing challenge. Mixed-Income Housing (MIH) may accomplish several outcomes, leverage federal subsidies, substantially improve living environments, deconcentrate poverty, reduce crime (Sanbonmatsu et al., 2011), increase workforce participation (Chetty, Hendren, & Katz, 2016), improve education and health outcomes. (Ludwig et al., 2013).

In addition to federal initiatives, local/state municipalities have adopted a variety of incentives to address the current affordable housing crisis, including increased funding through local voter initiatives and reform of zoning and land use regulations to allow higher-density construction and relaxed entitlements (i.e., less parking). For example, the City of Minneapolis and State of Oregon recently initiated reforms to allow the construction of multifamily on lots previously zoned for single-family homes. Other local strategies for encouraging multifamily construction include reduced parking requirements and streamlined permitting.

> Federal, state, and local governments implement a variety of programs aimed at helping low-income residents, afford housing. These programs generally work in one of three ways: (1) increasing the supply of moderately priced housing, (2) paying a portion of households' rent costs, or (3) limiting the prices and rents property owners may charge for housing. (Taylor, 2016).

In the US, policies that seem to attract the institutional asset owner to the housing sector involve the mitigation of perceived risks and the potential for adequate returns. There is a perception that affordable housing (which includes mixed-income housing) rental rates significantly impact the yield on these investments. The only way that market and affordability rent gaps can be reduced or bridged is for government to implement an appropriate policy mix. (Berry and Hall, 2005).

2.3 Social/Principle Determinants

As US society has grown and matured, the focus on the environment, social causes, and fair/transparent governance are consistently interwoven in the fabric of US institutions including investment management operations. Recent studies find that asset valuations/pricing include social considerations from a personal point of view that focus on social norms and personal values. Empirically, researchers have concentrated on the question of whether certain individual and institutional investors indeed make investment decisions grounded in social norms and/or values, and how specific norms and values cause specific social considerations in investing. (Borgers et al, 2015). According to (Hong and Kacperczyk, 2009), certain institutional investors such as public pension funds are sensitive to public opinion and consequently display investment preferences that

appear to conform to social norms. Historically, investment allocation decisions were focused on financial outcomes. As investor appetite grows and changes from historical norms, investment allocation strategies should include sustainability, social responsibility and the overall impact on society. (Tilabi et, al, 2016). Investment decisions are usually taken in a complex and turbulent operating environment where decision-makers are typically confronted with multiple needs, requirements, and values. To make sound and justifiable decisions, the investments should be evaluated, selected and prioritized not only in terms of money but also with regard to sustainability, social acceptability and their overall impact on society as a whole. (Tilabi et, al, 2016).

Environmental Social Governance (ESG): Over $60 trillion of US institutional assets under management are managed by signatories of the Principles for Responsible Investment (PRI). (McElhaney, 2021). PRI is often referred to as the predecessor to Environmental, Social, Governance (ESG). Better financial assessment and decision-making is at the core of ESG evaluation in investment decision-making, it considers sustainable growth rather than rapid unstable growth or artificial growth. (Sultana, Zulkifli, and Zainal, 2018). There is a clear commitment towards integrating ESG criteria within investment decisions. However, this has yet to translate into programmatic investment into socially responsible investments. Less than a quarter of investment professionals consider added financial information frequently in their investment decisions. (Ernst and Young, 2015) and very few professionals receive formal training on how to consider Environmental, Social, Governance (ESG) criteria in investment analysis. (CFA Institute, 2015). (Friede et al, 2015) successfully attempted to aggregate studies centered on the positive examples of Environmental, Social, Governance (ESG)

and performance relationships by using a two-step research approach. This included: 1) findings from vote-count studies that aggregate positive, negative, and nonsignificant results and 2) an aggregate of meta-analysis/econometric review studies. The authors have a total of 60 review studies (vote-count and meta-analysis) representing more than 2,200 underlying studies for their research analysis. The authors demonstrated promising results regarding Environmental, Social, Governance (ESG) integration when they differentiate between regions, nonportfolio studies, and asset classes other than equities. Participants/investors that trust their pensions and 401k investments with institutional asset owners also demand more and better Environmental, Social, Governance (ESG) data and the need for more robust disclosures and metrics has increased. This has led to a significant number of shareholder proposals relating to social and environmental issues. (Stewart, 2015).

ESG, has become a portfolio goal, and it brings a utility preference that is orthogonal and perhaps complicating to the now age-old Modern Portfolio Theory (MPT) paradigm. (Sorensen, Chen, and Mussalli, 2021). Sustainable investing is a much more difficult problem than a one-dimensional maximizing alpha (per unit risk). With sustainable investing, the objective is not only alpha, but also targeted sustainability metrics. Not only does the quantitative approach accommodate the merging of higher dimensionality, but it also accommodates the customization of the asset owner's values over the ESG spectrum. (Sorensen, Chen, and Mussalli, 2021). In many discussion circles, ESG has become the nemesis of MPT where the goal of MPT is generating "alpha" for a portfolio, ESG may enhance the alpha or dilute it based on the mix of ESG offerings in the asset portfolio mix.

Socially motivated investors tend to fall into two categories: concessionary investors who are willing to accept lower returns to achieve their social goals; and non-concessionary investors who are not willing to sacrifice returns to achieve their social goals. In the context of philanthropy, non-concessionary socially motivated investors are known as Mission-Related Investors (MRI) and are distinguished from Program-Related Investors (PRI), which are concessionary. (Brest and Born, 2013). An Institutional Asset Owner (IAO) that considers impact investing are non-concessionary. Participants and clients that trust their retirement savings with mutual funds and other institutional investment vehicles continue to target investment opportunities that provide positive social benefits to society. In a survey conducted by Natixis, two-thirds of millennials would increase 401k contributions if they knew their investments were doing social good. (Iacurci, 2019). An Institutional Asset Owner (IAO) has a fiduciary duty to participants and clients that trust the organizations to make sound investment decisions and the elevated demand from clients to also do good with their savings/retirement is a growing factor in investment decision making. The coronavirus pandemic's economic burden on societies is likely to add to the existing inequality and poverty, as well as existing challenges around affordable housing. The societal tensions that stem from these challenges and the policies (CARES Act, American Rescue Plan, and the American Families Plan) designed to alleviate them, will lead to new social risks for issuers, as well as exacerbating existing risks. (Tang, McNeil, and Steel, 2021).

Institutional Asset Owner (IAO) organizations have been able to deliver solid results to their participants over many decades using third-party service providers (mostly investment consultants) that have worked to develop proven and conventional approaches

to asset portfolio management. In practice, this has led to the emergence of a set of conventional portfolio strategies and investment beliefs that lead to similar patterns of investing across Institutional Asset Owner firms. This environment can present a barrier to increasing housing sector capital allocations (specifically for mixed-income housing). There is a need to attract and retain higher-income residents to ensure acceptable risk-adjusted returns are achieved over the long term. (Chaskin and Joseph, 2010). There are investor capital advantages that Institutional Asset Owners (IAOs) have in terms of capital providers of Mixed-Income Housing (MIH) investments. These benefits include the following: 1) Price in terms of below-market investments; 2) Institutional Asset Owners (IAOs) position in the capital stack. An Institutional Asset Owner (IAO) has the ability to easily provide debt or equity positions; 3) Institutional Asset Owner (IAO) capital is long term; 4) Institutional Asset Owners (IAOs) have flexibility in adapting capital investments to an asset's needs; and 5) Institutional Asset Owners (IAOs) can discern opportunities that ordinary investors don't observe. (Brest and Born, 2013).

Corporate Social Responsibility (CSR): Given the growth in Environmental Social Governance in the private sector, US municipalities have an opportunity to promote a principle-based concept as well, Corporate Social Responsibility (CSR) through public policy. As institutional investors consider the integration of social/principle-based concepts in their missions and investment decision making, some governments (specifically in Europe) are crafting policies and incentives that align with private sector social goals. By engaging with municipalities, institutional investors can increase the impact of their social strategy and improve the sustainability of their programs and

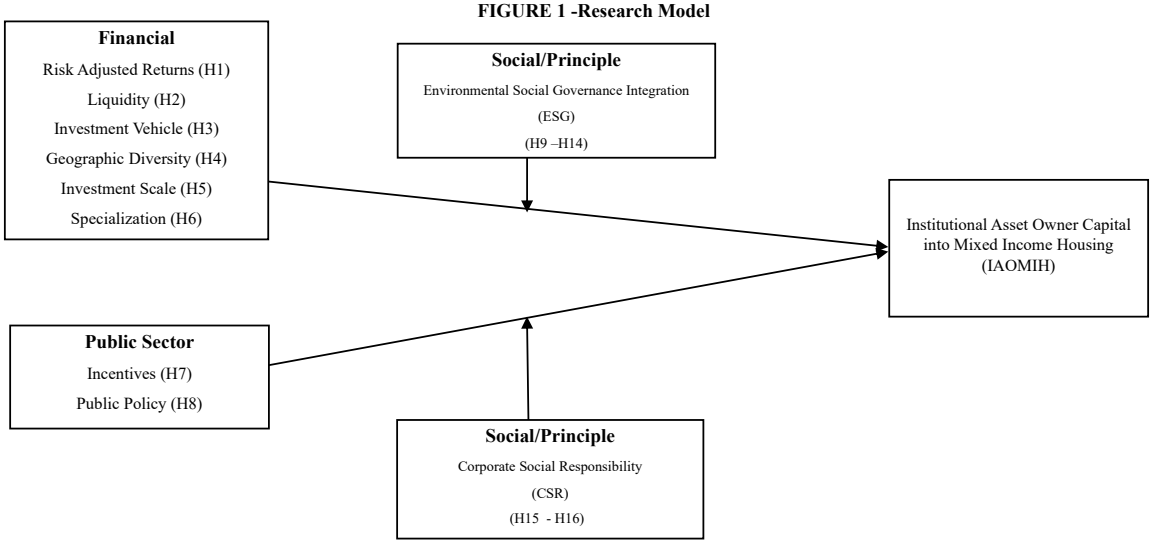
joining efforts across sectors can lead to more efficient solutions to social problems that are a concern to both companies and governments. (Ascoli and Benzaken, 2009).

The context of the globalized economy has led to political challenges, like the crisis in the welfare state and the need to seek new forms of governance, within both the national context and the global economy. CSR is seen as a useful framework within which new ways of collaborating between corporations, governments and civil society can be found, creating innovative mechanisms for governance (Zadek 2001; Albareda et al., 2004; Midttun, 2004, 2005). (Albareda, et. al, 2008). For the UK government, the origin of CSR policies was justified by a crisis in governance affecting British society, in the form of unemployment, social poverty and lack of economic development. (Albareda, et. al, 2008).

Reputation is a generally accepted measure of social responsibility in an organization. Several reputation indexes have been conducted over the past 60 years including the Council of Economic Priorities (CEP) and the Moskowitz Index. (Cochran and Wood, 1984). Stakeholder theory suggests that social responsibility has a positive impact on financial performance, (Freeman, 1984) and (Donaldson and Preston, 1995), through the satisfaction of a variety of stakeholders that enhances an organization's reputation leading to positive financial performance outcomes. (Alloche and Laroche, 2005). Another social norm measure is through testing for correlations between social responsibility disclosures and financial performance (controlling for risk and industry effects). (Ingram, 1978).

III. RESEARCH MODEL AND HYPOTHESES

FIGURE 1 -Research Model



3.1 Research Model

Figure 1 represents the Research Model. The Research Model consists of financial determinants (Risk-Adjusted Returns, Liquidity, Investment Vehicles, Geographic Diversification, Investment Scale, and Specialization); and public sector role (Public Sector Incentives and Public Policy) as the independent variables. Social/Principle-based determinants as moderators including Environmental Social Governance (ESG) integration and Corporate Social Responsibility (CSR). Increasing Institutional Asset Owner Capital into Mixed-Income Housing (IAOMIH) is the dependent variable. The subject study is designed to further research into the characteristics that increase institutional capital allocations for the creation of Mixed-Income Housing (MIH) through the measurement lenses outlined in the research model (Figure 1).

The subject research specifically focuses on the capital allocation motivations and preferences of an Institutional Asset Owner (IAO), such as Pension Funds, Life Insurance companies, Fund operators, endowments, and registered investment advisers. The targeted audience/respondents for this study consists of transaction-oriented senior professionals with investment management/investing responsibilities. This targeted audience includes a random mix of professionals within Institutional Asset Owner (IAO) firms, private equity real estate funds, select developers, select finance and development professionals in the public sector, select senior professionals in commercial real estate intermediary organizations, registered investment advisors, and select academic scholars.

3.2 Hypotheses Development

The core concept/constructs being related in the Hypotheses (H1-16) and their respective Justifications (J1-J16) are defined as follows:

Financial Determinants

Investors and developers seek to earn sufficient risk-adjusted returns to warrant putting their scarce capital at risk. (Read and Sanderford, 2017). The consideration of Mixed-Income Housing (MIH) in an investment portfolio must pass the same litmus test as all other investment considerations of an Institutional Asset Owner (IAO). That litmus test is delivering risk-adjusted returns as well as positive social outcomes for its participants. As highlighted in the literature, housing has a relative ability to diversify institutional portfolio investments. Several decades of US property return data demonstrates the benefits of housing when compared to returns of stocks, bonds, and inflation. Ibbotson and Siegel (1984). Housing in a well-balanced portfolio can serve as

an inflation hedge. (Montezuma, 2003). In addition to portfolio diversification, the right optimal income mix in a Mixed-Income Housing (MIH) project stabilizes returns. There is a need to attract and retain higher-income residents to ensure acceptable risk-adjusted returns are achieved over the long term. (Chaskin and Joseph, 2010).

H1: As acceptable Risk-Adjusted Returns (RAR) for Mixed-Income Housing (MIH) increase, the capital allocations of an Institutional Asset Owner (IAO) into Mixed-Income Housing (MIH) will also increase.

As the literature indicates, the volume of real estate transactions in 2018 reached $471 billion which includes multifamily rental housing. (Rudden, 2019). Commercial property sales were $809 billion in 2021, according to Real Capital Analytics. Multifamily investment volume is responsible for $335.3 billion of that total which, nearly double a record set in 2019 of $193.1 billion. (Grant, 2022; Real Capital Analytics, 2022).

Liquidity concerns are largely mitigated because of the level of institutional dollars prevalent in the sector. This immense opportunity for multifamily is strengthened by the chronic undersupply of affordable apartments. Additionally, the literature exposes barriers that perpetuate the capital funding gap. These barriers become capital deployment opportunities for Institutional Asset Owners (IAOs) with Environmental Social Governance (ESG)/Impact Investing ambitions.

H2: As positive perceptions of the Liquidity (LIQ) of Mixed-Income Housing (MIH) investments increase, capital allocations of an Institutional Asset Owner (IAO) into Mixed-Income Housing (MIH) will increase.

The focus of an Institutional Asset Owner (IAO) to create profit viability in affordable housing, bodes well for Mixed-Income Housing (MIH) opportunities when moderate/middle-income renters and market renters are included in the project mix. Collaborations and partnerships such as public-private partnerships, separate accounts, debt funds, and private equity real estate funds formed to develop Mixed-Income Housing (MIH), serve as a means of accomplishing this goal, while simultaneously addressing the needs of economically disadvantaged households as well as delivering public benefit. The inclusion of multiple income cohorts often garners community support as well as the economic incentives from the public sector (density bonuses, streamlined entitlements, and other incentives) which further stabilizes risk-adjusted returns. (Chaskin, and Webber, 2007).

A significant investment opportunity across the US is through the rehabilitation and maintenance of older multifamily rental inventory (Class B/C). Many of these properties are owned by smaller and local operators. These operators lack the significant capital to maintain and sustain the properties. This establishes an opportunity for an Institutional Asset Owner (IAO) to partner with the local operator or purchase the property directly. To maintain control of the inventory of these Class B/C properties with significant deferred maintenance, local owners and operators are becoming fund managers by raising capital. In growing markets, it is a challenge for low-income housing developers to compete with other buyers. Buyers motivated solely by profit can secure equity and debt quickly, often within 60-90 days of making an offer; capital for low-income housing tends to have a longer investment cycle, sometimes taking 6-12 months to secure. The owner-operator funds being raised by local real estate developers will

enable them to move quickly on opportunities to preserve housing. (Speroni, 2020). Additionally, multifamily rentals (which includes Mixed-Income Housing) accounted for approximately $155 billion of the total mortgage debt of Life Insurance companies. An Institutional Asset Owner (IAO) in conjunction with intermediaries can create a variety of investment products to spur investment into Mixed-Income Housing (MIH) which could include debt or equity options.

H3: As Investment Vehicles (INV) available for Mixed-Income Housing (MIH) investments increase, the capital allocations of Institutional Asset Owners (IAOs) into Mixed-Income Housing (MIH) will increase.

Asset diversification is important in Commercial Real Estate (CRE). An Institutional Asset Owner (IAO) with substantial CRE portfolios benefit from property diversification throughout the US including multifamily rental investments. This same preference is expected when targeting Mixed-Income Housing (MIH) rental investments. As noted in a study by the Global Impact Investing Network (GIIN) and the University of Hampshire, Institutional Asset Owners (IAOs) can have very specific geographic targets, which can create challenges from the practitioner's perspective in raising and managing Socially Responsible Impact (SRI) assets. (Hangen and Swack, 2015).

Geographic diversification is important in Commercial Real Estate (CRE). Institutional Asset Owners (IAOs) with substantial CRE portfolios enjoy property diversification throughout the US including multifamily rental investments. This same preference is expected when targeting Mixed-Income Housing (MIH) rental investments.

H4: As geographically diverse (GEO) Mixed-Income Housing (MIH) options increase, capital allocations of an Institutional Asset Owner (IAO) into Mixed-Income Housing (MIH) will increase.

Investment vehicles reach scale in their investments by pooling assets, reducing transaction costs, and partnering with community development corporations. (Hagerman, et, al, 2007). There is a valid concern that there is not enough housing product to satisfy institutional investor scale preferences and requirements. Third-party advisors and investment consultants tend to bypass investments for scale reasons as a threshold item of concern. Investment opportunities must be of sufficient size and structure to attract institutional investor interest. (Eccles, et, al, 2017).

(Boesky and Faidaro, 2019) estimates the value of the multifamily rental affordable housing stock across the US is slightly over $1 trillion and the value of LIHTC multifamily rental units produced and rehabilitated each year at approximately $15 billion. Affordable rental housing is a segment of the commercial real estate market that is sufficiently large, will always have a favorable supply/demand imbalance, and has proven to have a remarkable credit history. (Boesky and Faidaro, 2019). As a result, investment scale is remarkable in the US.

H5: Positive perceptions of the appropriate Investment Scale (IS) for Mixed-Income Housing (MIH) investments will increase capital allocations of an Institutional Asset Owner (IAO) into Mixed-Income Housing (MIH).

Many for-profit multifamily developers, owners, and fund operators have in-house teams that specialize in affordable housing, mixed-income housing, and workforce

housing. An Institutional Asset Owner (IAO) often does not have the necessary background knowledge to make an educated decision about Mixed-Income Housing (MIH). It is important to have on-team expertise and/or partner with fund operators/developers with deep private and public sector experience. As a pension fund does not have urban investing expertise, they turn to an investment intermediary and relies on the investment fund manager for their expertise in successfully deploying capital to deliver both financial and ancillary results. (Hagerman, et. al, 2007).

Additionally, It is essential to have the special skills and understanding needed to access and underwrite affordable rental housing such as NOAH, workforce, and mixed income housing. Considering the relatively lack of exposure for these multifamily rental options and the current demand due to a growing affordability crisis, the growth of the sector is a matter of education. (Boesky and Faidaro, 2019).

H6: As in-house expertise (SPEC) in Mixed-Income Housing (MIH) investments increase, the capital allocations of an Institutional Asset Owner (IAO) into Mixed-Income Housing (MIH) will increase.

Public Sector Role determinants

One of former Secretary of Housing and Urban Development Henry G. Cisneros' most symbolic actions was his supervision of the implosion of numerous obsolete and troubled public housing structures in cities across the United States. (Brophy and Smith, 1997). The focus was to reduce the heavy concentration of low-income residents concentrated in public housing. Oftentimes, this type of housing was concentrated in areas of significant disinvestment. This federal policy initiative created by the former

HUD secretary was an effort to reimagine and right size decades of erroneous policy at the federal level. In 2022, the same focus is needed.

As highlighted in the literature review, federal, state, and local governments have implemented a plethora of policy initiatives in the last century meant to improve access to decent and affordable housing. These programs generally work in one of three ways: (1) increasing the supply of moderately priced housing, (2) paying a portion of households' rent costs, or (3) limiting the prices and rents property owners may charge for housing. (Taylor, 2016). According to the National Multifamily Housing Council (2019), ineffective or poorly structured policies are increasingly resulting in unintended consequences. Policies meant to improve housing affordability might have the opposite of their intended effect: they increase housing costs and decrease housing affordability by discouraging housing development.

Addressing public policy that is outdated and streamlining entitlements initiatives removes significant obstacles to the creation of adequate and affordable housing. These initiatives provide time and cost savings and help mitigate investment risks considered by an Institutional Asset Owner (IAO).

H7: As beneficial Public Sector Policy (POL) options for housing investment increase, Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH) will increase.

From an incentive development outlook, if HUD seeks to use its public financed projects (in their current form or transformed into mixed-income developments) as vehicles for upward mobility of low-income tenants, the appropriate roles and incentives

offered to owners and managers to accomplish this mission should be tested in demonstration settings. (Brophy and Smith, 1997).

One way that risk-adjusted returns are achieved is through public sector collaboration with developers and potential stakeholders such as an Institutional Asset Owner (IAO). In affordable housing transactions, this value is often found using underutilized public land, land use policy, and other policy efforts that provide incentives for developers and investors to create Mixed-Income Housing (MIH). Developers and Institutional Asset Owners (IAOs) place their social, political, and financial capital at risk and seek to earn risk-appropriate returns. Policymakers and public officials create zoning, process, and political incentives designed to attract capital to projects that include both market-rate and affordable units. (Read & Sanderford, 2017).

H8: As Public Sector Incentives (INC) increase, Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH) will increase.

Social/Principle-based Determinants

As highlighted in the Literature Review, Environmental Social Governance (ESG) investing is becoming an important part of the fabric of the mission and values of an Institutional Asset Owner (IAO). Increasingly, housing is an investment target of these investors and the concept of social responsibility and sustainability investing is changing the way investment organizations view themselves in society. (Salvioni, and Gennari, 2014). As a result, abstract concepts such as Environmental Social Governance (ESG) more and more explain an important share of the value of an organization. (Bassen and Kovacs, 2008). An Institutional Asset Owner (IAO) must maintain fiduciary

responsibility including when targeting capital allocations into Environmental Social Governance (ESG) such as Mixed-Income Housing (MIH). Clients and participants of institutional investor firms have demonstrated a growing interest in having their savings/investments play a role in creating positive social impact. The significance of Environmental Social Governance (ESG) integration to its clientele base is evident and can be seen in the amount of stakeholder proposals relating to social and environmental issues. (Alloche and Laroche, 2005). Investment decisions are usually taken in a complex and turbulent operating environment where decision-makers are typically confronted with multiple needs, requirements, and values. To make sound and justifiable decisions, the investments should be evaluated, selected, and prioritized not only in terms of money but also with regard to sustainability, social acceptability, and their overall impact on society as a whole. (Tilabi, et, al, 2016). The literature indicates that investments that contain Environmental, Social, Governance (ESG) aspects undergo a robust vetting process.

H9: Environmental Social Governance (ESG) integration in investment decision making positively moderates Risk-Adjusted Returns (RAR) perceptions of an Institutional Asset Owner (IAO) leading to an increase in Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH).

As outlined in the (Eccles, et, al, 2017) study, Institutional Asset Owner (IAO) guidelines include several socially responsible activities from assisting the regional economy to providing access to capital in underserved areas and markets. An Institutional Asset Owner (IAO) that engages in mission or impact investing often have very specific social or environmental focuses. Accordingly, less than a quarter of investment

professionals consider added financial information frequently in their investment decisions (EY, 2015) and very few professionals receive formal training on how to consider Environmental Social Governance (ESG) criteria in investment analysis CFA (Institute, 2015) and (Friede, et al, 2015).

An Institutional Asset Owner (IAO) must maintain fiduciary responsibility including when targeting capital allocations into Environmental Social Governance (ESG) such as Mixed-Income Housing (MIH). This includes addressing concerns of liquidity. The literature has suggested that there are alternative asset classes (such as stocks and bonds) that provide an ample level of confidence to investors because of access to markets with ample liquidity. Institutional investors have a wide range of portfolios to choose between with different maturities. There is also a secondary market in tax credits. (McQuarrie and Guthrie, 2005).

H10: Environmental, Social, Governance integration (ESG) in investment decision making positively moderates Liquidity (LIQ) concerns of an Institutional Asset Owner (IAO) leading to an increase in Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH).

Investment decisions are usually taken in a complex and turbulent operating environment where decision-makers are typically confronted with multiple needs, requirements, and values. To make sound and justifiable decisions, the investments should be evaluated, selected, and prioritized not only in terms of money but also regarding sustainability, social acceptability, and their overall impact on society. (Tilabi, et, al, 2016).

Abstract concepts such as Environmental Social Governance (ESG) more and more explain an important share of the value of an organization. (Bassen and Kovacs, 2008). A well-structured investment vehicle must fulfill several requirements including tax efficiency, liquid and have good management and an appropriate portfolio structure. (Montezuma, 2006).

Institutional Asset Owner (IAO) organizations have been able to deliver solid results to their participants over many decades using third-party service providers (mostly investment consultants) that have worked to develop proven and conventional approaches to asset portfolio management. In practice, this has led to the emergence of a set of conventional portfolio strategies and investment beliefs that lead to similar patterns of investing across institutional asset owners. This environment can present a barrier to increasing housing sector capital allocations (specifically for mixed-income housing).

H11: Environmental, Social, Governance integration (ESG) in investment decision making positively moderates the perceptions of an Institutional Asset Owner (IAO) regarding Investment Vehicle (INV) options leading to an increase in Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH).

Diversification of assets is key to maintaining a well performing multifamily portfolio. This diversification includes adding affordable housing and mixed income housing to a multifamily rental housing portfolio. Investors consider affordable housing a stable investment, as the sector has historically performed well both in times of economic uncertainty and in times of economic growth. (Lara, 2021). As noted in a study by the Global Impact Investing Network (GIIN) and the University of Hampshire, Program

Related Investors (PRI) such as foundations can have a very specific program, impact, and geographic targets, which can create challenges from the practitioner's perspective in raising and managing impact assets. (Hangen and Swack, 2015).

Operations improve as property portfolios become more geographically diversified for transparent firms. (Feng, et al, 2019). Environmental Social Governance (ESG) integration allows for greater transparency and accountability as well the social benefits of increase mixed income housing.

H12: Environmental, Social, Governance integration (ESG) in investment decision making for housing positively moderates Geographic diversification (GEO) perceptions and preferences of an Institutional Asset Owner (IAO) leading to an increase in Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH).

(Eurosif, 2014) defines ESG integration as the explicit inclusion by asset managers of ESG risks and opportunities into traditional financial analysis and investment decisions based on a systematic process and appropriate research sources.

Third-party advisors and investment consultants tend to bypass investments for scale reasons as a threshold item of concern. Understanding the issue of scale is an important factor in connecting institutional capital to affordable housing creation. There has to be opportunity and policy that helps to satisfy the needs of institutional investors for broad-scale investment prospects. Investment opportunities must be of sufficient size and structure to attract institutional investor interest. (Eccles, et, al, 2017).

The global venture capital fund, Acumen, uses the term "patient capital" to describe its investments, which serves to bridge the gap between the efficiency and scale of market-based approaches and the social impact of philanthropy with higher risk tolerance and a longer time horizon than other forms of capital. (Clarkin and Cangioni, 2015). Organizations that have engaged in identifying opportunities for impact investing include the Global Impact Investing Network (GIIN), J.P. Morgan, and the Rockefeller Foundation. The GIIN was formed to increase the scale and effectiveness of impact investing. (Clarkin and Cangioni, 2015).

H13: Environmental, Social, Governance integration (ESG) in investment decision making positively moderates Investment Scale (IS) perceptions of an Institutional Asset Owner (IAO) leading to an increase in Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH).

Proper information is a key ingredient in any investment strategy. The investment management process is largely fueled by the information that investors require to assess individual investment opportunities. (van Duuren et, al, 2015).

Large institutional investors, such as public sector pension funds, invest in affordable housing, mixed income under the rubric of urban revitalization or economic development. Investment intermediaries link institutional investors to urban revitalization. As a pension fund does not have urban investing expertise, they turn to an investment intermediary, often referred to as an investment fund manager or termed "investment vehicle", to deploy large pools of capital. (Hagerman, et. al, 2007). The institutional investor relies on the investment fund manager for their expertise in

successfully deploying capital to deliver both financial and ancillary results. (Hagerman, et. al, 2007).

H14: Environmental, Social, Governance integration (ESG) in investment decision making positively in-house expertise (SPEC) perceptions of an Institutional Asset Owner (IAO) leading to an increase in Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH).

Several policies have been enacted over the past century that has aided in the development of the public sector's role in housing creation in the US. Although at times these policies were not equitable. Public policies have long played a central role in creating and perpetuating residential segregation by contributing to disinvestment and neglect in neighborhoods where people of color and lower-income families live and blocking access to well-resourced and opportunity-rich neighborhoods. (Greene, Turner, Rush, 2020). As institutional investors consider the integration of social/principle-based concepts in their missions and investment decision-making, governments are crafting policy and incentives that align with private sector social goals. By engaging with municipalities, institutional investors can increase the impact of their CSR strategy and improve the sustainability of their programs and joining efforts across sectors can lead to more efficient solutions to social problems that are a concern to both companies and governments. (Ascoli and Benzaken, 2009).

With respect to research focusing on the analysis of the political initiatives developed by governments, the most important key issue among practitioners and academic authors is the discussion of the specific roles that governments can adopt to

foster CSR. (Albareda, 2008). (Zadek, 2001) is a pioneer among authors identifying government roles. The author describes the incorporation of governments in the CSR framework as a new stage in the development of CSR and defines this new stage as the third CSR generation, where the new protagonist role of governments in promoting CSR is a central issue (Zadek, 2001).

H15: As municipalities adopt Corporate Social Responsibility (CSR) integration in the development of Public Sector Housing Policy (POL), Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH) will increase.

In addition to federal initiatives, local/state municipalities have adopted a variety of incentives to address the current affordable housing crisis, including increased funding through local voter initiatives and reform of zoning and land use regulations to allow higher-density construction and relaxed entitlements (i.e., less parking). For example, the City of Minneapolis and the State of Oregon recently initiated reforms to allow the construction of multifamily on lots previously zoned for single-family homes. Other local strategies for encouraging multifamily construction include reduced parking requirements and streamlined permitting.

> Federal, state, and local governments implement a variety of programs aimed at helping low-income residents, afford housing. These programs generally work in one of three ways: (1) increasing the supply of moderately priced housing, (2) paying a portion of households' rent costs, or (3) limiting the prices and rents property owners may charge for housing. (Taylor, 2016).

H16: As municipalities adopt Corporate Social Responsibility (CSR) integration in the development of Public Sector Incentives (INC) for housing, capital allocations of an Institutional Asset Owner (IAO) into Mixed-Income Housing (MIH) will increase.

IV. RESEARCH METHODOLOGY

4.1 Research Design

The Research Methodology for this study is quantitative, statistical (nomothetic) through deductive logic using two survey instruments. The pilot study survey included financial determinants, public sector determinants, and the commensurate moderating variables as shown in Figure 1 (research model). The main study included a primary survey that included financial determinants, public sector determinants, and the commensurate moderating variables as shown in Figure 1 (research model). A supplemental main study survey was conducted focused on public sector determinants in the research model to better measure the relationship between the public sector independent variables and dependent variables. The survey method is the most efficient manner to collect data for the subject research.

The unit of analysis for this study is at the organizational level. The targeted population includes Institutional Asset Owner (IAO) firms as defined by this manuscript (Life Insurance Companies, Pension Funds, Endowments, Registered Investment Advisors, and Real Estate Fund Operators). The unit of observation is at the organizational level. The unit of observation measured the necessary parameters within the organizations through the collection of mostly ordinal data by surveying certain senior professionals with an association with Institutional Asset Owner (IAO) firms. As shown in the results section, the results created from the data collected were aggregated to create certain scores that represent the constructs in the study.

4.2 Variable Measurement

The subject survey instruments included items adopted and modified primarily from (Montezuma, 2006) which relies on the Mean Variance Framework. (Markowitz, 1952). (Markowitz, 1952) is one of the primary theoretical frameworks of the subject study. The methodology of (Montezuma, 2006) parallels the methodology of the subject study as well as a similar sample size. The sample size in (Montezuma, 2006) was N=37. Elements of (Longitude Research/State Street Global Advisors, 2016), the Investment Enlightenment Survey (Eccles and Kapastreli, 2017), National Multifamily Housing Council Research data, and the (Morgan Stanley Investment Management and the Morgan Stanley Institute for Sustainable Investing, 2017) were referred to as well. The modified items focus on the primary characteristics that drive institutional asset owner capital into mixed-income housing as outlined in the subject research model (Figure 1). In addition, the survey design incorporates feedback from an informed pilot study. The informed pilot is outlined in this section of the study.

Financial determinants: The independent variables in the financial category of the research model (Figure 1) included the following: Risk-Adjusted Returns (RAR) with a total of 11 items; Liquidity (LIQ) with a total of 5 items; Investment Vehicle (INV) with a total of 9 items; Geographic Considerations (GEO) with a total of 5 items; Investment Scale (IS) with a total of 6 items; Specialization (SPEC) with a total of 7 items. The financial determinant independent variables were measured with adopted and modified items from (Montezuma, 2003) and (Montezuma, 2006).

Financial determinants moderator: Environmental Social Governance (ESG), was measured in the following manner: ESG/RAR 3 items; ESG/LIQ 3 items; ESG/INV 4 items; ESG/GEO 3 items; ESG/IS 4 items; and ESG/SPEC 3 items. The moderating variables were measured with adopted and modified items from (Montezuma, 2006), (Montezuma, 2003), (Longitude/State Street Bank and Trust ESG Survey, 2006), (Eccles and Kapastreli, 2017), and the (Morgan Stanley Investment Management and the Morgan Stanley Institute for Sustainable Investing, 2017).

Public Sector determinants: The independent variables in the public sector category of the research model (Figure 1) included the following: Policy (POL) with a total of 4 items; Incentives (INC) with a total of 3 items. The public sector determinant independent variables were measured with adopted and modified items from (Montezuma, 2006).

Public Sector determinants moderator: Corporate Social Responsibility (CSR), was measured in the following manner: CSR/POL with 4 items and CSR/INC with 3 items. The moderating variables were measured with adopted and modified items from (Albareda et, al. 2008).

Dependent Variable items: The dependent variable of the research model (Figure 1), Institutional Asset Owner capital into Mixed Income Housing (IAOMIH) had a total of 7 items. The dependent variable was measured with adopted and modified items from (Saltuk and Bouri, 2013) and (Montezuma, 2006).

Informed Pilot: To collect data that measures motivations, values, preferences, requirements, and perceptions from the subject target sample population regarding

increasing Institutional Asset Owner (IAO) capital into Mixed Income Housing (MIH) and validate the protocol, procedures, and understanding of the conceptual framework, an informed pilot was completed. According to (MacKenzie, Podsakoff, and Podsakoff, 2011), it is critical for survey studies to first validate the measures adopted from other studies before collecting data for hypotheses testing. The informed pilot occurred through formal robust discussions regarding the research question, research model, constructs, and items created to measure the subject constructs (survey instruments). The goal was to ensure content validity through connectivity amongst the research question, research model, measurement items, and definitions of concepts in the survey instruments. An instrument valid in content is one that has drawn representative questions from a universal pool (Cronbach, 1971;Kerlinger, 1974; Straub, 1989).

The informed pilot was conducted with 5 participants with various backgrounds including experts in real estate investment management, senior municipal professionals, and academic scholars. All relevant research materials were sent to each participant with the dissertation proposal manuscript (including the survey instrument) prior to the scheduled informed pilot meeting dates. Participants were asked to assess and share their reaction to the measurement scales, wording, concepts, and survey completion time. The informed pilot took place over a three-week time span between July 2021 and August 2021. Individual remote and in-person meetings were held lasting for 1- 2 hours. The data collected were used to refine the survey measurements scales and implement into the pilot study survey.

4.3 Design, Participants, and Procedures

Sampling: The primary means of sample targeting was through current and prior working relationships, leadership members in commercial real estate finance trade organizations, leadership members in investment management trade organizations, and other private/public sector leaders. A managed granular approach to achieving this target sample population was employed. This was executed by starting at the top of organizations and working down by position. Initially, executives and managers/asset managers, then lower levels with experience of 5 years were targeted to reach the total sample. The subject study includes an extensive literature review based on academic and practitioner proprietary research with methodology that parallels the subject research methodology. This foundation helped solidify the strength of the constructs, measures, and modified measures to fit the research design.

Pilot Study: The pilot study included a survey instrument of 56 items (Appendix A). This survey was created from the feedback from the informed pilot study. All 56 items used a 7 Likert Scale (Strongly agree to Strongly Disagree). Items in the survey included non-matrix questions including: 1) I believe that Mixed Income Housing (MIH) investments reduces an investment portfolio's overall risks; 2) Moderate income residents (61% of AMI-150% of AMI) along with residents that can pay market rental rates is key for the financial success of Mixed Income Housing (MIH) opportunities; and 3) Achieving Mixed Income Housing (MIH) rental returns are much less risky than achieving stock returns. The survey was sent out anonymously to 76 potential respondents utilizing the stated sample procedures. There was a total of 46 respondents

with three respondents not completing the survey. The three respondents that did not complete the survey were eliminated, leaving the total N to 43. This represents a 57% response rate. The survey was accessible for 6 weeks and distributed by Qualtrics. The 16 variables proposed through the research model (Figure 1) were tested through the 56 separate items including 7 measures for the Dependent Variable, Institutional Asset Owner Capital into Mixed-Income Housing (IAO into MIH).

Main Study (financial/public sector): The primary main study was sent out anonymously to 52 potential respondents utilizing the stated sample procedures. There was a total of 35 respondents with two respondents not completing the survey. This represents a significant figure in a finite universe of qualified respondents for the subject study. The two respondents that did not complete the survey were eliminated, leaving the total N to 33. This represents a 64% response rate. The survey was accessible for 6 weeks and distributed by Qualtrics. The 16 variables proposed through the research model (Figure 1) were tested through 26 separate items including 7 measures for the Dependent Variable, Institutional Asset Owner Capital into Mixed-Income Housing (IAO into MIH). Most items used a 7 Likert Scale (Strongly agree to Strongly Disagree). The 26 items are modified items from the pilot study which contained 56 items. The reduction in items is primarily from reducing independent variable items to 3 items per construct. In addition, questions were structured using a matrix set up in Qualtrics for the financial moderator variable items which significantly reduced overall items for the primary main study.

The mean of relevant experience in the sample of 33 participants was in the range of 15 to 25 years. Specifically, the participants included a cross-section of senior experts

as described in Appendices B and C. Particularly, 52% of the respondents were associated with pension funds, life insurance companies, investment management, and impact investing. The respondents were from markets across the US including respondents in California, New York, Texas, Chicago, Tennessee, Charlotte, Florida, Louisiana, Boston, Seattle, Atlanta, Washington DC, and Philadelphia. Although there is a small sample size, the quality of respondents as shown through Appendix B and C is significant to this study.

Main Study supplemental (public sector): The supplemental main study was sent out anonymously to 41 potential respondents utilizing the stated sample procedures. There was a total of 29 respondents with three respondents not completing the survey. This represents a significant figure in a finite universe of qualified respondents for the subject study. The three respondents that did not complete the survey were eliminated, leaving the total N to 26. This represents a 63% response rate. The survey was accessible for 6 weeks and distributed by Qualtrics. The eight public sector role variables proposed through the research model (Figure 1) were tested through 14 separate items including 3 measures for the dependent variable, Institutional Asset Owner Capital into Mixed-Income Housing (IAO into MIH). All items used a 7 Likert Scale (Strongly agree to Strongly Disagree). Dependent variable items were modified to improve measurement in relation to the independent variables. The moderator related items (CSRPOL and CSRINC) were modified as well.

V. DATA ANALYSIS AND RESULTS

5.1 Financial Descriptives (Main study, N=33)

Descriptive statistics for all ***financial variables*** are shown below in Table 3. The statistics were produced in SPSS (version 27) and include the mean, standard deviation (SD), and skewness. Financial independent variables are only listed as a separate public sector main supplemental study (with a different N, 26) was conducted to effectively measure the dependent variable (IAOMIH) in relation to the public sector variables.

Table 3	**Descriptive Statistics (financial)**				
Predictor	Minimum	Maximum	Mean	Standard Deviation	Skewness
RAR	3.43	6.43	5.1082	0.6576	-0.186
LIQ	4.33	7.00	5.8081	0.71215	-0.206
INV	1.67	6.67	3.7778	1.37605	0.198
GEO	2.40	7.00	5.1576	0.95755	-0.781
IS	2.00	6.00	4.6364	1.00126	-1.159
SPEC	2.00	6.00	4.6364	1.00126	-1.159
POL	2.00	7.00	4.1313	1.32272	0.165
INC	3.00	7.00	5.1010	1.11643	-0.047
ESGRAR	1.00	7.00	4.2222	1.38611	-0.0598
ESGLIQ	1.75	7.00	5.1288	1.04978	-0.958
ESGINV	2.00	7.00	5.4545	1.22423	-1.143
ESGGEO	2.00	7.00	4.9394	1.37804	-0.738
ESGIS	1.00	7.00	5.0606	1.42754	-9.74
ESGSPEC	3.43	6.43	5.1082	0.6576	-0.186

5.2 Public Sector Role Descriptives (Main study, N=26)

Descriptive statistics for all **public sector role** independent variables were produced in SPSS and shown in Table 4 below and included the mean, standard deviation (SD), and skewness. A separate public sector main study (Appendix G) was conducted to effectively measure the dependent variable (IAOMIH) in relation to the public sector variables.

Table 4	**Descriptive Statistics (public sector)**				
Predictor	Minimum	Maximum	Mean	Standard deviation	Skewness
POL	2.00	5.00	3.9103	0.73368	-0.799
INC	3.00	5.00	4.2051	0.54223	-0.344
CSRPOL	1.00	5.00	4.0641	0.81660	-2.080
CSRINC	1.33	5.00	4.1282	0.84893	-1.476

5.3 Measurement Validation

An Exploratory Factor Analysis (EFA) was completed to determine how each financial determinant and public sector role determinant items loaded relative to the targeted construct to be measured. Through SPSS (version 27), this analysis included Principal Component with an extraction across 10 fixed factors and the suppression of small coefficients (minimum value of .4). The goal of the EFA is to find a latent structure of observed variables by uncovering common factors that influence the measured variables. (Park, Daily, Lemus, 2002).

As described in section 4.2 (variable measurement), some constructs had a significant number of measurement items (with some constructs having 5 or more items) as shown in Appendix A (pilot study survey instrument). Not every item in the survey instrument loaded together and there were several cross-loadings. As a result of the number of items per construct and the smaller sample size, the EFA was initially conducted in batches by individual variables (i.e., RAR has 11 items and was ran as standalone). At the most 3 independent variables were run at a time. Essentially, this practice of running each set of items for each construct by itself was to determine the internal structure of the separated items and subsequently reduce the total number of items to 3 items for each construct to be measured and further analyzed for the main study. Several questions were revamped based on the EFA analyses for the pilot study. This included the elimination of non-matrix questions.

Once the EFA of the different independent batches were conducted, a final EFA was produced (Appendix D). We were then able to assess the presence of cross-loadings between items measuring different constructs and establish discriminant validity. Researchers use discriminate validity as a property of a measure and consider a measure to have discriminate validity if it measured the construct that it was supposed to measure but not any other construct of interest. (Ronkko and Cho, 2020).

After revisiting the wording and structure of all items, they were modified for further understanding and clarity. The modifications reduced the total number of items from 56 items to 26 items (Appendix E) and detailed in section 4.2. The items in Appendix E were used for the primary main study. As noted, a separate set of dependent

variable items were created, and independent and moderator variables were modified to improve the relationship amongst the public sector independent and moderator variables with the dependent variable.

In terms of reliability of the subject instruments, a series of analysis were conducted. These methods are well suited for the study. Reliability measures using Cronbach's $Alpha$ was employed with a focus on variables with Cronbach's Alpha greater than 0.50. The results of the analysis are below in Table 5. Overall, the reliability of the constructs has been established.

Table 5 -Reliabilities

MEASUREMENT ITEM	CRONBACH'S ALPHA
RISK ADJUSTED RETURNS (RAR)	.385
LIQUIDITY (LIQ)	.837
INVESTMENT VEHICLE (INV)	.745
GEOGRAPHIC DIVERSIFICATION (GEO)	.661
INVESTMENT SCALE (IS)	.610
SPECIALIZATION (SPEC)	.749
POLICY (POL)	.702
INCENTIVES (INC)	.403
ESGRAR	-.563
ESGLIQ	.049
ESGINV	.792
ESGGEO	.500
ESGIS	.612
ESGSPEC	.492
CSRPOL	.889
CSRINC	.887

5.4 Hypotheses Testing

Through hypotheses testing, eight independent variables were assessed for their relevance in the research model (Figure 1) and the significance of the direct relationships

between the eight independent variables and dependent variable of the research model (Figure 1).

Through hypotheses testing, eight moderating variables were assessed for their relevance in the research model (Figure 1) and the significance of the moderating effect on the commensurate eight independent variables and the effect on the dependent variable. To rigorously study the primary characteristics that drive institutional asset owner capital into mixed-income housing relative to the various hypotheses (H1-H16), statistical tests were employed primarily using multiple regression analysis through SPSS (version 27). The significance of the overall research model (and commensurate support of the hypotheses) was gaged based on the magnitude of the individual p-value of the independent and moderating variable. Statistical procedures steer us toward a better understanding of the data and toward drawing conclusions from the data. (Andrade, 2019).

Overall, five of ten independent variables between the financial characteristics and public sector role in the research model (Figure 1) were supported from highly significant levels ($p<.05$) to significance at the .1 level ($P<.1$). Overall, four of six moderating variables between the financial characteristics and public sector role in the research model (Figure 1) was supported from highly significant levels ($p<.05$) to significance at the .1 level ($P<.1$). Table 6 below outlines the standard coefficients of the independent variables in relation to the dependent variable, Institutional Asset Owner capital into Mixed-Income Housing (IAO into MIH).

Table 6 Summary of Results

HYPOTHESES	Predictor	Result	Significance (β)	p-value
H1	**RAR>IAOMIH**	**Supported**	**.373**	**.033**
H2	LIQ->IAOMIH	Not Supported	.259	.145
H3	**INV ->IAOMIH**	**Supported (at the .1 level)**	**.327**	**.064**
H4	**GEO->IAOMIH**	**Supported**	**.420**	**.015**
H5	IS->IAOMIH	Not Supported	.148	.413
H6	SPEC->IAOMIH	Not Supported	.163	.365
H7	**POL ->IAOMIH**	**Supported**	**.397**	**.045**
H8	**INC->IAOMIH**	**Supported**	**.647**	**.000**
H9	**ESG*RAR->IAOMIH**	**Supported**	**.133**	**.009**
H10	ESG*LIQ->IAOMIH	Not Supported	.317	.114
H11	ESG*INV->IAOMIH	Not Supported	-.052	.157
H12	**ESG*GEO->IAOMIH**	**Supported**	**.290**	**.012**
H13	**ESG*IS->IAOMIH**	**Supported**	**.235**	**.010**
H14	ESG*SPEC->IAOMIH	Not Supported	.103	.592
H15	CSR*POL->IAOMIH	Not Supported	-.093	.242
H16	**CSR*INC->IAOMIH**	**Supported**	**-.564**	**.001**

Financial determinants: While running multiple Regressions, the hypothesis associated with independent variable, Risk-Adjusted Returns (**RAR, H1)** was supported and in line with the expectations of the research model (Figure 1). The magnitude of the relationship was .373 units which represents the change in the dependent variable (in terms of its standard deviations) based on a one standard deviation change in Risk-Adjusted Returns. H1 predicted that an increase in the perception of acceptable Risk-Adjusted Returns will increase Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH). While running multiple Regressions, the hypothesis associated with independent variable, Liquidity (**LIQ, H2)** was not supported and not in line with the expectations of the research model (Figure 1). The magnitude of the

relationship was .259, units which represents the change in the dependent variable (in terms of its standard deviations) based on a one standard deviation change in Liquidity. H2 predicted as positive perceptions of the liquidity of Mixed-Income Housing (MIH) investments increase, capital allocations of an Institutional Asset Owner (IAO) into Mixed-Income Housing (MIH) will increase. These results do not provide support for a positive relationship between Liquidity (LIQ) and Institutional Asset Owner capital into Mixed-Income Housing (IAO into MIH) as predicted in H2. While running multiple Regressions, the hypothesis associated with independent variable, Investment Vehicles **(INV, H3)** was supported at the .1 level and in line with the expectations of the research model (Figure 1). The magnitude of the relationship was .327 units which represents the change in the dependent variable (in terms of its standard deviations) based on a one standard deviation change in Investment Vehicles. H3 predicted that as investment vehicles available for Mixed-Income Housing increase, the capital allocations of an Institutional Asset Owner (IAO) into Mixed-Income Housing (MIH) will increase. While running multiple Regressions, the hypothesis associated with independent variable, Geographic Diversification (**GEO, H4)** was supported and in line with the expectations of the research model (Figure 1). The magnitude of the relationship was .420 units which represents the change in the dependent variable (in terms of its standard deviations) based on a one standard deviation change in Geographic Diversification. H4 predicted that as geographically diverse Mixed-Income Housing (MIH) options increase, capital allocations of an Institutional Asset Owner (IAO) into Mixed-Income Housing (MIH) will increase. While running multiple Regressions, the hypothesis associated with independent variable, Investment Scale (**IS, H5)** was not supported and not in line with

the expectations of the research model (Figure 1). The magnitude of the relationship was .148 units which represents the change in the dependent variable (in terms of its standard deviations) based on a one standard deviation change in Geographic Diversification. H5 predicted that perceptions of an appropriate Investment Scale (IS) for Mixed Income Housing (MIH) investments will increase capital allocations of an Institutional Asset Owner (IAO) into Mixed-Income Housing (MIH). These results do not provide support for a positive relationship between Investment Scale (IS) and Institutional Asset Owner capital into Mixed-Income Housing (IAO into MIH) as predicted in H5. While running multiple Regressions, the hypothesis associated with independent variable, Specialization (**SPEC, H6)** was not supported and not in line with the expectations of the research model (Figure 1). The magnitude of the relationship was .163 units which represents the change in the dependent variable (in terms of its standard deviations) based on a one standard deviation change in Specialization. H6 predicted that as in-house expertise (SPEC) in Mixed Income Housing (MIH) investments increase, the capital allocations of an Institutional Asset Owner (IAO) into Mixed-Income Housing (MIH) will increase. These results do not provide support for a positive relationship between Specialization (SPEC) and Institutional Asset Owner capital into Mixed-Income Housing (IAO into MIH) as predicted in H6.

Financial determinants (moderating variables): While running multiple Regressions, the hypothesis associated with moderating variable, Environmental Social Governance, and its interaction with the independent variable, Risk-Adjusted Returns (**ESGRAR, H9)** was supported and in line with the expectations of the research model (Figure 1). The magnitude of the relationship at .133 units represents the change in the

dependent variable (in terms of its standard deviations) based on a one standard deviation change in the interaction (ESGRAR). H9 predicted that Environmental Social Governance (ESG) integration in investment decision making positively moderates Risk-Adjusted Returns (RAR) perceptions of an Institutional Asset Owner (IAO) leading to an increase in Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH). These results provide support for a positive relationship between the interaction of Environmental Social Governance/Risk-Adjusted Returns (ESGRAR) and Institutional Asset Owner capital into Mixed-Income Housing (IAO into MIH) as predicted in H9. While running multiple Regressions, the hypothesis associated with moderating variable, Environmental Social Governance, and its interaction with the independent variable, Liquidity (**ESGLIQ, H10)** was not supported and not in line with the expectations of the research model (Figure 1). The magnitude of the relationship at .317 units represents the change in the dependent variable (in terms of its standard deviations) based on a one standard deviation change in the interaction (ESGLIQ). H10 predicted that Environmental Social Governance (ESG) integration in investment decision making positively moderates Liquidity (LIQ) concerns of Institutional Asset Owners (IAOs) leading to an increase in Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH). These results do not provide support for a positive relationship between the interaction of Environmental Social Governance/Liquidity (ESGLIQ) and Institutional Asset Owner capital into Mixed-Income Housing (IAO into MIH) as predicted in H10. While running multiple Regressions, the hypothesis associated with moderating variable, Environmental Social Governance, and its interaction with the independent variable, Investment Vehicles

(**ESGINV, H11)** was not supported and not in line with the expectations of the research model (Figure 1). The magnitude of the relationship at -.052 units represents the change in the dependent variable (in terms of its standard deviations) based on a one standard deviation change in the interaction (ESGINV). H11 predicted that Environmental Social Governance (ESG) integration in investment decision making positively moderates investment vehicle (INV) availability of an Institutional Asset Owner (IAO) leading to an increase in Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH). These results do not provide support for a positive relationship between the interaction of Environmental Social Governance/Investment Vehicles (ESGINV) and Institutional Asset Owner capital into Mixed-Income Housing (IAO into MIH) as predicted in H11. While running multiple Regressions, the hypothesis associated with moderating variable, Environmental Social Governance, and its interaction with the independent variable, Geographic Diversification (**ESGGEO, H12)** was supported and in line with the expectations of the research model (Figure 1). The magnitude of the relationship at .290 units represents the change in the dependent variable (in terms of its standard deviations) based on a one standard deviation change in the interaction (ESGGEO). H12 predicted that Environmental Social Governance (ESG) integration in investment decision making for housing investment positively moderates Geographic Diversification (GEO) perceptions of an Institutional Asset Owner (IAO) leading to an increase in Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH). These results provide support for a positive relationship between the interaction of Environmental Social Governance/Geographic Diversification (ESGGEO) and Institutional Asset Owner capital into Mixed-Income Housing (IAO into MIH) as

predicted in H12. While running multiple Regressions, the hypothesis associated with moderating variable, Environmental Social Governance, and its interaction with the independent variable, Investment Scale (**ESGIS, H13)** was supported and in line with the expectations of the research model (Figure 1). The magnitude of the relationship at .235 units represents the change in the dependent variable (in terms of its standard deviations) based on a one standard deviation change in the interaction (ESGIS). H13 predicted that Environmental Social Governance (ESG) integration in investment decision making positively moderates Investment Scale (IS) perceptions of an Institutional Asset Owner (IAO) leading to an increase in Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH). These results provide support for a positive relationship between the interaction of Environmental Social Governance/Investment Scale (ESGIS) and Institutional Asset Owner capital into Mixed-Income Housing (IAO into MIH) as predicted in H13. While running multiple Regressions, the hypothesis associated with moderating variable, Environmental Social Governance, and its interaction with the independent variable, Specialization (**ESGSPEC, H14)** was not supported and not in line with the expectations of the research model (Figure 1). The magnitude of the relationship at .103 units represents the change in the dependent variable (in terms of its standard deviations) based on a one standard deviation change in the interaction (ESGSPEC). H14 predicted that Environmental Social Governance (ESG) integration in investment decision making positively moderates the need for in-house expertise (SPEC) in an Institutional Asset Owner (IAO) firm leading to an increase in Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH). These results do not provide support for a positive relationship between the interaction of Environmental

Social Governance/Specialization (ESGSPEC) and Institutional Asset Owner capital into Mixed-Income Housing (IAO into MIH) as predicted in H14.

Public Sector determinants: In the course of running multiple Regressions, the hypothesis associated with independent variable, Policy (**POL, H7)** was supported and in line with the expectations of the research model (Figure 1). The magnitude of the relationship at .373 units is strong and represents the change in the dependent variable (in terms of its standard deviations) based on a one standard deviation change in the independent variable, Policy (POL). H7 predicted that as beneficial public sector policy options for housing investment increase, Institutional Asset Owner (IAO) capital into Mixed-Income Housing (MIH) will increase. These results provide support for a positive relationship between Policy (POL) and Institutional Asset Owner capital into Mixed-Income Housing (IAO into MIH) as predicted in H7. While running multiple Regressions, the hypothesis associated with independent variable, Incentives (**INC, H8)** was supported and in line with the expectations of the research model (Figure 1). The magnitude of the relationship at .647 units is particularly strong and represents the change in the dependent variable (in terms of its standard deviations) based on a one standard deviation change in the independent variable, Incentives (INC). H8 predicted that as public sector incentives increase for housing investment, Institutional Asset Owner (IAO) capital into Mixed-Income Housing (MIH) will increase. These results provide support for a positive relationship between Policy (POL) and Institutional Asset Owner capital into Mixed-Income Housing (IAO into MIH) as predicted in H8.

Public Sector determinants (moderating variables): While running multiple Regressions, the hypothesis associated with moderating variable, Corporate Social Responsibility, and its interaction with the independent variable, Policy (**CSRPOL, H15)** was not supported and not in line with the expectations of the research model (Figure 1). The magnitude of the negative relationship was -.093, units which represents the change in the dependent variable (in terms of its standard deviations) based on a one standard deviation change in Corporate Social Responsibility (CSR). H15 predicted that as Corporate Social Responsibility (CSR) increases in the development of Public Sector Housing Policy (POL), Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH) will increase. These results do not provide support for a positive relationship between the interaction between Corporate Social responsibility (CSR) and Policy (POL) as predicted in H15. While running multiple Regressions, the hypothesis associated with moderating variable, Corporate Social Responsibility, and its interaction with the independent variable, Incentives (**CSRINC, H16)** was supported and in line with the expectations of the research model (Figure 1). The magnitude of the negative relationship was -.564, units which represents the change in the dependent variable (in terms of its standard deviations) based on a one standard deviation change in Corporate Social Responsibility (CSR). H16 predicted that as Corporate Social Responsibility (CSR) increases in the use of Public Sector Incentives (INC) for housing, capital allocations of an Institutional Asset Owner (IAO) into Mixed-Income Housing (MIH) will increase. These results provide support for a positive relationship between the interaction between Corporate Social responsibility (CSR) and Incentives (INC) as predicted in H16.

VI. DISCUSSION AND CONTRIBUTION

This section of the manuscript will expand on the results, their implications, and pose insight on furthering the research. A primary aspiration of this study is to demonstrate that not only financial determinants have a direct effect on the dependent variable (Institutional Asset Owner capital into Mixed-Income Housing, IAOMIH) but a public sector role has a direct effect on the dependent variable (Institutional Asset Owner capital into Mixed-Income Housing, IAOMIH). As shown in the hypotheses testing section, both have a direct effect. The results that support the financial characteristic hypotheses are certainly not surprising. Decades of literature and data support financial determinants such as risk adjusted returns as a significant factor of capital allocations.

We arrived at this discussion of the results by testing the research model (Figure 1) via survey instruments that included a total of 59 completed survey responses. The results of the study indicated a clear positive effect of risk-adjusted returns, investment vehicles, geographic diversification, policy (public sector role), and incentives (public sector role). The survey results revealed that Environmental Social Governance (ESG) positively moderates the relationships amongst risk-adjusted returns, investment vehicles, geographic diversification, investment scale, and the dependent variable Institutional Asset Owner capital into Mixed-Income Housing (IAOMIH). In addition, the survey results revealed that Corporate Social Responsibility (CSR) strongly moderates one of the public sector independent variables of the model (incentives) and its relationship with the dependent variable Institutional Asset Owner capital into Mixed-Income Housing (IAOMIH). This is a somewhat new phenomenon for the US. There isn't a targeted focus

of US municipalities to integrate Corporate Social Responsibility (CSR) into policy and incentive creation. This concept is quite prevalent in Europe as detailed in the discussion. The results of the study and implications for US municipalities nationwide is both exciting and a significant opportunity.

Below is a table of all **supported independent variables** in the research model (Figure 1).

Table 7 -Supported Independent Variables

Predictor	**p-value**
Risk Adjusted Returns (RAR-H1)	.033
Investment Vehicle (INV-H3)	.064
Geographic Diversification (GEO-H4)	.015
Policy (POL-H7)	.045
Incentives (INC-H8)	.000
ESGRAR (H9)	.009
ESGGEO (H12)	.012
ESGIS (H13)	.010
CSRINC (H16)	.001

6.1 Summary Results Discussion

Financial determinant: Risk-Adjusted Returns has a positive effect on Institutional Asset Owner capital into Mixed-Income Housing (IAOMIH)

Hypothesis (H1) predicted that an increase in the perception of acceptable Risk-Adjusted Returns will increase Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH). This outcome reiterates decades of literature regarding an investor's appetite for risk relative to expected returns. This outcome provides valuable insight into the perceptions, motivations, and attitudes of an Institutional Asset Owner

(IAO) relative to mixed-income housing investing. There is a highly significant effect ($p<.05$) between risk-adjusted returns and allocating institutional asset owner capital into mixed-income housing. This result demonstrated that an asset class such as housing (specifically mixed-income housing) is not considered niche or secondary in the current investment environment but a primary investment option. An Institutional Asset Owner (IAO) emphasizes high occupancy, reliable tenants, quality locations, and low turnover of properties, promising reliable returns. (Fuller, 2021). The study confirms decades of literature that an Institutional Asset Owner (IAO) assesses risk and returns for mixed-income housing in very much the same manner as investments in market-rate multifamily.

Financial Determinant: Investment vehicle perceptions have a positive effect on Institutional Asset Owner capital into Mixed Income Housing (IAOMIH)

While the effect is positive, the significance is at the .1 level which implies marginal significance but nonetheless the result is material. Hypothesis (H3) predicted that as investment vehicle options available for Mixed-Income Housing increase, the capital allocations of Institutional Asset Owners (IAO) into Mixed-Income Housing (MIH) will increase. This outcome reiterates the need for creativity in the structuring of how an Institutional Asset Owner (IAO) invests in mixed income housing. There are a variety of investment options to match different investor profiles, across spectrums of risk (ranging from senior debt to equity positions) and return (ranging from at-market to below-market rates of returns). (Speroni, 2020). The participants of this study responded more favorably to the following investment vehicles: equity separate accounts, joint

ventures, and direct investing. These three options provide an Institutional Asset Owner (IAO) substantial flexibility and control. Each option is a form of direct ownership in mixed income housing. An equity separate account is a vehicle that can be created between an operator (whether a developer or fund manager) and an institutional asset owner (life insurance company, pension fund, endowment). This vehicle allows the institutional asset owner to maintain control as the "owner" of the account, but the operations are entirely outsourced to a third-party money manager. Oftentimes, an institutional asset owner acts as a third-party money manager as well.

A joint venture is a vehicle that can be created between an operator (whether a developer or fund manager) and an institutional asset owner (life insurance company, pension fund, endowment). The institutional asset owner will bring its substantial capital to the table and the partner will provide the expertise and local market knowledge.

Direct investments allow for ultimate control and flexibility for an institutional asset owner. Each vehicle provides substantial growth opportunities across diverse markets with substantial product and investment scale access.

Financial determinant: Geographic Diversification perceptions have a highly significant positive effect on encouraging an Institutional Asset Owner to allocate/increase capital into Mixed-Income Housing (IAOMIH)

Hypothesis (H4) predicted that as geographically diverse (GEO) Mixed-Income Housing (MIH) options increase, capital allocations of an Institutional Asset Owner (IAO) into Mixed-Income Housing (MIH) will increase. There is a highly significant effect ($p<.000$) between geographic diversification and allocating institutional asset

owner capital into mixed-income housing. In terms of geographic diversification, the participants of this study responded in a very similar manner that institutional investors respond when it comes to diversifying real estate risk in general. Having exposure to various markets across the US enables investors to mitigate risks and balance exposure. Some investment opportunities target a geographic region; others may be national in scale. Either option may meet the strategic need of the institutional asset owner through the chosen investment vehicle. (Speroni, 2020). According to (Montezuma, 2006), non-residential property and bond returns are believed to be mildly correlated with those of residential property. Meaning that residential property is expected to provide diversification benefits for investors even when portfolios already include non-residential property.

Public Sector determinant: Public Sector Policy has a significant positive effect on encouraging an Institutional Asset Owner to allocate/increase capital into Mixed-Income Housing (IAOMIH)

Hypothesis (H7) predicted that as beneficial Public Sector Policy (POL) options for housing investment increase, Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH) will increase. This study features the public sector role as an added component to the literature regarding an institutional asset owner and their willingness to invest in mixed-income housing. There is a highly significant effect ($p<.05$) between public sector policy creation and allocating institutional asset owner capital into mixed-income housing. This outcome reiterates there is a substantial untapped public sector element as it relates to encouraging capital allocations from an

Institutional Asset Owner (IAO) into Mixed-Income Housing (MIH). Municipalities nationwide are dealing with the current housing affordability crisis. Policy that increases the municipality's flexibility and local sources of funding that could be used in part to increase mixed income housing is a viable path to attracting institutional asset owner capital. This goes beyond inclusionary zoning, where a developer chooses to pay a fee or include a certain level of affordable housing in a market-rate project and was created to ultimately facilitate increased mixed income housing. Since its inception in Maryland, it and has grown nationally. It should also be noted that inclusionary zoning policy has the most impact on the formation of mixed income housing as it can target the income cohort (61% of AMI to 150% of AMI) which is the subject of this dissertation.

Public Sector determinant: Public Sector Incentives have a highly significant positive effect on encouraging an Institutional Asset Owner to allocate/increase capital into Mixed-Income Housing (IAOMIH)

Hypothesis (H8) predicted that as Public Sector Incentives (INC) increase for housing investments, Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH) will increase. This study features the public sector role as an added component to the literature regarding institutional asset owners and their willingness to invest in mixed income housing. There is a highly significant effect ($p<.000$) between public sector incentives and allocating Institutional Asset Owner (IAO) capital into Mixed Income Housing (MIH). This outcome reiterates there is a substantial untapped public sector element as it relates to encouraging capital allocations from an Institutional Asset Owner (IAO) into Mixed-Income Housing. Public sector incentives

and the moderating effect of Corporate Social Responsibility (CSR) on incentives (to be discussed in the next section for moderating variables) had the strongest results of all variables. The creation and implementation of well thought out incentives to attract this class of investors while maintaining municipal fiscal stability warrants further attention and study.

Financial determinant, moderating effect of ESG: A highly significant interaction between Environmental Social Governance (ESG) and Risk-Adjusted Returns

Hypothesis (H9) predicted that Environmental Social Governance (ESG) integration in investment decision making positively moderates Risk-Adjusted Returns (RAR) perceptions of Institutional Asset Owners (IAOs) leading to an increase in Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH). This outcome demonstrates that Environmental Social Governance (ESG) integration is an important barometer as an Institutional Asset Owner (IAO) assess the risk and return relative to investing into Mixed-Income Housing (MIH). The concept of ESG is a positive interaction and expands decades of literature regarding an investor's appetite for risk relative to expected returns. Awareness is growing that real estate can have a significant social impact through affordable housing, social housing, or through an environmental focus investment on new buildings such as green buildings. (Deloitte, 2021). ESG integration in the development of and preservation of mixed income housing has the potential to drive down overall costs through environmentally friendly operational efficiencies which can increase returns while reducing risk.

Financial determinant, moderating effect of ESG: A highly significant interaction between Environmental Social Governance (ESG) and Geographic Diversification

Hypothesis (H12) predicted that Environmental Social Governance (ESG) integration in investment decision making for housing investment positively moderates Geographic Diversification (GEO) perceptions of an Institutional Asset Owner (IAO) leading to an increase in Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH). This outcome demonstrates that Environmental Social Governance (ESG) integration further positively affects the allocation of Institutional Asset Owner capital into mixed-income housing. For example, the developer, Grubb Properties has embraced ESG. The firm is cognizant of climate change implications and its contributing impact on displacement, migration, gentrification, and affordability challenges in the markets where it operates. As a result, the firm monitors the availability of attainable housing and local housing shortages in markets across the US to identify where it can provide supply to meet the demand. (Grubb, 2021).

Financial determinant, moderating effect of ESG: A significant interaction between Environmental Social Governance (ESG) and Investment Scale

Hypothesis (H13) predicted that Environmental Social Governance (ESG) integration in investment decision making positively moderates Investment Scale (IS) perceptions of Institutional Asset Owners (IAOs) leading to an increase in Institutional Asset Owner (IAO) capital allocations into Mixed-Income Housing (MIH). Investment Scale (IS) as an independent variable did not deliver significant results but the integration of Environmental Social Governance (ESG) as a moderator to Investment Scale (IS)

yields significant results. According to Bloomberg, global ESG investments will exceed $53 trillion by 2025. This represents over a one third of the approximately $141 trillion in projected total assets under management. (Bloomberg, 2021). This level of capital with an ESG mandate supports the notion from respondents in our survey that ESG integrated mixed income housing opportunities will provide the adequate investment scale that an institutional asset owner requires when considering allocating capital to mixed income housing.

Public Sector determinant, moderating effect of CSR: A highly significant interaction between Corporate Social Responsibility and Incentives (CSRINC)

Hypothesis 16 (H16) predicted that as Corporate Social Responsibility (CSR) increases in the creation of Public Sector Incentives (INC) for housing, capital allocations of Institutional Asset Owners (IAOs) into Mixed-Income Housing (MIH) will increase. This outcome confirms the research model (Figure 1) of this study which adds the public sector role as another key investor decision element that has a direct effect on untapping significant Institutional Asset Owner (IAO) capital for the production and preservation of mixed-income housing. The statistical performance results of the moderating variable, Corporate Social Responsibility (CSR), and its significant effect on public sector incentives broadens the implications of the public sector role in increasing Institutional Asset Owner (IAO) capital into Mixed Income Housing (MIH). It should be noted that even though the integration of CSR in incentives making (H16) by the public sector is highly significant and supported (at the .001 level), the strength of this relationship has a negative direction which implies CSR integration in incentives making will be

demanding but a worthwhile endeavor within US municipalities. It will be a formidable undertaking merely to create incentives (H8) that encourage an institutional asset owner to allocate capital to mixed income housing. H8 was highly significant and supported (at the .001 level) as well. CSR integration would require municipalities to rethink its approach and come to terms with and address the challenges inherent in the public sector that can stifle the creation of mixed income housing. (Midttun, 2005), explores whether CSR can contribute crucial new elements to the new relationships between government, companies and society involving government, but with a softer approach and offering positive incentives. In this model, governments act as participants, organizers, or facilitators, developing a softer role, where public sector agencies enable or stimulate companies to engage in innovation and partnering and endorse the soft regulatory agenda.

6.2 Theoretical Contributions: (Markowitz, 1952) is one of the primary theoretical frameworks of the subject study. The theory considers that asset classes should be selected on expected return and risk for each asset and on the correlation of returns of each and every pair of asset classes. (Montezuma, 2006). Our study measured the financial determinants represented in the research model with this framework as a guide. Our study adds public sector characteristics as a contribution to the existing literature regarding assessing perceptions, motivations, and the attitudes of an Institutional Asset Owner (IAO) and their willingness to allocate and increase capital allocations into Mixed-Income Housing (MIH). There is a lack of peer-reviewed literature that combines the two components (financial characteristics and public sector role) in a scholarly manner to measure the willingness of an Institutional Asset Owner (IAO) to invest in

mixed-income housing. In general, there are not many peer-reviewed surveys focused on institutional investors' perceptions of residential property. (Montezuma, 2006).

The literature focuses primarily on financial characteristics considered by an Institutional Asset Owner (IAO) as laid out by (Markowitz, 1952). There is limited literature in the United States on adding the public sector's role in conjunction with the financial characteristics assessing the perceptions, motivations, and attitudes of an Institutional Asset Owner (IAO) allocations into Mixed-Income Housing (MIH). Through this study, the research community focused on this area now have additional data (including the importance of the public sector's role) regarding how an Institutional Asset Owner (IAO) makes capital allocation decisions into housing and how to further existing industry concepts including Environmental Social Governance (ESG) and Corporate Social Responsibility (CSR) integration in decision making in mixed-income housing investing. Institutional Asset Owner organizations are an especially important category of current and prospective impact investors, even if they are not familiar or self-identify with the term impact investing. With total assets of over $20 trillion in the United States, these anchor investors play a fundamental role in the domestic U.S. and world capital markets. (Wood, et al., 2013). Stakeholders such as developers and Institutional Asset Owner (IAO) organizations are part of the worldwide movement in adopting Environmental, Social, and Governance (ESG) principles. Environmental, Social, Governance (ESG) investing now accounts for nearly 20% of an Institutional Asset Owner's total assets under professional management in the US. (Eccles, et, al, 2017).

6.3 Practical Contributions: The results of the subject study have broad implications and have the potential to strengthen relationships amongst the private, public, and

academic sectors regarding mixed-income housing investing. The research model (Figure 1) and subsequent results of the study lay the groundwork for several practical contributions. In particular, the highly significant results of the public sector independent variables and the public sector moderating variables reveal pent-up demand for the reimagination of the public sector's role in encouraging increased Institutional Asset Owner (IAO) capital into Mixed-Income Housing (MIH).

Financial Determinants: In terms of the financial determinants of the model, the results are generally in line with expectations from a literature standpoint and practical standpoint. Risk-Adjusted Returns (RAR), Investment Vehicles (INV), and Geographic Diversification (GEO) were significantly supported. In addition to these financial characteristics of the model having a direct effect on increasing Institutional Asset Owner (IAO) capital into Mixed-Income Housing (MIH), Environmental Social Governance (ESG) as a moderating variable to the aforementioned financial determinants were significantly supported for the exception of Investment Vehicles (INV). In addition, Environmental Social Governance (ESG) had a significant interaction with Investment Scale (IS). Investment Scale (IS) was not supported as a direct effect on the dependent variable alone.

In terms of operationalizing these results into practice, an Institutional Asset Owner (IAO) and its stakeholders can further develop the appropriate investment vehicles focused on stewarding new alternative investment real estate products that target mixed income housing. In practice, the major obstacle is that investors will need to

reinvent their traditional investment models to match the needs of the local community. Cunha and Coimbra, (2021).

Respondents in the survey heavily favored the following investment vehicles: direct investing, joint ventures, and equity related products. Specifically for direct investing and joint ventures this becomes an opportunity for an institutional asset owner to develop relationships with local and smaller operators that focus on creating and preserving mixed income housing. Often these operators have limited capital and costly requirements (requirements often imposed by the public sector) to maintain their inventory of mixed income housing. However, these operators also have access and knowledge to a pipeline of mixed income housing opportunities. Local operators and their inventory of housing product are a perfect focus for an institutional asset owner to deploy a direct investment vehicle or joint venture vehicle strategy for mixed income housing.

In terms of Environmental Social Governance (ESG) integration into the supported financial determinants, the local operator approach to investing in mixed income housing helps an institutional asset owner with drilling into neighborhood dynamics and understanding the stakeholders, the residents, and overall needs of a community. This is a socially responsible investing approach, and it also increases the scale of investment for the institutional asset owner. As shown in the results, Environmental Social Governance (ESG) positively moderates investment scale at the .01 level (highly significant). As referenced earlier in this manuscript, US Institutional Asset Owner's account for significant investable cash that must be deployed on an annual basis

into various investment opportunities including stocks, bonds, real estate, and other asset classes for the benefit of its participants and clients. With total assets of over $20 trillion in the United States, these anchor investors play a fundamental role in the domestic U.S. and world capital markets. Wood, et al., (2013).

Housing affordability is one of many challenges an IAO can use its considerable capital to make a positive difference. The use of advisors, consultants, non-profits for guidance on the engagement is encouraged. This level of engagement will ensure the needs of all stakeholders are being met. As the owner/client of the engagement, the more the public sector is involved in establishing a strong relationship as a partner, the more this adds value. Lopez (2021).

Finally, to realize the full benefit of such collaborations, a holistic approach should be adopted. While the supported financial independent variables (Risk-Adjusted Returns, Investment Vehicles, Geographic Diversification) confirm decades of literature from a financial characteristics perspective, the results of the moderating variable (Environmental Social Governance, ESG) and its interaction with Risk Adjusted Returns, Geographic Diversification, and Investment Scale represent an opportunity to refocus and adapt priorities. The appearance of ESG and impact-focused investment priorities require a reimagination of investment decision-making to accommodate the preferences and motivations of an evolved institutional investor. A growing trend in the institutional investment world (and in corporate America in general) is to not only earn profit but to have a social impact. This holistic approach will require a greater emphasis on the “S” in Environmental Social Governance. An Institutional Asset Owner (IAO) will need to

develop a specific housing investment-related plan to achieve the appropriate integration of Environmental Social Governance (ESG). This will require new industry practices that specifically target social issues such as housing and further develop metrics that measure the progress of a successful ESG integration for the benefit of increased mixed-income housing.

Public Sector Role determinants: In terms of the public sector role component of the model (Figure 1), the results not only strongly support public sector involvement (through the measurement of policy and incentives) in increasing institutional asset owner capital into mixed-income housing across the US but the results strongly support the integration of Corporate Social Responsibility (CSR) in the development of incentives (INC) to encourage an Institutional Asset Owner (IAO) to increase capital into the production of Mixed-Income Housing (MIH). H7 (Policy), H8 (Incentives), and H16 (the Corporate Social Responsibility interaction with Incentives) are supported at a significant level ($p<.001$). The public sector role results lay the groundwork to reimagine the policy framework that could encourage an Institutional Asset Owner (IAO) to allocate capital into mixed-income housing production.

> The challenge for governments is to find a way to design and implement public policy that will generate leadership and partnership-based innovation, seeking to maximize the benefits of these innovations by ensuring their systematic acceptance and application among the wider business community. In relation to that, CSR clusters provide an excellent framework for understanding, designing and operationalizing public policies on CSR, including international

competitiveness framework statutory compliance, fiscal measures, and multi-sector partnerships (Zadek and Swift, 2002).

The successful integration of CSR into public sector incentives development is demonstrated in European countries such as the United Kingdom, Italy, Sweden, and Norway as discussed in the literature review of this manuscript. Methods in which US municipalities can operationalize this specific result is further discussed below.

First, municipalities should understand how an Institutional Asset Owner (IAO) operates by developing a deep understanding of real estate investment products, market demand, and return requirements. Municipalities can operationalize the results of this study by exploring the creation of a Real Estate Capital Markets (RECM) department or RECM director to lead collaborations with the private sector and to workshop viable models around policy development and integration of CSR into the creation of incentives that encourages investment in mixed-income housing. As (Aalbers, 2017: 3) conveyed, there is an increasing dominance of financial actors, markets, practices, measurements, and narratives, at various scales, resulting in a structural transformation of economies, firms (including financial institutions), states, and households. Having adept knowledge and connectivity to the capital markets is a key element in the public sector's ability to secure Institutional Asset Owner (IAO) capital to produce mixed-income housing

Second, well-constructed public-private partnerships formed around the key preferred investment vehicles collected from the main study of the research (equity separate accounts, joint ventures, and direct investing) can serve as the foundation for collaboration between an Institutional Asset Owner and the public sector. With limited

funds available for subsidies and as the global/US economy slows, expanding the supply of rentals affordable across various income cohorts through a mixed income housing approach can attract Institutional Asset Owner (IAO) capital as demonstrated from the significant results of the subject survey. This approach can also alleviate pressure off already constrained federal and state funding sources that are meant to provide capital to a municipality's most vulnerable populations. As shown in Table 1 of this study, the federal and state sources largely target households that earn 60% of AMI or less. The results of this study provide an additional pathway to another very productive income cohort of US society, the 61% of AMI to 150% AMI cohort.

Finally, the highly significant performance of the public sector role independent variables (policy and incentives) as well the interaction between Corporate Social Responsibility (CSR) and Incentives (INC) demonstrates pent up demand for a fundamental overhaul of government approaches, processes, and procedures. Municipalities nationwide have worked to uncover all available options to combat the persistent housing affordability problem. There are many productive ideas and initiatives. This study provides an opportunity to step back and review what municipalities have accomplished, and determine what works, what doesn't work, and reimagine the approach.

> (Albareda et al., 2004) and (Lozano et al., 2005) developed a CSR public policy-relational analytical framework to better understand the role of government in CSR. This tool enables the analysis of a government's approach to CSR from two key perspectives: the overarching policy framework, and policy implementation

> in terms of specific policies and programs. In this context, governments are now operating in a new relational approach, where the different perceptions of each exchange relationship need to be addressed to develop CSR public policy, and a consideration of these relationships allows a more complete view of government CSR policy.

In the (Midttun, 2005) CSR public-policy relational analytical framework, the author explores whether CSR can contribute crucial new elements to the new relationships between government, companies and society involving government, but with a softer approach and offering positive incentives.

6.4 Limitations and Future Research: While this study makes promising contributions to literature and practice focused on perceptions, motivations, attitudes, and intentions of an Institutional Asset Owner to invest in Mixed Income Housing (MIH), there are limitations that should be contemplated (discussed below).

Survey Method: First, the survey method is useful but reducing a user's response to only a Likert scale choice is limiting. This research could also benefit from additional insight and commentary from respondents through a mixed method approach. The use of round table discussions, interviews, and innovation laboratories can provide broader detail on a respondent's perceptions, motivations, and attitudes about mixed income housing investing.

Small Sample: Second, a substantial factor driving results in the main study was the sample size (N=59). The target population included industry and academic experts in a finite universe of appropriate experts. An increase in the sample size could also make a

difference in the independent variable's relationship with the dependent variable. Specifically, independent variables that were marginally significant and those that were close to being significant. The loadings in the EFA were mixed with several of the variables loading more than once (or twice) in factors. Due to the sample size, it is challenging to ascertain if the poor loadings are due to underlying problems with some survey questions or are just an idiosyncratic function of only surveying 59 respondents.

Response Bias: Given the small sample size, we gave specific attention to potential response bias. Diligent efforts were employed to minimize this occurrence such as designing and administering the survey to prevent the survey respondents from discovering the research's true hypotheses (Cook et al., 1970). Another potential limitation is demand characteristics bias, which refers to the situation when respondents figure out the study's purpose. These biases can influence the participants and their responses. Additionally, we can denote acquiescence bias, which refers to when respondents tend to agree with all the questions in a measure. Survey construction development incorporated efforts to control for specific response biases.

Focus on an Institutional Asset Owner (IAO): Third, the primary focus of the study is from the viewpoint of an Institutional Asset Owner (IAO). There are other sources of significant capital that could play a similar role in increasing the production of mixed-income housing and can work with the public sector. Recent examples include large technology organizations such as Microsoft, Amazon, Apple, Google, and Facebook making significant capital commitments for increased housing affordable to all residents. (Nickelsburg, 2019). Mixed Income Housing investment opportunities are adequate for

other organizations with substantial capital access and socially responsible driven missions including hospitals/healthcare systems, universities, and religious organizations. A way to further this research and target other buckets of capital for the benefit of increased mixed income housing is to study the motivations and preferences of technology, hospitals/healthcare systems, universities, and religious organizations.

VII. CONCLUSIONS

Overall, the subject study set out to answer the question, what are the primary determinants that drive Institutional Asset Owner (IAO) capital into Mixed-Income Housing (IAO into MIH) in the U.S.? The subject study focused on the perceptions, motivations, and attitudes of an Institutional Asset Owner (IAO) and the willingness of this category of investor to invest in Mixed-Income Housing (MIH). The study proposed that there are financial determinants and a public sector role as well as moderating social/principle-based factors that enhance certain perceptions, motivations, and attitudes of an Institutional Asset Owner (IAO) to fill in the funding gap that exists due to the lack of federal, state and local capital sources for the creation and preservation of Mixed Income Housing (MIH).

The supported hypotheses (Table 7) in the study suggest a strong desire on the part of an Institutional Asset Owners (IAO) to invest in Mixed Income Housing (MIH). From a financial perspective and as the financial determinants are depicted in the research model (Figure 1), the results associated with Risk Adjusted returns (RAR), Investment Vehicles (INV), Geographic Diversification were in line with the literature. To integrate Environmental Social Governance (ESG) into its mixed income housing investment approach, an Institutional Asset Owner (IAO) and their advisors should engage the public sector at all levels of government (federal, state, and local branches). In addition to creating the appropriate risk-return profile, experience showed that without the right kinds of incentives, mobilizing pension fund assets can be constrained. (World Bank Group, 2018).

The highly significant performance of the public sector role independent variables (policy and incentives) as well the interaction between Corporate Social Responsibility (CSR) and Incentives (INC) demonstrates pent up demand for a fundamental overhaul of government approaches, processes, and procedures that deliberately set out to collaborate with the private sector for the benefit of increased mixed-income housing. In a holistic manner, opportunities for municipalities to rethink approaches include streamlining efforts (improving the development process, addressing development related fees, increasing by-right entitlement paths, modified development obligations, transit-oriented options, etc.), increased flexibility in the use of tax incentives, increased use of private activity bonds available for new housing construction, the use of funds from inclusionary zoning practices, and the creation of locally sourced housing funds. The public sector should continually evaluate its own internal processes for ways to streamline, foster solutions, foster investment (versus disinvestment), and foster equity to encourage an Institutional Asset (IAO) to increase capital into Mixed-Income Housing (MIH).

Although there is broad consensus that Corporate Social Responsibility (CSR) has a business-driven approach and that the focus of CSR development is the business sector, attention must also be paid to the development and application of CSR within the framework of other stakeholders, such as governments, from a relational perspective. (Albareda, et. al, 2008). In this model, governments act as participants, organizers, or facilitators, developing a softer role, where public sector agencies enable or stimulate companies to engage in innovation and partnering and endorse the soft regulatory agenda. (Albareda, 2008).

Finally, the US public sector must have the appetite, will, motivation, determination, and openness to implement this concept into incentives creation. These continued efforts will be more deeply impactful to a broader group of stakeholders to drive costs down and speed processes. Most authors conclude that CSR public policies must use soft forms of government intervention to shape the voluntary behavior of companies. (European Commission, 2002), (Fox et al., 2002), (Zappal, 2003), (Albareda et al, 2004), (Lepoutre et al., 2004), (Bell, 2005), (Lozano et al., 2005). The findings of this study represent an important opportunity for public and private sector engagement for the benefit of increased mixed income housing as well as expanding academic paths for further research on the perceptions, motivations, and attitudes of an Institutional Asset Owners (IAO) regarding capital allocation into Mixed Income Housing (MIH).

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APPENDICES

Appendix A

DESCRIPTIVE STATISTICS	PILOT (N=43)				
PREDICTOR	Minimum	Maximum	Mean	Standard Deviation	Skewness
IAOMIH	3.29	6.86	5.1880	0.82179	-0.265
RAR	3.83	6.58	5.2946	0.60922	-0.312
LIQ	2.60	6.40	4.4233	0.89038	0.315
INV	2.90	5.90	4.5767	0.63764	-0.377
GEO	3.60	6.40	4.6884	0.65072	0.336
IS	2.67	7.00	4.6047	0.91361	0.209
SPEC	3.57	6.14	4.8538	0.64980	0.033
POL	2.50	6.75	5.2093	1.06895	-0.684
INC	4.00	7.00	5.6589	0.87435	-0.098
ESGRAR	3.00	7.00	4.7364	0.93310	0.410
ESGLIQ	2.67	6.67	4.1085	0.73363	0.941
ESGINV	4.00	7.00	5.5814	0.83936	-0.368
ESGGEO	3.33	7.00	4.8140	0.91519	0.468
ESGIS	3.75	7.00	5.2674	0.81174	0.188
ESGSPEC	3.00	6.67	4.7287	0.92655	0.098
CSRPOL	3.67	7.00	5.5194	0.94925	-0.034
CSRINC	3.67	7.00	5.8217	0.90076	-0.590

Appendix B

MAIN STUDY (N=33)	
RESPONDENT PROFILE	% Of Respondents
PENSION FUND	2.94%
LIFE INSURANCE COMPANY	5.88%
INVESTMENT MANAGEMENT	29.41%
DEVELOPER	20.59%
PUBLIC SECTOR (NON-PENSION)	2.94%
INSTITUTIONAL SALES	5.88%
RESEARCH, ACADEMIC SECTOR	0.00%
NON-PROFIT SECTOR	0.00%
REGISTERED INVESTMENT ADVISOR (RIA)	2.94%
INTERMEDIARY (CONSULTANT, BROKER)	8.82%
LENDER	8.82%
IMPACT INVESTOR	11.76%
TOTAL	**100%**

Appendix C

SUPPLEMENTAL MAIN STUDY (N=26)	
RESPONDENT	% Of Respondents
PENSION FUND	11.54%
LIFE INSURANCE COMPANY	15.38%
INVESTMENT MANAGEMENT	19.23%
DEVELOPER	11.54%
PUBLIC SECTOR (NON-PENSION)	7.69%
INSTITUTIONAL SALES	0.00%
RESEARCH, ACADEMIC SECTOR	0.00%
NON-PROFIT SECTOR	3.85%
REGISTERED INVESTMENT ADVISOR (RIA)	3.85%
INTERMEDIARY (CONSULTANT, BROKER)	11.54%
LENDER	3.85%
IMPACT INVESTOR	11.54%
TOTAL	**100%**

Appendix D

Pilot study
N=43

1) Below are motivations of an Institutional Asset Owner (IAO) to allocate capital to Mixed Income Housing (MIH) rentals:

- Commitment to Environmental, Social, Governance (ESG) integration.
- Efficient means to meet multifamily exposure goals.
- Financially attractive relative to other investment opportunities.
- Please select strongly agree.
- Responding to client demand.
- Diversification strategy.
- Hedging strategy.

2) My organization intends to increase its capital allocation into Mixed Income Housing (MIH).

3) When considering investing in Mixed Income Housing (MIH), the following are challenges for Institutional Asset Owners (IAO):

- Transaction Costs.
- Low Returns.

4) When considering investing in Mixed Income Housing (MIH), the following are important to an Institutional Asset Owner (IAO):

- Potential for capital appreciation.
- Total expected return.
- Inflation hedge.
- Maximize expected returns.
- Minimize volatility of portfolio returns.
- Ensure performances relative to peer universe (benchmark).
- Ensure a real rate of return.

5) I believe that Mixed Income Housing (MIH) investments reduces an investment portfolio's overall risks.

6) Moderate income residents (61% of AMI-150% of AMI) along with residents that can pay market rental rates is key for the financial success of Mixed Income Housing (MIH) opportunities.

7) Achieving Mixed Income Housing (MIH) rental returns are much less risky than achieving stock returns.

8) When considering investing in Mixed Income Housing (MIH), the following are liquidity challenges for an Institutional Asset Owner (IAO):

- Poor liquidity.
- Minimal cash flow.
- Poor match against liabilities.

9) When considering Mixed Income Housing (MIH) investing, some form of liquidity enhancement is important to an Institutional Asset Owner (IAO).

10) When considering Mixed Income Housing (MIH) investing, the existence of a viable secondary market which provides adequate liquidity is important to an Institutional Asset Owner (IAO).

11) When considering investing in Mixed Income Housing (MIH), the lack of structured investment vehicles available to an Institutional Asset Owner (IAO) is a barrier.

12) When considering Mixed Income Housing (MIH) investing, the following investment vehicles represent viable liquidity options:

- Community Development Financial Institutions (CDFIs).
- Debt Separate Account Structure.
- Equity Separate Account Structure.
- Please select strongly disagree.
- Commingled Debt Fund.
- Commingled Equity Fund.
- Joint Ventures.
- Direct Investing.

13) There are many Mixed Income Housing (MIH) investing options available to an Institutional Asset Owner (IAO).

14) When considering investing in Mixed Income Housing (MIH), the following are market consideration barriers for an Institutional Asset Owner (IAO):

- Poor market information.
- Inadequate opportunities to diversify risk.

15) When considering Mixed Income Housing (MIH), geographic diversification helps reduce the

investment risk of investing in Mixed Income Housing (MIH) for an Institutional Asset Owner (IAO).

16) When considering investing in Mixed Income Housing (MIH), there is inadequate geographic dispersion.

17) When considering allocating capital into Mixed Income Housing (MIH), a national pipeline of investing opportunities will satisfy the geographic diversification requirements of an Institutional Asset Owner (IAO).

18) When considering investing in Mixed Income Housing (MIH), the following are investment scale challenges for an Institutional Asset Owner (IAO):

- Small-scale developments.
- Sufficient quality developments.
- Sufficient investment opportunities.

19) There are limited opportunities for an Institutional Asset Owner (IAO) to gain market share in Mixed Income Housing (MIH).

20) The use of intermediaries and brokers to source Mixed Income Housing (MIH) investing opportunities establishes a steady pipeline of opportunities that satisfy the investment scale requirements of an Institutional Asset Owner (IAO).

21) When considering allocating capital into Mixed Income Housing (MIH), an Institutional Asset

Owner (IAO) prefers multi-sector real estate products (such as a combination of office, industrial, retail, and multifamily) that provide an acceptable investment scale.

22) When considering investing in Mixed Income Housing (MIH), the following are specialization challenges for an Institutional Asset Owner (IAO):

- Lack of management expertise in Mixed Income Housing.
- Ratio of maintenance expenditures to investment.
- Sufficient accounting competence.

23) When considering investing into Mixed Income Housing (MIH), the following are preferred:

- In-house expertise (Mixed Income Housing).
- Partnering with developers and owners with Mixed Income Housing expertise.
- Environmental, Social, Governance (ESG) fund opportunities focused on Mixed Income Housing (MIH).
- Mixed Income Housing focused fund opportunities (absent ESG integration).

24) When considering investing in Mixed Income Housing (MIH), the following are public policy challenges for an Institutional Asset Owner (IAO):

- Tenant rent control protections.
- Tenant protection regulations.
- Municipal regulations.

25) Municipalities are good partners for investing in Mixed Income Housing (MIH).

26) When considering investing in Mixed Income Housing (MIH), the following public sector incentives are important to an Institutional Asset Owner (IAO):

- Tax benefits.
- Landlord subsidies.
- Contribution of city owned land for Mixed Income Housing (MIH) creation.

25) The integration of Environment, Social, Governance (ESG) factors into the investment decision making of an Institutional Asset Owner (IAO) will result in lower financial returns.

26) Investing in Mixed Income Housing (MIH) is consistent with the fiduciary responsibility of an Institutional Asset Owner (IAO).

27) In addition to doing good, risk mitigation is a driver behind Institutional Asset Owner (IAO) interest in Environmental, Social, Governance (ESG) investments such as Mixed Income Housing (MIH).

28) Liquidity requirements of an Institutional Asset Owner (IAO) are too short term for

Environmental, Social, Governance (ESG) integration into Mixed Income Housing (MIH) investment opportunities.

29) When considering investing in Mixed Income Housing (MIH), Environmental, Social, Governance (ESG) integration helps to foster a long-term investment mindset of an Institutional Asset Owner (IAO).

30) Environmental, Social, Governance (ESG) integration in decision making mitigates liquidity concerns when investing in Mixed Income Housing (MIH).

31) Institutional Asset Owners (IAOs) are experiencing an increase in client demand for Environment, Social, Governance (ESG) driven investing opportunities, such as Mixed Income Housing (MIH).

32) When considering Mixed Income Housing (MIH) investing, investment vehicles that integrate Environmental, Social, Governance (ESG) into the investment strategy is preferred by an Institutional Asset Owner (IAO).

33) Environmental, Social, Governance (ESG) should be a component of the Mixed Income Housing (MIH) investment strategy of an Institutional Asset Owner (IAO).

34) Mixed Income Housing (MIH) is an appropriate investment vehicle to employ Environmental, Social, Governance (ESG) integration by an Institutional Asset Owner (IAO).

35) When considering Mixed Income Housing (MIH) investing, Environmental, Social, Governance (ESG) integration in investment decision making increases geographic diversification benefits for an Institutional Asset Owner (IAO).

36) When considering investing in Mixed Income Housing (MIH), a geographically diverse approach to Environmental, Social, Governance (ESG) integration encourages an Institutional Asset Owner (IAO) to allocate capital to Mixed Income Housing (MIH).

37) When considering investing in Mixed Income Housing (MIH), employing Environmental, Social, Governance (ESG) integration to a geographically focused investment strategy helps an Institutional Asset Owner (IAO) measure its social impacts more efficiently.

38) The demand for affordable housing favors increased investment scale for Mixed Income Housing (MIH).

39) When considering investing in Mixed Income Housing (MIH), a housing needs assessment is important in targeted US housing markets.

40) Institutional Asset Owners (IAOs) believe that Mixed Income Housing (MIH) offers geographically diverse opportunities.

41) Environmental, Social, Governance (ESG) integration in investment decision making will expand the availability of Mixed Income Housing (MIH) product for an Institutional Asset Owner (IAO).

42) When considering Mixed Income Housing (MIH) capital allocation, Environment, Social, Governance (ESG) specialization is important to an Institutional Asset Owner (IAO).

43) Institutional Asset Owners (IAOs) have not considered Environmental, Social, Governance (ESG) opportunities such as Mixed Income Housing (MIH) because of the lack of in-house expertise in ESG.

44) Subject matter specialization is critical in order to fully realize Environmental, Social, Governance (ESG) integration benefits of investing in Mixed Income Housing (MIH).

45) Municipalities can influence capital allocation decisions into Mixed Income Housing (MIH) by an Institutional Asset Owner (IAO) through integration of CSR into the following:

- Housing policy creation for the benefit of increased Mixed Income Housing (MIH).
- Multifamily program creation for the benefit of increased Mixed Income Housing (MIH).
- Landlord programs.

46) Municipalities can influence capital allocation decisions into Mixed Income Housing (MIH) by an Institutional Asset Owner (IAO) through integration of CSR into the following public sector decisions:

- Tax incentives to landlords.
- Landlord subsidy creation.
- Land use incentives (ex. density bonus).

Appendix E

Exploratory Factor Analysis (EFA)

	1	2	3	4	5	6	7	8	9	10
CSRPOL3	0.863									
CSRINC1	0.829									
CSRPOL2	0.821									
CSRINC3	0.803									
CSRPOL1	0.795									
CSRINC2	0.672									
INC3	0.566									
INC1	0.448	0.423								
INC2					0.586					
IS2		0.811								
IS3		0.731								
IS5									0.758	
IS6										0.569
GEO2		0.708								
GEO4							0.824			
INV1		0.693								
INV10		-0.678							0.416	
INV9				0.835						
INV8				0.766						
INV4				0.593						
INV3				0.551			0.414			
INV2				0.422			0.613			
INV6								-0.696		
INV7							-0.426		0.605	
SPEC1		0.568								
RAR3			-0.809							
RAR9			-0.808							
RAR6			-0.798							
RAR4			-0.758							
RAR5			-0.718							
RAR8			-0.554							
RAR2					0.765					
RAR11								0.439		-0.554
RAR1					0.532					
ESGIS1				0.526						
LIQ2					0.709					
LIQ3					0.648					
ESGINV1					-0.438					
POL2						0.930				
POL1						0.912				
POL3						0.884				
ESGLIQ3							0.646			
ESGLIQ2										-0.531
ESGIS3								0.749		
ESGIS2									0.637	
ESGSPEC1										-0.686
ESGGEO3										-0.529
ESGRAR1										0.521

Appendix F

Main study

N=33

1) Below are motivations of an Institutional Asset Owner (IAO) to allocate capital to Mixed Income Housing (MIH) rentals:

- Commitment to Environmental, Social, Governance (ESG) integration.
- Efficient means to meet multifamily exposure goals.
- Financially attractive relative to other investment opportunities.
- Please select strongly agree.
- Responding to client demand.
- Diversification strategy.
- Hedging strategy.

2) My organization intends to increase its capital allocation into Mixed Income Housing (MIH).

3) When considering investing in Mixed Income Housing (MIH), the following are important to an Institutional Asset Owner (IAO):

- Ensure a real rate of return.
- Total expected return.
- Inflation hedge.

4) When considering investing in Mixed Income Housing (MIH), the following are liquidity challenges for an Institutional Asset Owner (IAO):

- Poor liquidity.
- Minimal cash flow.
- Poor match against liabilities.

5) When considering Mixed Income Housing (MIH) investing, the following investment vehicles represent viable options:

- Community Development Financial Institutions (CDFIs).
- Debt Separate Account Structure.
- Equity Separate Account Structure.
- Please select strongly disagree.
- Joint Ventures.
- Direct Investing.

6) When considering investing in Mixed Income Housing (MIH), the following are geographic market consideration challenges for an Institutional Asset Owner (IAO):

- Poor market information.

- Inadequate opportunities to diversify geographically.
- Inadequate intermediary and broker market coverage.

7) When considering investing in Mixed Income Housing (MIH), the following are investment scale challenges for an Institutional Asset Owner (IAO):

- Sufficient quality developments.
- Sufficient investment opportunities.
- Market share limitations.

8) When considering investing in Mixed Income Housing (MIH), the following are specialization challenges for an Institutional Asset Owner (IAO):

- Lack of management expertise in mixed income housing.
- Ratio of maintenance expenditures to investment.
- Sufficient accounting competence.

9) When considering investing in Mixed Income Housing (MIH), the following are public policy challenges for an Institutional Asset Owner (IAO):

- Tenant rent control protections.
- Tenant protection regulations.
- Municipal regulations.

10) When considering investing in Mixed Income Housing (MIH), the following public sector incentives are important to an Institutional Asset Owner (IAO):

- Tax benefits.
- Landlord subsidies.
- Contribution of city owned land for mixed income housing creation.

11) When considering investing into Mixed Income Housing (MIH), the following return metrics can be enhanced by integrating Environment, Social, Governance (ESG) concepts into the investment decision making.

- Return expectations.
- Risk assessment.
- Asset diversification strategy.

12) When considering investing into Mixed Income Housing (MIH), the following approaches to

managing liquidity can be enhanced by integrating Environment, Social, Governance (ESG) concepts into the investment decision making.

- Managing cashflow.
- Managing liquidity.
- Creation of liquidity enhancements.

13) When considering investing in Mixed Income Housing (MIH), the following investment vehicles can be enhanced by integrating Environment, Social, Governance (ESG) concepts into their creation.

- Debt separate account.
- Equity separate account.
- Joint ventures.
- Direct investing.

14) When considering investing in Mixed Income Housing (MIH), the following geographic market considerations can be enhanced through the integration of Environment, Social, Governance (ESG) concepts into the investment decision making.

- Housing market research.
- Developing a target market strategy.
- Developing an affordable housing strategy.

15) When considering investing in Mixed Income Housing (MIH), the following investment scale considerations can be enhanced through the integration of Environment, Social, Governance (ESG) concepts into the investment decision making.

- Accessing sufficient investment opportunities throughout the US.
- Accessing quality developments throughout the US.
- Accessing developments of scale throughout the US.

16) When considering investing in Mixed Income Housing (MIH), the following specialization considerations can be enhanced through the integration of Environment, Social, Governance (ESG) concepts into the investment decision making.

- Management expertise in Mixed Income Housing.
- Management of maintenance expenditures.
- Developing accounting competence.

17) Municipalities can influence capital allocation decisions into Mixed Income Housing (MIH) by an Institutional Asset Owner (IAO) through integration of CSR into the following:

- Housing policy creation for the benefit of increased Mixed Income Housing (MIH).

- Multifamily program creation for the benefit of increased Mixed Income Housing (MIH).
- Landlord programs.

18) Municipalities can influence capital allocation decisions into Mixed Income Housing (MIH) by an Institutional Asset Owner (IAO) through integration of CSR into the creation of the following incentives:

- Tax incentives to landlords.
- Landlord subsidy creation.
- Land use incentives (ex. density bonus).

Appendix G

Public Sector Main study

N=26

1) An Institutional Asset Owner (IAO) would increase capital allocation into Mixed Income Housing (MIH) if the following POLICY was implemented:

- The removal of tenant rent control protections in mixed income housing opportunities.
- The removal of certain municipal regulations (i.e., parking requirements) in mixed income housing opportunities.
- The removal of tenant protection regulations in mixed income housing opportunities.

2) An Institutional Asset Owner (IAO) would increase capital allocation into Mixed Income Housing (MIH) if the following INCENTIVES were implemented:

- Favorable tax benefits were made available (i.e., welfare tax abatement).
- Landlord subsidies were made available.
- The contribution of city-owned land for mixed income housing creation.

3) When considering investing in Mixed Income Housing (MIH), the following are public policy challenges for an Institutional Asset Owner (IAO):

- Tenant rent control protections.
- Tenant protection regulations.
- Municipal regulations (i.e., zoning and planning ordinances).

4) When considering investing in Mixed Income Housing (MIH), the following public sector incentives are important to an Institutional Asset Owner (IAO):

- Welfare tax abatements.
- Landlord subsidies such as financial incentives provided to landlords for renting to moderate-income residents.
- Contribution of city owned land for mixed income housing creation.

5) Municipalities can influence capital allocation decisions into Mixed Income Housing (MIH) by an Institutional Asset Owner (IAO) through integration of CSR into the following:

- Housing policy creation for the benefit of increased mixed income housing.
- Multifamily program creation for the benefit of increased mixed income housing.
- Landlord programs.

6) Municipalities can influence capital allocation decisions into Mixed Income Housing (MIH) by an Institutional Asset Owner (IAO) through integration of CSR into the creation of the following incentives:

- By creating tax incentives for landlords that include community stakeholder input and collaboration.
- Landlord subsidy creation such as the recent federal rental assistance program to tenants administered through payments to the landlord.
- Land Use incentives (ex. Density bonus) created in collaboration with community stakeholders.

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