ACADEMIA MILITAR

Investment Strategies in Military Housing: The Role of Real Estate Investment Funds

Aspirante de Administração Militar Diogo Francisco Ventura Carvalho

Dissertação de Mestrado

Mestrado em Ciências Militares na Especialidade de Administração

Orientador: Professor Doutor Flávio Ivo Riedlinger de Magalhães
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EPÍGRAFE

" ***Sperança consumada,***

S. Portugal em ser,

Ergue a luz da tua espada

Para a estrada se ver!”

Fernando Pessoa, in *Mensagem* (1934)

DEDICATÓRIA

Aos meus pais, Arménio Carvalho e Susana Carvalho, por tudo o que fizeram por mim, por me terem dado todas as condições para ser aquilo que escolhesse ser, e por me ensinarem o valor da coragem mesmo quando a vida testa os nossos limites.

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A todos, o meu profundo agradecimento.

Diogo Carvalho

RESUMO

Esta dissertação analisa a viabilidade e a eficácia dos Fundos de Investimento Imobiliário (FIIs) como instrumentos de financiamento alternativo para a reabilitação da habitação militar gerida pelo Instituto de Ação Social das Forças Armadas (IASFA). Com recurso a uma abordagem mista, sustentada por raciocínio abdutivo, o estudo integrou dados quantitativos recolhidos através de um questionário estruturado aplicado a 246 militares do Exército Português, bem como dados qualitativos obtidos por entrevistas semiestruturadas com decisores institucionais, juristas e profissionais do setor imobiliário.

A análise fatorial exploratória revelou cinco dimensões essenciais que moldam as perceções sobre a habitação do IASFA e o potencial dos FIIs: impacto da perceção dos fundos, qualidade das infraestruturas, clareza na comunicação e no acesso, abertura a modelos de gestão alternativos e perceção de justiça na atribuição das habitações. Os resultados demonstram que os FIIs são considerados uma solução viável para superar limitações orçamentais, melhorar as infraestruturas e alargar a oferta habitacional. Contudo, subsistem preocupações relacionadas com obstáculos legais, possíveis desvios da missão institucional e um possível desalinhamento com a função social do IASFA.

As entrevistas confirmaram o estado avançado de degradação do parque habitacional existente, a resistência institucional à privatização e os constrangimentos legais que atualmente impedem a participação direta do IASFA em FIIs. Ainda assim, os intervenientes identificaram soluções viáveis através de modelos híbridos, nomeadamente por meio de FIIs públicos geridos por entidades estatais, desde que sejam asseguradas boas práticas de governação, salvaguardas sociais e métricas de desempenho transparentes.

Conclui-se que os FIIs podem contribuir para a modernização e sustentabilidade da habitação militar em Portugal, desde que inseridos num enquadramento legal e institucional que assegure acessibilidade, supervisão pública e alinhamento com a missão social do IASFA. As limitações do estudo prendem-se com a sua natureza transversal, o que poderá não refletir a evolução das perceções ao longo do tempo. Investigações futuras deverão explorar a aplicação de modelos piloto baseados em FIIs no setor da habitação pública e avaliar os seus impactos sociais e económicos a longo prazo.

Palavras-chave: Fundos de Investimento Imobiliário; Habitação Militar; Reabilitação Urbana; Políticas de Investimento Público;

ABSTRACT

This dissertation examines the feasibility and effectiveness of Real Estate Investment Funds (REIFs) as alternative financing instruments for the rehabilitation of military housing managed by the Instituto de Ação Social das Forças Armadas (IASFA). Adopting an abductive reasoning approach within a mixed-methods framework, the study integrates quantitative data collected through a structured questionnaire administered to 246 personnel from the Portuguese Army and qualitative data obtained from semi-structured interviews with institutional decision-makers, legal experts, and real estate professionals.

The exploratory factor analysis revealed five key dimensions that shape perceptions about IASFA housing and the potential of REIFs: perceived impact of REIFs, infrastructure quality, clarity of communication and access, openness to alternative management models, and perceived fairness in housing allocation. Findings indicate that REIFs are viewed as a viable solution to overcome funding limitations, improve infrastructure, and expand housing supply. However, concerns persist regarding legal barriers, mission drift, and potential misalignment with IASFA's social function.

Interviews confirmed the advanced degradation of existing housing stock, institutional resistance to privatization, and legal constraints that currently prevent IASFA from directly participating in REIFs. Nonetheless, stakeholders identified viable paths forward through hybrid models, particularly via public REIFs under state-owned entities, provided strong governance, social safeguards, and transparent performance metrics are in place.

The research concludes that REIFs can contribute to the modernization and sustainability of military housing in Portugal, if they are embedded in a legal and institutional framework that ensures affordability, public oversight, and mission alignment. Limitations of the study include its cross-sectional nature and may not capture evolving perceptions on the long-term effects of policy interventions. Future research should investigate pilot implementations of REIF-based models in the public housing sector and evaluate their long-term social and economic implications.

Keywords: Real Estate Investment Funds; Military Housing; Urban Rehabilitation; Public Investment Policies;

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LIST OF INITIALS AND ACRONYMS

AIFMD	Alternative Investment Fund Managers Directive
CMVM	Comissão do Mercado de Valores Mobiliários
CQ	Central Question
DGTF	Direção-Geral do Tesouro e Finanças
DHA	Defense Housing Australia
DSASC	Direção de Serviços de Ação Social Complementar
EFA	Exploratory Factor Analysis
EU	European Union
GDP	Gross Domestic Product
GO	General Objective
IASFA	Instituto de Ação Social das Forças Armadas
IFRRU 2020	Instrumento Financeiro para a Reabilitação e Revitalização Urbanas
IHRU	Instituto da Habitação e da Reabilitação Urbana
IMT	Imposto Municipal sobre as Transmissões Onerosas de Imóveis
KMO	Kaiser-Meyer-Olkin
ML	Maximum Likelihood
MSA	Mercado Social de Arrendamento
NRAU	Novo Regime do Arrendamento Urbano
PCA	Principal Component Analysis
PER	Programa Especial de Realojamento
PLH	Programa Local de Habitação
PPPs	Public-Private Partnership
PRPE	Plano de Racionalização do Património do Estado
RCB	Regime de Crédito Bonificado
RCI	Residential Communities Initiative
REECFs	Real Estate Equity Closed-End Funds
REIF	Real Estate Investment Fund
REITs	Real Estate Investment Trusts
RQ	Research Question
REUR	Regime Excecional para a Reabilitação Urbana
SAAL	Serviço de Apoio Ambulatório Local

SO	Specific Objective

INTRODUCTION

As an integral component of the culmination of the master's degree in military administration at the Military Academy, this dissertation is entitled. "Investment Strategies in Military Housing: The Role of Real Estate Investment Funds."

Facing growing urban challenges, economic constraints, and the need for more sustainable and effective public investment practices, there is an urgent call to reevaluate public housing frameworks considering today's social and financial demands. In this evolving environment, Real Estate Investment Funds (REIFs) have gained prominence as a viable financial instrument for mobilizing private capital to revitalize and advance public housing assets. According to Lawal et al. (2024), by providing enhanced flexibility, specialized asset management, and long-term planning capabilities, REIFs offer an opportunity to improve the quality and sustainability of public housing.

REIFs are increasingly establishing their importance in the areas of public policy and financial strategies, creating frameworks that can promote public-private partnerships (PPPs) and widen the prospects for investment in infrastructure and real estate, including in a military context. The governance of REIFs is crucial for maintaining the financial health of the public sector. Effective management of these funds ensures transparency, accountability, and resilience in public finance, which are essential for macroeconomic stability (Idrus, 2024). The Portuguese Armed Forces, and, in particular, the Instituto de Ação Social das Forças Armadas (IASFA), manage a substantial portfolio of residential properties, many of which require critical rehabilitation. Despite this reality, the application of REIFs to military housing remains understudied and underexplored in both academic and institutional contexts.

This research, therefore, aims to close this knowledge gap by examining how REIFs can be effectively applied to finance the renovation of military housing managed by IASFA. The application of such financial tools presents legal, operational, and organizational challenges. However, it also offers the potential to improve the living conditions of military personnel, promote the prudent use of public resources, and contribute to long-term real estate strategy within the defense sector.

The central research question of this dissertation is: " Can real estate investment funds serve as an effective financing source for the renovation of IASFA housing units?" To answer this question, a general objective (GO) was defined: " Investigate the viability and effectiveness of investment strategies through REIFs in mobilizing resources for the rehabilitation of state-owned housing, with a specific focus on properties managed by IASFA."

To support a logical and structured approach to the research, the following specific objectives (SO) were established in Table 1:

Table 1 - Specific Objectives of Research

SO_1	Understand the current trends, challenges, and opportunities in the Portuguese real estate market.
SO_2	Evaluate the current conditions of IASFA's housing stock and identify renovation needs.
SO_3	Analyze the investment strategies used by REIFs in housing rehabilitation and identify similar projects.
SO_4	Explore the existence and operational mechanisms of REIFs in Portugal.
SO_5	Evaluate the viability of implementing a REIF focused on the rehabilitation properties managed by IASFA.

To accomplish the defined objectives and address the research question, this study is structured into two main parts, a theoretical framework and an empirical component as shown in Table 2**.** The first section lays the conceptual and legislative framework, providing a complete analysis of REIFs, their role in urban regeneration, and the different models of public and military housing funding. This section is structured into two chapters: (1) Real Estate Investment Funds and (2) The Institutional and Market Context of Military Housing in Portugal. The second section of the dissertation presents the empirical component of the research. It includes Chapter (3) Methodology, Methods and Materials; (4) Results; (5) Discussion of the Results; and finally, the conclusions, limitations, and recommendations arising from the research. The post-textual section, composed of appendices, serves as a complement to the content addressed throughout the dissertation.

Table 2 - Structure of the Dissertation

Section	**Content Description**
Introduction	Presents the research context, justification, central question, objectives, and structure of the dissertation.
Conceptual and Legislative Framework	Provides the theoretical foundation, including: **Chapter 1**: Real Estate Investment Funds **Chapter 2**: Institutional and market context of military housing in Portugal.
Empirical Component	Presents the empirical component of the research: **Chapter 3**: Methodology, research design, and data collection methods. **Chapter 4**: Analysis of results obtained from interviews, documents, and financial data. **Chapter 5**: Discussion of results, implications, and validation against literature.
Conclusions, Limitations and Recommendations	Summarizes key findings, identifies limitations, and proposes practical recommendations and future research paths.
Post-textual Section	Includes appendices with supplementary material such as interview guides, statistical data, and legal documents.

To address the central research question, a detailed literature review was conducted to assess the latest progress in study area, ensuring a comprehensive and critical understanding of the existing knowledge. This review enabled the identification of current perceptions and research gaps, providing a solid theoretical foundation for the subsequent development of the empirical component. According to Saunders et al. (2009), based on the findings of the literature review, the research strategy was structured to include mixed-methods approach, specifically the application of questionnaires and semi-structured interviews with individuals possessing pertinent roles and expertise in the field under study, to contribute to the analysis of the broader framework and update the viability and effectiveness of applying REIFs to the rehabilitation of military housing.

CHAPTER 1 – REAL ESTATE INVESTMENT FUNDS

1.1. REIFs: Conceptual Framework and Regulatory Basis

1.1.1. Introduction and Global Context

In recent decades, the real estate sector has undergone significant transformations driven by accelerated urbanization, globalization, and the evolution of financial markets. Urban migration, technological development, and financial globalization are major drivers of this expansion, and they all combine to create an environment that is favorable for real estate investments. According to Xu and Dong (2024), urban migration and the expansion of metropolitan areas significantly influence real estate markets by boosting housing demand and elevating property values in urban centers. Meanwhile, real estate transactions are becoming more efficient, transparent, and trustworthy due to advancements such as blockchain, virtual reality, and artificial intelligence. International portfolio diversification has become easier with the growth of financial globalization, particularly in emerging economies. There is a substantial and growing interest in international real estate opportunities, as evidenced by the fact that foreign investors regularly outperform their domestic counterparts (Kim et al., 2021).

Financial instruments, known as REITs (Real Estate Investment Trusts), were created to enable individuals and organizations to invest in real estate without having to manage properties directly. These funds offer expert management and liquidity by pooling the capital of multiple investors to invest in a diversified portfolio of real estate assets. Similar in form to mutual funds, REITs only invest in real estate and offer exposure to the property markets through a variety of strategies (Spangler, 2012).

REIFs in Portugal are regulated collective investment vehicles designed to allocate capital to real estate assets, thereby allowing investors to acquire exposure to the property sector without the burdens associated with direct ownership. Their legal and financial frameworks are primarily overseen by the Portuguese Comissão do Mercado de Valores Mobiliários (CMVM, 2015) and are aligned with the provisions of (*Directive 2011/61/EU*) of the European Parliament. According to Spangler (2012), the legal structure of REIFs in Portugal is influenced by the broader European regulatory environment, which includes directives such as the Alternative Investment Fund Managers Directive (AIFMD), which impacts their operation.

1.1.2. Types, Strategies and Financial Operation of REIFs

The legal framework governing REIFs in Portugal is primarily based on national legislation and European Union (EU) directives. The Portuguese legal system provides specific regimes for collective investment in properties, encompassing both REIFs and real estate investment companies. These regimes aim to facilitate investment in real estate assets while ensuring compliance with domestic and EU regulations (Loureiro & Petkevica, 2009). To participate in REIFs, investors must subscribe to participation units, which represent a proportional interest in the overall value of the fund rather than direct ownership of specific properties (Tyagi, 2024).

According to Trübestein and Walldorf (2012), the assets of REIFs typically include residential, commercial, and office properties, as well as rights over real estate (such as leaseholds and usufruct), financial instruments related to the real estate sector, and liquidity for cash flow management. Focke (2006) outlines that REIFs may adopt different legal forms: open-ended funds, which permit continuous subscription and redemption; closed-ended funds, which have fixed capital and limited liquidity; and special real estate funds, offering greater managerial and investment flexibility within regulatory boundaries.

Investing in REIFs, particularly in REITs, presents several advantages for both individual and institutional investors. These include increased liquidity, transparency, portfolio diversification, consistent income through dividends, and long-term capital appreciation. REITs offer a liquid alternative to an otherwise illiquid asset class (Nagar, 2024). Their introduction has improved market transparency via mandatory disclosures and robust governance standards. Additionally, REITs have contributed to the professionalization of property management and the implementation of international best practices, enhancing asset performance and investor returns. Saral (2024) highlights the low correlation between real estate and traditional asset classes, such as equities and bonds, thereby enabling better risk-adjusted returns and reducing overall portfolio volatility. Furthermore, as property values and rental rates tend to rise over time, particularly during periods of inflation, REITs provide a hedge against inflation while offering a consistent income stream.

REIFs operate through a structured financial process consisting of four main stages: capital raising, acquisition of real estate assets, income generation, and profit distribution. According to Nagar (2024), both REITs and Real Estate Equity Closed-end Funds (REECFs) serve as vehicles for pooling investor capital for real estate investments. These funds utilize the capital to acquire, manage, and sometimes develop properties or invest in mortgagebacked securities (Zheng, 2022). The primary sources of income include rental yields, capital gains, and the sale of assets. Durer and Köten (2021) emphasize that REITs have shown the potential for real estate to outperform other financial instruments in the long term, attracting investors seeking stable and high returns. The generated net income is then distributed to investors in proportion to their ownership in the form of dividends. This model has proven successful in mature markets, such as the United States and Germany, where pension funds often invest in REITs due to their predictable return profile (Aalbers et al., 2023).

Over time, REIFs have evolved to accommodate diverse investor profiles by offering different fund structures, open-ended, closed-ended, and special real estate funds, each with unique features related to liquidity, capital structure, and investment strategy, as demonstrated in Table 3. In recent years, the application of REIFs has expanded beyond private investment, becoming an essential tool in public sector initiatives. Notably, REIFs are increasingly employed in urban regeneration and infrastructure development through PPPs, highlighting their relevance in broader socio-economic development strategies.

Table 3 - Fund Type, Characteristics and Applications

Fund Type	Characteristics and Key Applications	Reference(s)
Open-Ended Real Estate Funds	Highly liquid and flexible structure, enabling investors to subscribe or redeem units freely. Suitable for small-scale investors given the low minimum capital requirements.	(Focke, 2006)
Closed-Ended Real Estate Funds	Fixed capital structure with exchange-traded shares. Units may trade at premium or discount to Net Asset Value based on market sentiment. Offers lower liquidity but potential for higher returns through illiquid assets and leverage.	Cherkes et al. (2006)
Special Real Estate Funds	Tailored for specific strategies such as infrastructure or urban regeneration. Frequently involved in PPPs, offering capital for public sector initiatives while reducing the fiscal burden on governments.	Ma et al. (2023)
REITs and Real Estate ETFs	REITs provide indirect real estate exposure through corporate structures. Their inclusion in ETFs enhances market liquidity and reduces the cost of equity capital. Widely adopted by institutional and retail investors for diversification.	Chan et al. (2002)

In summary, REIFs represent regulated and adaptable financial instruments capable of efficiently mobilizing capital for real estate investment. Their operational features and modular structure allow for application in public contexts, such as the rehabilitation of military housing, thus paving the way for innovative and sustainable asset management models, as will be explored in the following sections.

1.1.3. REIFs in Public Policy and Urban Development

Regulatory frameworks can have a substantial impact on their structure and operations. Moreover, their performance is closely linked to real estate market cycles, which are influenced by broader economic factors such as inflation and interest rates. Nevertheless, the ongoing evolution and adaptability of REIFs indicate that they will continue to play a vital role in both private and public investment strategies.

REIFs play a pivotal role in urban regeneration and revitalization projects by channeling investments into underutilized urban areas, thereby fostering economic growth, improving infrastructure, and enhancing the quality of life. These funds often act as intermediaries, linking large institutional investors with urban projects that require significant capital and expertise. By doing so, they help transform neglected areas into vibrant communities, contributing to sustainable urban development. Real estate funds, particularly those managed by investment intermediaries, facilitate the flow of capital from large institutional investors, such as public pension funds, into urban revitalization projects. These funds are adept at structuring deals that deliver both financial returns to investors and social benefits to communities (Hagerman et al., 2007).

PPPs are a widely adopted model in urban regeneration initiatives, where real estate investment funds collaborate with public authorities to finance and implement development projects. These partnerships leverage the strengths of both sectors, combining public sector oversight and policy alignment with the efficiency, innovation, and capital resources of the private sector. Across Europe, PPPs have played a crucial role in supporting urban renewal, with financial institutions increasingly allocating real estate assets as part of diversified investment strategies aimed at promoting sustainable urban development (Dixon et al., 2007).

In conclusion, REIFs represent a structured and regulated mechanism that allows for indirect access to the real estate market. Through various legal forms, such as open-ended, closed-ended, and special funds, REIFs provide investors with diversified opportunities, combining liquidity, professional management, and potential for long-term returns. In addition to their role in private investment portfolios, REIFs have gained relevance in public sector strategies, particularly in urban regeneration and infrastructure development, often through PPPs. Their continued evolution and alignment with European regulatory frameworks underscore their growing importance in both financial markets and sustainable urban development projects.

1.2. REIFs and Urban Regeneration

1.2.1. Strategic Approaches to Urban Rehabilitation

According to Peng et al. (2024), the strategic use of REIFs in urban rehabilitation has experienced notable expansion in recent decades, particularly in countries seeking to revitalize aging urban infrastructure while managing public spending constraints. These funds enable the mobilization of private and institutional capital into real estate projects that target the recovery, modernization, and requalification of deteriorated or underutilized urban areas. By leveraging REIFs, public authorities can align financial instruments with urban policy goals, fostering integrated development that balances economic efficiency with social responsibility.

REIFs are strategically adopted to support the rehabilitation of public urban buildings by leveraging private capital to enhance public assets, solving the financial constraints faced by public administrations. These funds facilitate PPPs that enable the rehabilitation of disused or abandoned buildings (Wang & Gao, 2020). This ensures social and environmental sustainability while providing financially viable solutions for both public and private stakeholders.

According to Manganelli et al. (2022), REIFs play a crucial role in supporting PPPs that facilitate the rehabilitation of public assets without necessitating their complete divestiture. This approach promotes a balanced distribution of benefits between public authorities and private investors while also promoting social and environmental sustainability. The rehabilitation of public buildings, particularly in the context of public housing, represents a sustainable strategy for extending the useful life of buildings. The redevelopment of former military sites and other public assets can increase their value and utility, addressing issues of obsolescence and environmental liabilities. This process often requires technological expertise and innovative strategies, which REIFs can support through targeted investments (Pollo, 2012).

According to Mensing (2019), revolving urban development funds, a form of REIF, offer initial financing for low-yield projects in small and medium-sized cities. These funds combine repayable loans with non-repayable grants, mobilizing local capital and ensuring project success through local partnerships.

While REIFs offer significant potential for supporting the rehabilitation of public urban buildings, challenges remain in attracting private investment, particularly in regions with limited expectations of returns on investment. Legal and financial frameworks that provide security and profitability for private investors are crucial for the success of these initiatives (Más, 2016).

1.2.2. International Applications of REIFs in Public Infrastructure and Military Housing

The empirical application of REIFs in the context of urban rehabilitation is most effectively illustrated through case studies that demonstrate how these financial instruments facilitate the revitalization of urban areas, particularly in scenarios where conventional public financing is limited.

One of the most notable examples is the Allenby/Connaught Project (PAC) in the United Kingdom. Launched in the 2000s by the British Ministry of Defence, this initiative involved the refurbishment and development of military infrastructure across various locations, including Aldershot and Salisbury Plain. Organized as a Private Finance Initiative, the project delegated responsibilities for design, financing, construction, and maintenance to a private entity for a period of 35 years. Within this framework, the Ministry of Defense preserved ownership of the land while guaranteeing performance through Service Level Agreements and imposing penalties for non-compliance. The project exemplified how REIF-supported PPPs can attain cost-effectiveness, risk distribution, and infrastructure modernization without complete divestiture of state assets. Despite encountering some preliminary challenges, the partnership ultimately led to the establishment of uniform, high-caliber housing, and significant long-term operational efficiencies (FAQs | Aspire Defense Limited, 2025).

A second important case is the Residential Communities Initiative (RCI) implemented by the United States Army in the late 1990s. This enduring PPP framework sought to modernize and oversee military housing across multiple installations. Unlike complete privatization, the military allocated long-term leasing rights (extending up to 50 years) to private developers, who subsequently financed, renovated, and administered the properties. The revenue derived from military tenants was fairly allocated between the investor and the military authority, thus guaranteeing financial sustainability and promoting reinvestment in infrastructure. Crucially, the Army supplied occupancy guarantees, which diminished vacancy risks and made the investment desirable for REIFs and institutional investors. The outcome was a swift enhancement in living conditions, accompanied by robust incentives for sustained quality and performance (Hill, 2004).

In Australia, the initiative referred to as Defense Housing Australia (DHA) exemplifies a tertiary model of proficient integration between military accommodation and real estate investment. Although it does not conform to the traditional framework of PPPs, DHA functions under a hybrid model wherein it constructs, acquires, or rehabilitates real estate assets and subsequently leases them to military personnel through long-term contractual agreements. Both individual and institutional investors can acquire shares in real estate funds that DHA underpins. These contractual arrangements often include rental guarantees, even during periods of vacancy, thereby ensuring a consistent return on investment and bolstering investor confidence. The credibility associated with this government-backed framework has established DHA as a low-risk investment vehicle while simultaneously addressing the housing requirements of military personnel (Our Organisation | Defence Housing Australia, 2025).

These examples highlight the potential of REIFs to serve as enablers of military infrastructure advancement, combining the efficiency of the private sector with the regulatory oversight of the public sector. The focus on long-term contractual agreements, performance-based incentives, and models for shared revenue has demonstrated efficacy in improving the standard of military housing, alleviating budgetary constraints, and fostering economic growth in proximity to defense establishments. In the context of Portugal, where numerous former military properties are situated in urban areas with significant potential for regeneration, these frameworks offer invaluable insights. By involving REIFs within a strategic and regulated paradigm, the Portuguese Armed Forces could not only realize the value of underutilized assets but also enhance urban cohesion and resilience through conscientious redevelopment.

1.2.3. Advantages and Challenges in the Renewal of Public Housing

The adoption of REIFs in public housing renewal offers a compelling alternative to traditional public investment models. By strategically utilizing private financial resources and expert asset management, REIFs enable governments and local authorities to address persistent deficits in housing standards, energy efficiency, and urban cohesion, while maintaining fiscal prudence (Manganelli et al., 2022). However, their integration into public housing frameworks presents challenges that require careful evaluation to ensure alignment with broader social policy objectives.

A key benefit of REIFs is their ability to attract both private and institutional capital at levels often beyond the reach of public budgets. This is especially relevant for countries with fiscal constraints or concerns about deficits, such as Portugal. By leveraging REIFs, governments can accelerate the rehabilitation of aging housing stock, increasing supply without direct public ownership or heightened debt exposure. According to Stanley (2011), REIFs appeal to institutional investors, including pension funds that seek long-term, stable returns, an asset for nations with limited public funds.

Another advantage is the acceleration of residential property restoration. REIFs provide vital funding without requiring state ownership, enabling efficient and sustainable improvements in housing supply (Batt et al., 2022). As Torres (2009) notes, Portugal's public indebtedness and ongoing budgetary deficits demand innovative tools like REIFs to finance infrastructure without worsening fiscal pressure. By engaging private capital, REIFs help strike a balance between fiscal sustainability and economic development.

Additional strength lies in the professionalization of asset management. REIFs are administered by licensed entities with expertise in real estate, ensuring long-term sustainability, construction quality, cost efficiency, and maintenance. According to Kenley et al. (2009), these entities bring high-level technical skills essential for effective housing renewal. Their maintenance-focused approach enhances the durability and usability of housing stock, especially critical in public housing, where resources are scarce, and sustainability is key.

However, challenges persist. Among them is the potential misalignment between investor profit motives and social housing goals, such as affordability, accessibility, and tenure security. Without strong regulation, REIFs may fuel redevelopment and displace vulnerable populations (Brest et al., 2018).

Another issue is transparency and accountability. Outsourcing to private fund managers can weaken oversight unless robust governance and evaluation mechanisms are in place. According to Tavares (2024), transparency is crucial to democratic legitimacy, enabling citizens to evaluate government actions and ensure the responsible use of public resources. Involving private actors in public housing heightens the need for clear accountability and transparent frameworks.

Lastly, market volatility may compromise the stability of REIF projects. Changes in interest rates, construction costs, or rental demand can impact fund performance, discouraging socially driven investments that lack adequate guarantees or subsidies (Sharif et al., 2023).

In conclusion, REIFs are potent tools for advancing public housing by mobilizing private capital and applying professional asset management. Nonetheless, their effective integration into public policy depends on careful regulation to align financial returns with social goals. Transparency, accountability, and long-term vision are essential to maximize their impact while safeguarding the public interest.

1.3. Models of Public Housing Financing

1.3.1. Comparison Between Different Financing Models

Public housing financing has evolved over time in response to fiscal, demographic, and policy pressures. Traditionally, the development of social housing was funded through direct public investment, with governments acquiring land, contracting construction, and maintaining ownership and management of the housing stock. While this model ensures direct control over housing policy, it often entails high upfront costs, long-term maintenance liabilities, and vulnerability to political and budgetary cycles (Flood, 2012).

An alternative model is the subsidy-based approach, where the state supports private or non-profit actors through rent subsidies or construction incentives. The main advantages and disadvantages of this model can be observed in Table 4, which outlines its potential to enhance supply and efficiency, as well as the challenges related to quality, affordability, and long-term stock availability.

Table 4 - Advantages and Disadvantages of subsidy-based approach

Advantages	Description	Examples	Reference(s)
Private Sector Involvement	Efficiency gains and improved consumer choice	Involvement of private actors in social housing	Haffner & Oxley (2010)
Supply-Side Subsidies	Direct and indirect increase in affordable housing stock	New construction and rehabilitation in US, UK, Australia	Cigdem (2012)
Tax Incentives	Encouragement of affordable housing production through fiscal incentives	LIHTC program in the US	Wijburg (2022)
Disadvantages	**Description**	**Examples**	**Reference(s)**
Quality and Affordability	Uneven housing quality and affordability without proper regulation	Poor housing conditions, rising rents	Voss (2012)
Long-Term Stock Availability	Challenges ensuring long-term affordable stock availability	Public-private investment gaps, governance needs	Pawson et al. (2020)
Market-Oriented Systems	Market reforms may conflict with affordability and stability goals	Higher affordable rents, flexible tenures	Wijburg (2022)

In recent years, hybrid financing frameworks (characterized by the collaboration of public, private, and third-sector entities) have experienced a significant rise in prominence. Such frameworks encompass PPPs, social impact bonds, and REIFs as observed in Table 5. In contrast to direct government provision, these methodologies facilitate risk distribution, enhance operational efficiency through competitive dynamics, and provide access to diverse capital sources.

Table 5 - Alternative Financing Models in Affordable Housing

Model	Key Features	Applications/Examples	Reference(s)
PPPs	Leverage public oversight and private efficiency; encourage innovation; distribute financial, construction, and operational risks.	Melbourne CityLink; Affordable Homes Programme (UK)	Yakubova (2023); Belen-Alonso et al. (2006); Akinsulire et al. (2024)
Social Impact Bonds (SIBs)	Outcome-based financing aligning financial returns with social outcomes; transfers project risk to private investors.	Used in social welfare and health sectors in high-income countries.	Tortorice et al. (2020); Kaspers (2017)
REIFs	Mobilize capital from multiple investors; provide stable returns; support urban development and social housing.	Used to attract private finance for social housing projects.	Phibbs (2012)

From a military standpoint, which typically entails the oversight of extensive housing portfolios for personnel, hybrid financing methodologies (especially REIFs and PPPs) propose a reflective resolution. These approaches mitigate the financial strain on defense expenditures while maintaining long-term strategic oversight over assets that are vital to military readiness and the welfare of personnel.

1.3.2. PPPs and Their Viability

According to Akinsulire et al. (2024), PPPs have become a key tool in public housing provision, particularly during periods of fiscal constraint and infrastructure need. This model enables private entities to assume functions traditionally managed by the state, such as design, construction, financing, and operation, within long-term contracts. In return, the public sector defines objectives, monitors compliance, and often provides guarantees or co-financing.

The viability of PPPs in housing depends on factors such as regulatory clarity, balanced risk-sharing, secure returns, and political stability. According to Akinsulire et al. (2024), legal clarity is crucial for providing certainty and attracting investors, thereby ensuring well-defined roles and effective execution. Alteneiji et al. (2019) emphasize the importance of political support, citing the UAE as a successful case where political backing enabled the development of affordable housing. Effective risk-sharing mechanisms are equally critical for distributing financial and operational burdens fairly.

Despite their promise, PPPs face notable challenges. Ezebilo (2023) highlights issues such as high transaction costs, weak procurement processes, and inadequate legal structures, which can impede performance. Excessive public sector control may also lead to reduced efficiency. To address these limitations, governments must adopt transparent procedures and supportive policies that enhance PPP effectiveness in housing.

In Portugal, interest in housing PPPs has increased, notably through programs like IFRRU 2020, which combines EU funds with private investment for urban renewal. Though not pure PPPs, such initiatives reflect the potential of public-private collaboration to revitalize housing and infrastructure. According to Branco and Alves (2018), IFRRU 2020 supports urban regeneration by improving housing and stimulating local economies. In military contexts, PPPs are especially valuable for long-term accommodation solutions. The UK's Allenby/Connaught PFI and the US Army's RCI illustrate how performance-based contracts can deliver quality housing while maintaining institutional focus.

In conclusion, PPPs provide a relevant and practical model for addressing housing challenges across both civilian and military sectors. Their ability to combine private-sector efficiency with public oversight makes them attractive during fiscal austerity. However, success depends on solid legal frameworks, fair risk-sharing, and lasting political commitment. Portugal's IFRRU 2020 exemplifies the potential of hybrid financing, and in defense, PPPs provide sustainable housing without compromising readiness. Transparency, accountability, and alignment with public interest are essential for long-term success.

1.3.3. International Experiences with REIFs in Public and Military Housing

Several international case studies reveal the effective adoption of REIFs in public housing and military housing schemes, consequently providing critical insights for their future application in Portugal.

In the United States, the RCI has fundamentally transformed the methodology used by the military in administering housing. Via the establishment of long-term leases and collaborative partnerships with private sector developers, REIFs were strategically utilized to rehabilitate and manage housing across a multitude of military installations. The implementation of occupancy guarantees, and revenue-sharing frameworks facilitated financial viability while concurrently enhancing the living conditions for military personnel

(Privatized Army Housing: Residential Communities Initiative, 2019).

In the Australian context, the DHA operates under a hybrid framework that combines public governance with real estate investment mechanisms. Investors can acquire equity in properties overseen by DHA, reaping the benefits of stable returns facilitated by government-supported leasing agreements. This methodology has demonstrated efficacy in providing reliable housing solutions for defense personnel while concurrently attracting institutional investment owing to its comparatively low-risk profile (Our Organisation | Defence Housing Australia, 2025).

In the United Kingdom, the Allenby/Connaught Project (PAC) is recognized as one of the most significant PPPs initiated by the Ministry of Defense. Initiated in the mid-2000s, this endeavor encompassed the extensive reconstruction, modernization, and sustained maintenance of military infrastructure across multiple sites. The endeavor was framed within the Private Finance Initiative (PFI) paradigm, where the private entity bore the responsibility for financing, constructing, and maintaining the facilities throughout a 35-year concession period. The Ministry of Defense retained ownership of the assets, and rigorous performance-based contracts were established to ensure service quality. Financial distributions were contingent upon the availability and condition of the infrastructure, thereby aligning financial incentives with public objectives. The project effectively standardized military accommodation and achieved cost efficiencies, although initial contractual renegotiations were needed due to early delays (Project Allenby Connaught, 2018)

The IFRRU 2020 initiative in Portugal, although not strictly adhering to the definition of a REIF, establishes a significant framework for integrating governmental planning instruments with private-sector financing. It facilitates the enhancement of energy efficiency in designated urban areas, where the future implementation of REIFs could further engage institutional investors (fi-compass, 2020. *Financial instruments cities with a future... for urban development in Portugal – IFRRU 2020*).

From a defense standpoint, the incorporation of REIFs within the realm of military real estate management yields not only enhanced financial efficacy but also significant strategic benefits. By repurposing underutilized military properties, often located in valuable urban areas, the armed forces can actively engage in national housing initiatives, urban renewal, and the promotion of social integration, while preserving critical operational capabilities.

The diversification of public housing financing models reflects the growing complexity and interdependence between public goals and private capital. Although there is no one-size-fits-all model, REIFs and PPPs prove effective mechanisms when structured within robust regulatory frameworks and aligned with social priorities. For Portugal, and particularly for defense institutions managing significant real estate portfolios, these models provide a practical, scalable, and fiscally responsible pathway for supporting housing renewal and urban resilience.

CHAPTER 2 – INSTITUTIONAL AND MARKET CONTEXT OF MILITARY HOUSING IN PORTUGAL

2.1. History of Public Housing in Portugal

2.1.1. Historical Evolution of Public Housing in Portugal

According to Xerez et al. (2018), the development of public housing in Portugal throughout the 20th and 21st centuries reflects the country's socio-political transformations and shifting priorities in national housing policy. The first significant governmental responses to the housing issue emerged in the aftermath of World War I, addressing the increasing urban demand caused by industrialization and rural exodus. During the First Republic (1910–1926), housing concerns were largely framed within broader debates on social reform but lacked coordinated policy implementation.

Under the Estado Novo regime (1933–1974), the government adopted a more centralized and interventionist role, initiating several housing schemes, such as the *Casas Económicas* and agricultural colonies, aimed at specific social groups, including rural populations and low-income urban workers. Despite the increase in housing construction, these policies were often ideologically driven and insufficient to meet the growing demand, especially in urban centers (Xerez et al., 2018).

The tides of urbanization, economic shifts, and social evolution throughout the 20th and 21st centuries have significantly influenced the transformation of public housing in Portugal. During the dynamic period of the 1960s and early 1970s, the rapid pace of industrialization triggered a movement from rural areas, resulting in an increase in population density in major urban centers such as Lisbon and Porto (Pinto & Guerra, 2019). The absence of a robust housing market response spawned the emergence of informal settlements, congestion, and self-built homes, early indicators of a structural housing crisis in urban areas.

The Revolution of April 25, 1974, represented a turning point in history. The newly established democratic government recognized housing as a constitutional right (Article 65 of the Portuguese Constitution), leading to more inclusive policies. The establishment of the *Serviço de Apoio Ambulatório Local* (SAAL) symbolized this era, enabling local communities to engage in housing development and rehabilitation. Nevertheless, financial and political instability obstructed the ongoing success of many of these efforts (Xerez et al., 2018).

According to Xerez et al. (2018), in the 1980s and 1990s, public housing policy shifted towards eradicating precarious housing conditions, particularly in metropolitan areas. The Special Rehousing Programme (Programa Especial de Realojamento, PER), initiated in 1993, played a vital role in rehousing families living in informal settlements, particularly in Lisbon and Porto. This marked a significant expansion of the State's commitment to promoting housing as a public benefit.

Entering the 21st century, housing policy focused on three core axes: social housing, urban rehabilitation, and promoting the rental market. Legislative milestones included the establishment of the *Instituto da Habitação e da Reabilitação Urbana* (IHRU) in 2007, as well as reforms such as the New Urban Lease Regime, *Novo Regime do Arrendamento Urbano* (NRAU). Programs like PROHABITA and Porta 65 also aimed to enhance access to housing for vulnerable populations and younger generations (Xerez et al., 2018).

Today, public housing in Portugal remains a vital component of social policy. Nonetheless, challenges persist, particularly in maintaining affordability, addressing the aging housing inventory, and responding to demographic shifts. The historical journey demonstrates a transition from reactive, fragmented efforts to more cohesive and strategic methods of housing governance.

2.1.2. Housing Policies in Portugal

The evolution of housing policies in Portugal over the last century reflects shifting ideological models, moving from a welfare-oriented, State-provider paradigm to a more regulatory, State-facilitator framework. This transition has been shaped by political regimes, economic conditions, and international influences, particularly the integration into the European Union and the adoption of the euro.

According to Xerez et al. (2018), throughout the Estado Novo dictatorship (1933–1974), housing policy was largely characterized by centralized, paternalistic interventions, such as the promotion of low-cost housing and rural settlements. Nevertheless, the availability of housing continued to be insufficient and discriminatory, frequently not meeting the increasing urban housing shortfall caused by the movement from rural to urban areas.

Throughout the 20th and 21st centuries, Portuguese housing policy has evolved in response to demographic, economic, and political transformations. Initially, the State played only a residual role, frequently leaving the resolution of housing issues to the families themselves, all while favoring the principles of market dynamics and individual responsibility (Pinto & Guerra, 2019). According to S. Alves and Veludo (2014), Portugal's housing policy was historically marginal, leading to late and insufficient public action.

Following the 1974 democratic revolution, housing became a constitutional right (Article 65 of the Portuguese Constitution). This marked a significant ideological shift towards social justice and public responsibility. The SAAL programme, though short-lived, represented a participatory and redistributive approach, empowering local communities to co-design and build their own housing (Xerez et al., 2018). Still, the repercussions of these initiatives were restricted by political volatility and fiscal limitations.

The 1980s and 1990s saw a strong orientation towards promoting home ownership, aligned with broader European trends. The Portuguese government ignited a wave of mortgage lending and urban growth by supporting suburbanization and private construction, primarily fueled by tax incentives and infrastructure development. According to Xerez et al. (2018), the State promoted homeownership through subsidized credit, *Regime de Crédito Bonificado* (RCB) and increasingly delegated implementation to municipalities. Programmes such as the *Programa Especial de Realojamento* (PER), launched in 1993, marked a shift toward public intervention in eliminating precarious housing. The PER's mission was to provide new homes for families residing in illegal or substandard settlements, particularly within the metropolitan regions of Lisbon and Porto, and while it achieved partial success, it also faced criticism for generating socio-spatial segregation (Pinto & Guerra, 2019).

From the 2000s onwards, housing policy increasingly embraced the logic of market regulation and financialization. According to S. Alves and Veludo (2014), the role of the State transitioned from a direct provider of housing to a facilitator, promoting access to credit and home ownership through fiscal incentives. This approach, however, weakened the rental sector and failed to ensure adequate investment in social or affordable housing. The global financial crisis of 2008 and the subsequent austerity measures have considerably diminished the public sector's capacity for intervention. Budget cuts imposed under international financial oversight significantly constrained public spending on social services, including housing, thereby intensifying the barriers to home ownership and limiting access for low-income families (Da Silva Roque Duarte, 2019).

The creation of the IHRU in 2007 further institutionalized housing and urban regeneration policy. Programs such as *PROHABITA*, *Porta 65*, *Mercado Social de Arrendamento* (MSA), and *Reabilitar para Arrendar* emerged in response to housing needs, especially for youth and low-income families. Additionally, financial instruments like

IFRRU 2020 and strategies such as the *National Housing Strategy 2015–2031* aimed to ensure long-term sustainability and territorial cohesion (Xerez et al., 2018). Table 6 presents the various housing policies implemented in Portugal in recent decades.

Table 6 - Timeline of Housing Policy in Portugal (2002–2017)

Year	Key Events
2002	Introduction of the Euro; Merger of IGAPHE with INH; End of RCB
2003	Amendment to the Special Rehousing Programme (PER)
2004	Launch of *PROHABITA:* Special rehabilitation regime for historic zones and critical recovery areas;
2005	Critical Neighborhoods Initiative
2006	Implementation of the (NRAU)
2007	Creation of the IHRU; Launch of *Porta 65 Jovem;*
2008	*Strategic Housing Plan* (2008–2013); *Programa Local de Habitação* (PLH);
2009	Urban Housing Legal Regime
2011	Economic and Financial Adjustment Programme (Troika)
2012	Social Rental Market; Revision of NRAU;
2013	Rehabilitate to Rent Program; Exceptional regime to protect mortgage debtors in severe financial distress
2014	REUR – *Regime Excecional para a Reabilitação Urbana;* Revision of NRAU; Return of subsidized credit for disabled people; Conditional Rent Scheme; New Regime for Supported Leasing
2015	National Housing Strategy (2015–2031); Rehabilitate to Rent – Affordable Housing
2016	National Building Rehabilitation Fund; Launch of IFRRU 2020
2017	Parliamentary recommendation for a new rehousing program; *Casa Eficiente* Program; Revision of *Porta 65 Jovem*

Source: Xerez et al. (2018)

In summary, the trajectory of Portuguese housing policy over the last century reflects a gradual shift from limited state intervention to a more complex and evolving regulatory role. While initial public policies were marked by limited engagement and dependence on market forces, subsequent decades saw focused yet disjointed attempts to tackle structural inadequacies in housing supply. The transition from a provider model to a facilitator approach, particularly after the 2000s, has resulted in persistent challenges, including an underdeveloped rental market, reduced social housing stock, and growing socio-spatial disparities. These dynamics highlight the necessity of reevaluating the State's role in guaranteeing fair access to housing, particularly considering the systemic vulnerabilities revealed by economic downturns and the escalating pressures of the contemporary housing market.

2.1.3. The Role of the State in Housing Promotion and Management

According to Voss (2012), as a promoter, the State intervenes directly in the housing market by constructing and managing public housing stock, allocating dwellings, and coordinating national programmes. This model is visible in initiatives such as 1.º Direito, where the central government, through the *Instituto da Habitação e da Reabilitação Urbana* IHRU, finances housing solutions for families living in inadequate conditions. The IHRU also manages part of the national public housing stock and oversees programmes for the rehabilitation of buildings and neighborhoods (*1º Direito - Portal Da Habitação*, 2019).

In its facilitator role, the State creates incentives for private actors (such as real estate developers, financial institutions, and cooperatives) to contribute to housing provision. This includes fiscal benefits, access to credit, legal frameworks for affordable housing, and the mobilization of underutilized public land. Rather than acting alone, the State assumes a coordinating function, defining national priorities while relying on third parties for implementation.

A key actor in this decentralized framework is the municipal government. Since the introduction of Local Housing Strategies, municipalities have gained strategic relevance in diagnosing housing needs and proposing solutions tailored to their territories (R. Alves et al., 2023). Through collaboration with the IHRU and access to European funds, municipalities are empowered to contract construction, acquire property, or support non-profit housing initiatives.

According to Rojs et al. (2019), another relevant actor in the housing landscape is the cooperative sector. Housing cooperatives operate on a non-speculative and community-driven basis, fostering collective ownership and long-term affordability. These initiatives promote participatory governance, enabling residents to take an active role in decision-making across all stages of the housing process (from initial planning and design to construction and ongoing management). This model not only encourages social cohesion but also reinforces a sense of responsibility and sustainability within the community. While their activity has declined in recent decades, they continue to represent a viable model for affordable and sustainable housing, particularly in contexts where market solutions fall short.

This evolution from direct provision to facilitation has generated important debate regarding the effectiveness of the current model. As the demands on the housing system intensify, particularly in urban areas, the State's capacity to harmonize both strategies effectively will shape the efficacy and equity of housing policy in the future.

2.1.4. Government Programs and the Housing Crisis

The 2008 global financial crisis marked a pivotal turning point for Portugal's housing sector. Following an extended period of public policies that robustly promoted homeownership, often via financial assistance and tax incentives, the crisis revealed the inadequacies of this model. The collapse of international credit markets, coupled with Portugal's sovereign debt crisis and subsequent Economic and Financial Adjustment Programme (2011–2014), led to severe austerity measures that limited the State's capacity for public investment in housing.

During this period, household earnings declined while housing expenses remained relatively stable, leading to a notable increase in the housing cost weight, particularly among families with low incomes. According to Garriga and Hedlund (2019), mortgage defaults increased, housing construction dropped dramatically, and the rental market remained underdeveloped and poorly regulated. These conditions set the foundation for a structural housing crisis, exacerbated by years of underinvestment and insufficient housing supply.

According to Xerez (2024), Portugal's housing market experienced a rebound from the mid-2010s onward, primarily driven by foreign investment, short-term rentals, and urban regeneration in historic city centers. While these trends revitalized parts of cities like Lisbon and Porto, they also led to the displacement of residents and intensified gentrification. Younger generations, facing stagnant wages and job insecurity, have found it increasingly challenging to access affordable housing, whether for rent or purchase. In response to this issue, the government has launched a series of initiatives aimed at addressing housing exclusion. The 1.º Direito Programme (2018) was a key step, focusing on providing dignified housing for vulnerable families through rehabilitation and construction, with no prior credit requirement. Complementary initiatives such as Porta 65 Jovem and IFRRU 2020 aimed to promote rental access and urban rehabilitation, respectively.

In recent years, particularly after the COVID-19 pandemic, the housing crisis has resurfaced as a national priority. The sharp rise in rental and property prices, intensified by speculative investment and tourism-driven demand, has led to a range of new policy responses. Among the most notable are the State-backed rental guarantees, the IMT exemption (*Imposto Municipal sobre Transmissões Onerosas de Imóveis)* for young buyers acquiring their first home, state guarantee for down payment exemption, introduced in 2025, allows individuals under 35 to access mortgage credit without an initial deposit when purchasing a permanent residence (Habitação Jovem: Tenho Direito? | DECO PROteste, 2025) and measures implemented in 2023–2025 under the Mais Habitação program (*CCR Legal Sociedade De Advogados*, 2023). These initiatives aim to mitigate barriers to access, particularly among younger and lower-income populations, and to reintroduce the State as an active agent in balancing the market.

Despite these efforts, challenges remain. The demand for housing continues to significantly surpass the available supply, especially in urban centers, which fuels price inflation and intensifies competition for available units. Bureaucratic stagnation limited public housing availability and continued speculation from both domestic and foreign further contributed to sustained affordability issues. The current housing crisis reflects more than a market failure; it underscores the long-term neglect of housing as a fundamental social right. The latest generation of policies suggests a renewed role for the State, not merely as a regulator but as a proactive participant in ensuring access to adequate and affordable housing, especially for younger generations who are increasingly excluded from the market.

2.2. Military Housing and Asset Management

2.2.1. The Role of Military Housing in Service Members' Quality of Life

Military housing is essential for maintaining the operational readiness, welfare, and retention of military personnel. According to Layan et al. (2023), adequate and stable accommodation has a direct and significant influence on the physical and psychological well-being of service members, thereby affecting their performance, morale, and mission success. Similar to other professional fields that require geographic mobility and institutional discipline, housing becomes a fundamental component of military life, not only as a logistical support system but also as an incentive for recruitment and long-term commitment to service.

The military context presents distinct challenges to housing provision, particularly due to the need to accommodate personnel near strategic infrastructures, including military bases, logistics centers, and training grounds (Forgionne, 1997). Moreover, military families often face multiple relocations during their careers, which makes access to institutional housing a crucial factor in maintaining family stability (Lawhorne-Scott et al., 2014). Therefore, military housing should not be viewed merely as a social benefit but rather as a strategic investment in human capital and organizational cohesion.

Several studies conducted within NATO member states have emphasized the correlation between housing conditions and military retention rates (NATO Research and Technology Organization, 2008). Nations such as the United Kingdom and the United States have introduced reforms over the past two decades to modernize their military housing stock, increasingly engaging private entities through PPPs. Portugal, despite budgetary limitations and institutional complexity, has recognized this dynamic and gradually advanced toward structured responses, particularly through the involvement of the Instituto de Ação Social das Forças Armadas (IASFA).

2.2.2. Models of Real Estate Asset Management in the Public and Military Sectors

The management of state-owned real estate assets in Portugal adopts a hybrid approach involving both centralized administration and decentralized actors such as municipalities and public institutes. According to Luís (2023), the centralized administration of state-owned real estate in Portugal is primarily supervised by the *Direção-Geral do Tesouro e Finanças (*DGTF). This organization is responsible for overseeing the strategic management of state assets, ensuring that they are utilized effectively to support public policy objectives and maintain fiscal stability. According to Prigozhin (2019), decentralization empowers local governments the authority to manage real estate assets, which can lead to more responsive and context-specific decision-making. This independence enables municipalities to align asset management approaches to fit local socio-economic objectives and community requirements. Within the Armed Forces, military infrastructure is managed based on guidelines established by the Ministry of National Defense, in alignment with budgetary rules and strategic planning.

Historically, military real estate in Portugal was managed with a high degree of exclusivity, reserved strictly for institutional and operational purposes. Nevertheless, under the broader framework of the broader *Plano de Racionalização do Património do Estado* (PRPE), there has been a gradual transition towards incorporating underutilized military assets into national housing and urban development initiatives. This movement reflects an increasing acknowledgment of the necessity to optimize public resources and promote the multifunctionality of state-owned assets through inter-ministerial cooperation. In this context, *Decreto-Lei n,º 60/2023* (República Portuguesa, 2023) establishes a new model for public real estate management, called *ESTAMO – Participações Imobiliárias*, S.A. as the entity responsible for coordinating and managing the State's real estate assets. This strengthens a more professional and strategic method of asset management, including the potential reuse of military properties that are no longer needed for operational activities.

At the same time, IASFA remains responsible for the social allocation and operational management of military housing, particularly through the organization of public tenders for the attribution of economically supported residences, as defined in *Decreto-Lei n.º 380/97, (República Portuguesa, 1997)* , (República Portuguesa, 1997) de 30 de dezembro). However, the authority for the comprehensive management of the real estate holdings of public entities like IASFA, including acquisition, sale, and leasing, was officially transferred from DGTF to *ESTAMO*, in accordance with Article 2 of *Decreto-Lei n,º 60/2023* (República Portuguesa, 2023) . The residential inventory managed by the military administration varies in typology, geographic distribution, and physical condition. Much of it dates to the mid-20th century and requires substantial renovation. Some buildings, despite their advantageous locations, remain vacant due to legal, financial, or technical barriers.

As seen before, modern approaches to asset management are increasingly backing real estate investment models, incorporating the use of REIFs to support rehabilitation, leverage public-private capital, and long-term sustainable management. This pattern, visible in other EU countries, allows public entities to maintain partial control while outsourcing technical and operational components. In Portugal, discussions around the creation of military-specific REIFs are still in their early stages but hold significant potential, especially in urban areas with strong real estate demand.

The evolution of military real estate management in Portugal illustrates a clear shift towards strategic and cohesive asset governance. While IASFA continues to manage military housing allocation, the centralization of property oversight under ESTAMO reflects a move toward professionalized administration. Considering the aging and underused housing stock, the adoption of innovative models such as REIFs presents a viable path for rehabilitation and optimization. Moving forward, aligning military infrastructure management with national housing and urban development goals will be essential to ensure both operational readiness and social utility.

2.2.3. The Role of IASFA in Military Housing Management

IASFA is the principal entity responsible for the execution and oversight of social support systems for military staff, including housing, healthcare, and retirement services. Established to centralize and professionalize the administration of welfare benefits, IASFA is essential in bridging the gap between institutional mission demands and the personal needs of service members (Sobre o IASFA | IASFA, 2024).

In the housing domain, IASFA manages a portfolio of properties that are available for rent to military personnel and their families (Gomes Cravinho, 2019). These accommodations are typically located near military facilities and are assigned based on criteria such as rank, family size, income level, and operational requirements. The institute also offers financial assistance programs to cover housing costs, with a particular focus on supporting lower-ranking personnel or those based far from their hometowns.

IASFA's strategy for housing management is multifaceted and strategically oriented. It includes the maintenance and rehabilitation of current housing inventory, ensuring that infrastructure remains functional and safe for military personnel and their families. The institute also follows allocation procedures based on the principles of transparency and social equity, aiming to ensure fair access to housing across different income levels and needs (Sobre o IASFA | IASFA, 2024).. Furthermore, IASFA engages in strategic partnerships with municipalities and private developers, promoting coordinated efforts to provide and improve military housing (Sobre o IASFA | IASFA, 2024). Finally, it implements long-term planning for the renewal and expansion of assets, particularly in areas experiencing significant housing pressure, thereby aligning military housing provision with territorial and social needs .

In recent years, IASFA has been involved in some discussions on real estate strategy, including the possibility of forming partnerships with public housing institutions (like IHRU) and exploring new models of co-investment for the rehabilitation of military housing. In line with European best practices, there is an increasing awareness that housing for military personnel should not be treated in isolation but rather as an integral part of the wider social infrastructure framework, ensuring integration, accessibility, and adaptability to future defense and societal demands.

2.3. The Real Estate Market in Portugal

2.3.1. Trends and Structural Dynamics

The Portuguese real estate market has experienced significant transformations over the last two decades, influenced by macroeconomic factors, demographic shifts, and evolving public policy frameworks. The early 2000s were characterized by a period of rapid expansion, supported by easy access to mortgage financing and attractive tax benefits for homeowners. This resulted in accelerated suburbanization and the proliferation of private housing developments. However, the 2008 global financial crisis brought a severe correction, exposing the vulnerabilities of a housing system heavily reliant on private property markets and limited in public intervention capacity.

Since 2014, the sector has entered a new phase of dynamism, driven by foreign direct investment, golden visa initiatives, and the growth of short-term rental platforms like Airbnb (Franco et al., 2019). These dynamics have had a dual effect: on the one hand, they have attracted capital inflows and revitalized historic urban centers; on the other, they have contributed to rising property values and the displacement of long-term residents from central urban areas. On table 7 is explained several structural characteristics that define the current housing market in Portugal:

Table 7 - Structural Characteristics of the Portuguese Housing Market

Characteristic(s)	Description	Reference(s)
High concentration of demand	Strong pressure in metropolitan areas such as Lisbon and Porto, as well as in coastal zones.	Lorga et al. (2022)
Limited new construction	Insufficient supply in affordable and middle-income housing segments.	Lorga et al. (2022)
Bureaucratic barriers	Urban planning and licensing processes remain slow and complex, deterring new development.	Guerra (2011)
Structural housing shortage	Persistent scarcity in the rental market, especially in urban centers.	(Garcia & Lopes, 2022)
Inequality in access to housing	Younger generations, low-income families, and mobile public servants (e.g., military personnel) face increased exclusion.	Guerra (2011)

These dynamics have produced a housing system that is gradually inadequate to cope with the intensifying and multifaceted demand, consequently generating friction between investment-oriented urban development and social equilibrium.

2.3.2. Accessibility and Affordability Challenges

In recent years, housing affordability in Portugal has deteriorated significantly, reflecting a structural imbalance between income levels and property prices. According to the Rodrigues et al. (2023), the steady increase in housing prices has consistently outpaced wage growth, particularly in metropolitan areas such as Lisbon and Porto. This trend has intensified social inequalities and created new barriers to market access for both homeownership and rental housing.

According to Rodrigues et al. (2023), during the COVID-19 pandemic, despite the contraction in Portugal Gross Domestic Product (GDP), housing prices continued to rise. Public income-support measures implemented at the time likely contributed to this resilience, as they helped maintain household solvency and spurred a temporary surge in new mortgage loans. However, the scenario shifted in 2022, when high inflation and rising interest rates altered household consumption patterns, resulting in a marked reduction in housing credit uptake.

The deterioration in affordability is particularly evident in the sharp increase in the income required to purchase a median-priced home. Households must now allocate a growing share of their disposable income to housing expenses. These constraints are compounded by employment instability, restrictive credit conditions, and demographic shifts.

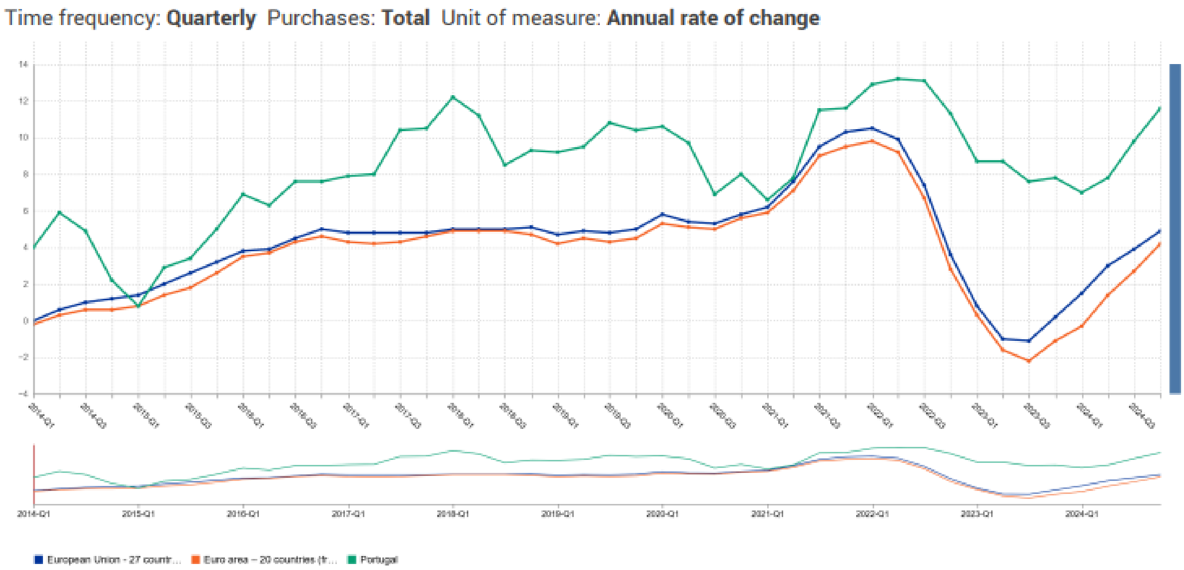

Figure 1 - House Price Index – Portugal, EU, Euro Area

Source: Eurostat (2024)

According to Eurostat data (2024) Figure 1, house prices in Portugal have consistently risen at a faster pace than the EU and Euro Area averages. While the European Union recorded annual increases between 4% and 6% from 2016 to 2022, Portugal experienced peaks of over 12%. Despite a temporary slowdown in 2023 due to inflation and interest rate hikes, the upward trend resumed sharply in 2024. This sustained price escalation far outpaces income growth and has significant implications for housing affordability.

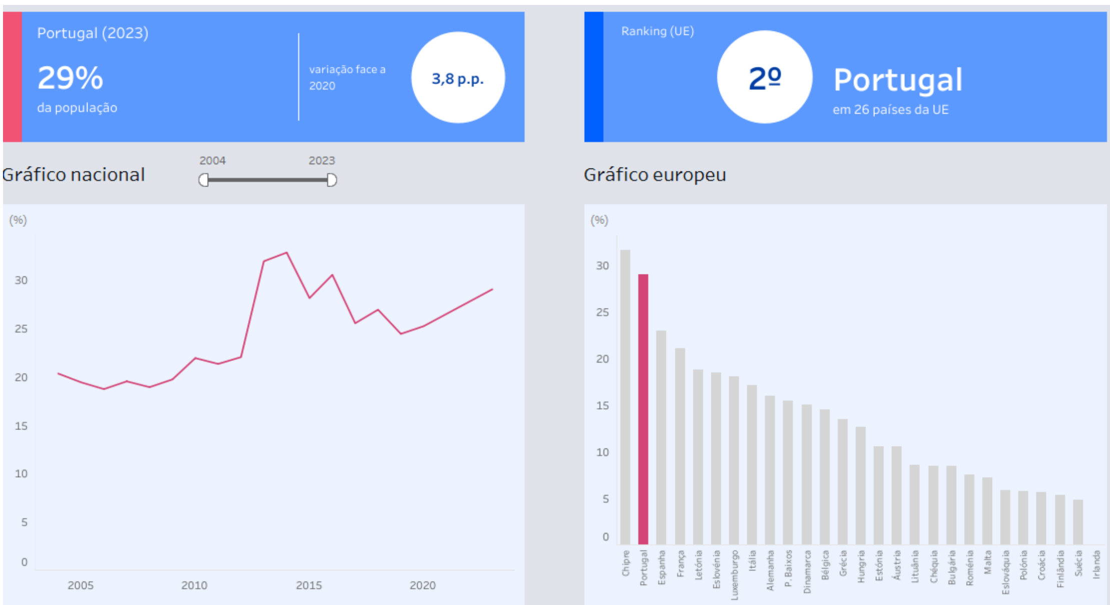

Figure 2 - Population Living in Dwellings in Poor Condition

Source: PORDATA (2025)

According to PORDATA (2025) Figure 2, 29% of the Portuguese population was living in dwellings with poor conditions in 2023, the second highest in EU.

The analysis of affordability and housing quality indicators reveals a growing disconnection between household income and access to decent housing in Portugal. Increasing real estate prices, stagnant wage growth, and limited credit availability have had a disproportionate effect on younger populations and those with lower socioeconomic status, especially in urban environments. Simultaneously, the enduring of insufficient living conditions for nearly one-third of the population underscores deep structural deficiencies in the housing stock. Together, these factors signal an urgent need for coordinated policy interventions that go beyond market solutions, addressing both affordability and quality to ensure that housing functions not merely as a commodity, but as a fundamental social right.

2.3.3. Public Housing Policies and Their Relationship with Military Housing

Younger generations face increasing difficulties in establishing independent households, and many families are forced to either overpay or live in precarious conditions. In recent decades, public housing policies in Portugal have evolved from a fragmented model of emergency interventions into a more structured framework guided by strategic planning, social equity, and territorial cohesion. This challenge is notably alarming for public sector staff with mobility requirements, including educators, nurses and military personnel, who are often allocated to high-demand urban areas without options for affordable institutional housing.

As seen before, in the military context, housing affordability intersects directly with morale, operational readiness, and personnel retention. The failure to secure dignified housing in proximity to military bases or urban service centers decreases the appeal of a military career and increases turnover, especially among lower-ranking personnel. The military community is often affected by housing exclusion, particularly in urban centers with high market pressure. While mechanisms like *1.º Direito* provide support at the municipal-level, their local focus and income-based eligibility criteria are frequently not align with the operational and mobility needs of service members.

According to Santos and Coelho (2018), national housing strategies have historically neglected the institutional aspect of military housing, treating it as an internal issue of the

Armed instead of as a part of an extensive public housing framework. This disconnect has contributed to the stagnation and degradation of the military housing stock, now characterized by aging infrastructure, geographic dispersal, and insufficient availability relative to demand.

The creation of the IHRU and the implementation of long-term strategies like the *Plano Nacional de Habitação* (2015–2031) represent progress in framing housing as a fundamental right. However, the potential to align military housing provision with these public policies remains underexploited. Incorporating military housing into national rehabilitation programs could enable access to technical, financial, and territorial planning resources while preserving operational autonomy through institutions like the IASFA.

In conclusion, the incorporation of military housing into the wider context of public housing policy would not only ensure improved living conditions for service members and their families but also enhance the effective utilization of State-owned properties, strengthen territorial solidarity, and align national defense with social development goals.

CHAPTER 3 – METHODOLOGY, METHODS AND MATERIALS

This chapter, as the guiding framework of the research, aims to present and justify the methodological structure adopted in this investigation. It highlights the motivation behind the strategic choices, the methodological procedures, and the techniques employed to achieve the research objectives.

The development of this methodological framework is grounded in the findings of the preceding chapters, which included a literature review and a profound contextual analysis of the institutional and academic background. These elements established the doctrines in which the current research strategy is built.

In organizing the methodology, the general research design model proposed by Saunders, Lewis, and Thornhill (2009) was adopted. According to the authors, the methodological framework serves as a comprehensive blueprint to answer the research questions raised in the investigation, acting as a conceptual guide. It must contain clear objectives and specify the sources from which data will be collected.

Based on the literature review and the analyses conducted in Chapters 1 and 2, concerning the conceptual framework of REIFs as well as the institutional and market context of Military Housing in Portugal, this chapters delineates a structured plan to answer the research questions. It specifies the methodological path, including the research strategy, the types of data collection, and the methods for data analysis, aimed to evaluate the viability and effectiveness of REIFs as a financial tool for the renovation of military housing.

3.1. Research Objectives

The research objectives help to define the line and direction of the research, it is necessary to establish a General Objective (GO), from which several more specific objectives are derived (Saunders et al., 2009).

Table 8 - Relationship between the GO, CQ, SO, and RQ

General Objective (GO)	Central Question (CQ)	Specific Objectives (SO)	Research Questions (RQ)
Investigate the viability and effectiveness of investment strategies through REIFs in mobilizing resources for the rehabilitation of state-owned housing, with a specific focus on properties managed by IASFA.	Can real estate investment funds serve as an effective financing source for the renovation of IASFA housing units?	SO1. Understand the current trends, challenges, and opportunities in the Portuguese real estate market.	RQ1. What are the current trends, challenges, and opportunities in the Portuguese real estate market?
		SO2. Evaluate the current conditions of IASFA's housing stock and identify renovation needs.	RQ2. What is the current condition of IASFA housing, the main renovation needs, and how can such renovation improve the housing conditions for beneficiaries?
		SO3. Analyze the investment strategies used by REIFs in housing rehabilitation and identify similar projects.	RQ3. What are the most common strategies used by real estate investment funds to raise capital for housing projects, and how can they be applied to the Portuguese context?
		SO4. Explore the existence and operational mechanisms of REIFs in Portugal.	RQ4. How do real estate investment funds operate in Portugal?
		SO5. Evaluate the viability of implementing a REIF focused on the rehabilitation properties managed by IASFA.	RQ5. What are the main challenges and opportunities in implementing a real estate investment fund, and which models are most suitable for renovating IASFA properties?

So, the GO of this research is to: "Investigate the feasibility and effectiveness of investment strategies through real estate investment funds in the renovation of military housing managed by IASFA.". This objective will be achieved by answering the CQ: "Can real estate investment funds serve as an effective financing source for the renovation of IASFA housing units?" To support the achievement of the GO and provide a structured response to the CQ, a set of SOs was stated. Each SO is associated with a corresponding RQ, as shown in Table 8.

3.2. Methodological Choices Adopted in Research

The present study adopts a pragmatic philosophical view, recognizing that the choice of methods should be guided by the nature and objectives of the research, rather than obedience to a single philosophical paradigm. According to Saunders et al. (2009), pragmatism affords flexibility to combine both qualitative and quantitative approaches, fixing on what works in practice to answer the research question effectively. This orientation is exceptionally appropriate for complex and context-dependent investigations such as the financing of military housing through REIFs.

With this philosophy, the study follows an abductive reasoning approach, which allows the researcher to change between theory and empirical data. This logic process supports the generation of insights that are both theoretically grounded and empirically validated.

The research model is of a mixed-methods nature, integrating qualitative data collected through semi-structured interviews with experts, and quantitative data collected via a structured questionnaire administered to IASFA housing beneficiaries and potential beneficiaries. This methodological combination enables data triangulation, improving the validity and vigor of the findings.

Finally, the investigation adopts a cross-sectional temporal horizon, focusing on the reality observed in the year 2025. Although limited in capturing long-term trends, this time frame is appropriate for evaluating the current strategic, legal, and economic possibility of implementing REIFs for military housing renovation. This combination of philosophical stance, methodological approach, and research instruments reflects a coherent and well-justified plan aligned with general and specific objectives.

3.3. Techniques, Procedures, and Resources Used

Following the definition of the research objectives and strategic framework, it is necessary to outline the techniques, procedures, and resources utilized for data collection and analysis.

3.3.1. Data Collection Techniques and Measurement Instrument

The research process began with a comprehensive literature review and documentary analysis related to the utilization of REIFs in public and military housing sectors. This stage was crucial in synthesizing the principal concepts, models, and frameworks that support the theoretical foundation of this investigation. It also included the integration of a specific military perspective, particularly concerning the housing requirements and institutional limitations faced by the Armed Forces.

Before collecting empirical data, an research was conducted to clarify the legal and operational framework that regulate military housing in Portugal, focused on the role of IASFA and the potential for leveraging underutilized real estate assets through REIFs.

The first stage of data collection relied on the analysis of primary sources, such as legislation, government reports, and official documentation from IASFA and *ESTAMO*. Moreover, a review of secondary sources, comprising peer-reviewed scholarly articles, master's dissertations, and academic books was conducted via scholarly databases such as EBSCOhost, and Scopus.

The second stage of data collection was divided into two corresponding components: the distribution of structured questionnaires and the conduction of semi-structured interviews.

The first stage involved the application of a structured questionnaire designed to assess the perceptions of IASFA housing beneficiaries and potential beneficiaries regarding the current condition of military housing, renovation priorities, and the viability of implementing a REIF to support infrastructure rehabilitation.

The questionnaire, presented in Appendix D, was developed utilizing Google Forms and featured a bifurcated design, meaning that the sequence of inquires was dynamically adjusted according to the characteristics of the respondent's profile. Each profile group received a distinct set of Likert-scale items.

The closed-ended sections were constructed employing a five-point Likert scale and covered four key areas: Housing quality and maintenance, Institutional transparency and communication, Attitudes toward PPPs and REIF implementation, Perceived equity and accessibility of IASFA housing policies. The questionnaire was developed and validated with expert input and pre-tested prior to public dissemination.

The second stage involved the conduction of semi-structured interviews with key stakeholders, including: A collective interview with the President of IASFA Council and two board members of IASFA Council, another interview with the director of *Direção de Serviços de Ação Social Complementar* (DSASC), a lawyer advisor from IASFA with expertise in the regulatory and institutional framework of military real estate, and, the Asset Manager of Oracle Portugal expert in REIFs and fund operation.

These interviews were build using interview guides personalized to each interviewee, see Appendix E, and meant to complement the quantitative data with deeper insights into the institutional, legal, and strategic possibility of introducing REIFs in the military housing sector.

The qualitative data collected through interviews and questionnaires were analyzed using thematic content analysis, while the quantitative data will be subjected to descriptive statistics and exploratory factor analysis (EFA) using JAMOVI.

3.3.2. Sampling: Composition and Justification

A total of 246 valid responses were obtained, representing a sample of an estimated 18,000 active-duty military personnel in the Portuguese Army in 2025. This estimate reflects stable trends over the past five years, with no significant changes in force size and a distribution suitable for proportional sampling (Ministério da Defesa Nacional, 2023).

To connect with the research objective, the sample included three distinct respondent profiles: current IASFA housing beneficiaries, former IASFA housing beneficiaries and potential users of IASFA housing.

This division allowed the study to capture a wider range of perspectives, reflecting the thoughts of ones who lived the experience and the potential beneficiaries' expectations related to military housing.

Respondents were categorized according to their gender, rank category and contractual status. The sample included participants from the three main categories of military personnel: Officers (52%), Sergeants (43.1%) and Soldiers (4.9%). In terms of contractual affiliation with the Portugues Army, were distributed across permanent staff (88.2%), contract regime (11%) and special contract regime (0.8%).

This classification was essential to obtain the diversity of service conditions and institutional experience, which may influence respondents' perceptions of IASFA housing and their thoughts on the implementation of REIFs.

3.3.3. Data Processing

The questionnaire data collected through Google Forms, resulting in a total of 246 responses. The dataset was exported and organized using Microsoft Excel (Microsoft Corporation, 2022) and subsequently analyzed via JAMOVI (The JAMOVI project, 2023). In addition to survey data, qualitative insights were gathered through a two semi-structured interview, which provided further context for interpreting the findings and enriched the content analysis phase. NVivo 14 software supported qualitative content analysis by facilitating the coding and organization of open-ended survey responses and interview transcripts, following the thematic analysis approach described by Braun and Clarke (2006). The internal consistency of the survey instruments was evaluated using Cronbach's alpha, a widely accepted reliability measure for psychometric scales, as shown in Appendix B. Almost all scales demonstrated high reliability, with Cronbach's alpha coefficients exceeding 0.7, following the standards recommended by Tavakol and Dennick (2011).

An EFA was conducted of the questionnaire, which included items related to perceptions of IASFA housing conditions. The goal was to identify a set of latent dimensions capable of capturing essential perceptions related to military housing, institutional trust, and openness to REIFs. This analytical step represents the core empirical focus of the present study.

In addition, descriptive statistics were processed for all key variables under investigation and are presented in Appendix I.

3.3.4. Operational Validation of Extracted Factors: Normality and Inter-Factor Relationships

To ensure the empirical consistency and operational robustness of the dimensions extracted through EFA, a statistical validation procedure was conducted. The extracted factors represent multidimensional constructs related to perceptions of housing conditions, institutional performance, and attitudes toward the implementation of REIFs.

The validation process began with the extraction of latent factors using the Maximum Likelihood method with Varimax orthogonal rotation, based on a Spearman correlation matrix appropriate for ordinal data. Items with low communalities or inadequate loadings were excluded to ensure factorial clarity and internal consistency. These procedures are fully detailed in Chapter 4 and led to the identification of five interpretable dimensions among potential IASFA housing beneficiaries.

Following factor extraction, factor scores were estimated using Thurstone's regression method, as implemented in the JAMOVI platform. Although derived from ordinal items, the resulting scores were treated as continuous variables, justified by the Central Limit Theorem given the sample size ($n = 256$) and the aggregation of several items into each factor (Field, 2009).

Tests for normality were applied to the factor scores, including skewness, kurtosis, and visual inspection via histograms and Q–Q plots. The results met the criteria proposed by

West et al. (1995), supporting the use of parametric techniques in subsequent analyses.

A Pearson correlation matrix was then computed to explore the relationships among the extracted factors. Correlation coefficients were interpreted according to the guidelines proposed by Cohen (2013). This analysis confirmed the multidimensionality of the factor structure and the absence of multicollinearity, ensuring that each construct could be used as an independent predictor in regression models. The corresponding results are fully presented in Chapter 4.

This validation step concludes the methodological phase, confirming that the extracted factors are statistically reliable and appropriate for use in subsequent quantitative modeling procedures

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CHAPTER 4 – RESULTS

This chapter presents a comprehensive analysis of the data collected during the research, combining quantitative and qualitative approaches. The quantitative component includes descriptive statistics, EFA, and Pearson correlation analysis, aiming to identify patterns and relationships among perceptions of military housing and attitudes towards REIFs. The qualitative component includes content analysis of interviews with strategic stakeholders, offering insights into the institutional perspective on REIF implementation.

4.1. Quantitative Analysis of Data

According to Zanella (2006), quantitative analysis aims to evaluate the connections between variables. Accordingly, this section seeks to quantitatively assess the relationship between the perception of REIF and the satisfaction of Portuguese Army personnel with military housing.

The quantitative structure presented in this chapter plays an imperative role in ensuring that the research has been conducted with methodological specificity and internal consistency. By following these methodological recommendations, this study aims to produce reliable and relevant findings that contribute meaningfully to the advancement of scientific knowledge of the topic.

This quantitative analysis make it possible to identify patterns, relationships, and trends with the collected data. A sensible examination of these results will provide valuable and solid insights that support the resolution of the research questions and the achievement of the defined objectives.

Also, the outcomes derived from this analysis are expected to improve the existing knowledge and clear the path for future research and refinements in the field of military housing investment strategies.

Responses from active-duty military personnel in the Portuguese Army in 2025, a sample of 246 responses were received.

4.1.1. Applicants Characteristics

This section provides a descriptive overview of the applicants, concentrating on key variables related to the study. The sample consists in 246 active-duty military personnel, including officers, sergeants, and enlisted soldiers of the Portuguese Army, who participated in the questionnaire distributed in 2025.

as shown in Figure 3, among the participants, the majority were male (89%) and female (11%). Respondents were categorized by rank into three groups: Officers (52%), Sergeants (43.1%), and Soldiers (4.9%). The representation across these groups reflects the diversity of perspectives within the military structure, which is essential for assessing housing needs and expectations related to IASFA properties.

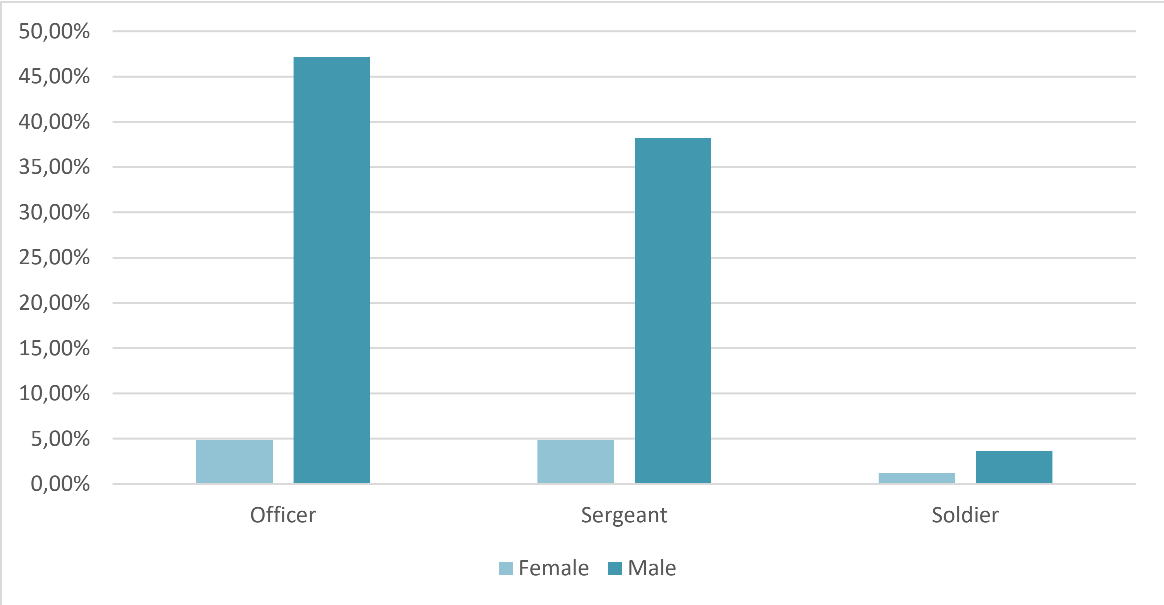

Figure 3 - Gender and Category Sample

Participants are currently serving under a permanent board (88.2%), contractual regime (11%), or special contract regime (0.8%) as shown in Figure 4. This information is crucial to understand the degree of institutional integration and the long-term planning perspectives that may influence perceptions of military housing investment strategies.

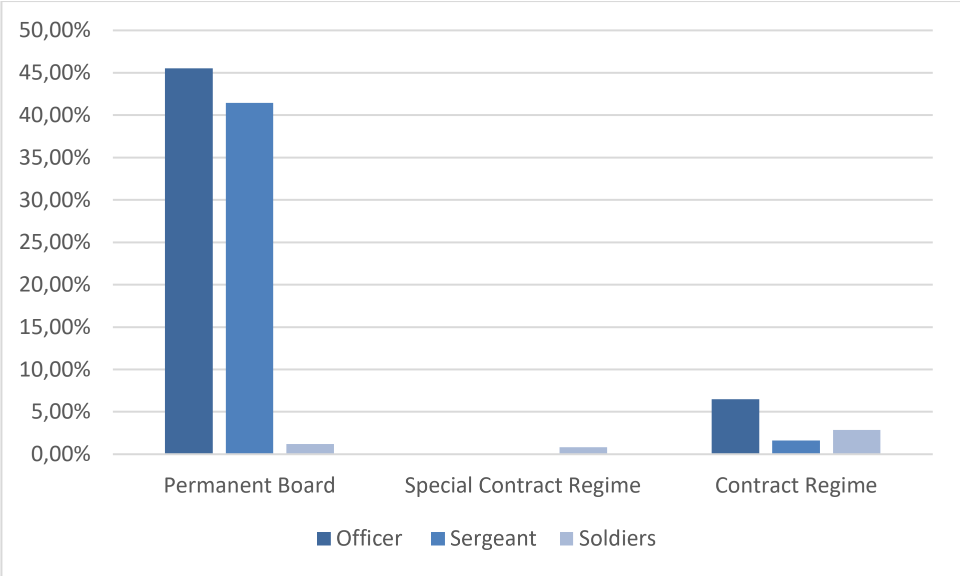

Figure 4 - Military Category and Type of Service Contract

Respondents were asked to identify their relationship with IASFA housing programs. The sample included: Beneficiaries (6.9%), currently residing in IASFA-managed housing; Former beneficiaries (8.1%), who previously lived in IASFA housing; Potential beneficiaries (85%), who meet the eligibility criteria and may seek access to housing in the future as shown in as shown in Figure 5. This classification enables a segmented analysis of the perceptions and satisfaction levels with regard to existing housing conditions and investment priorities.

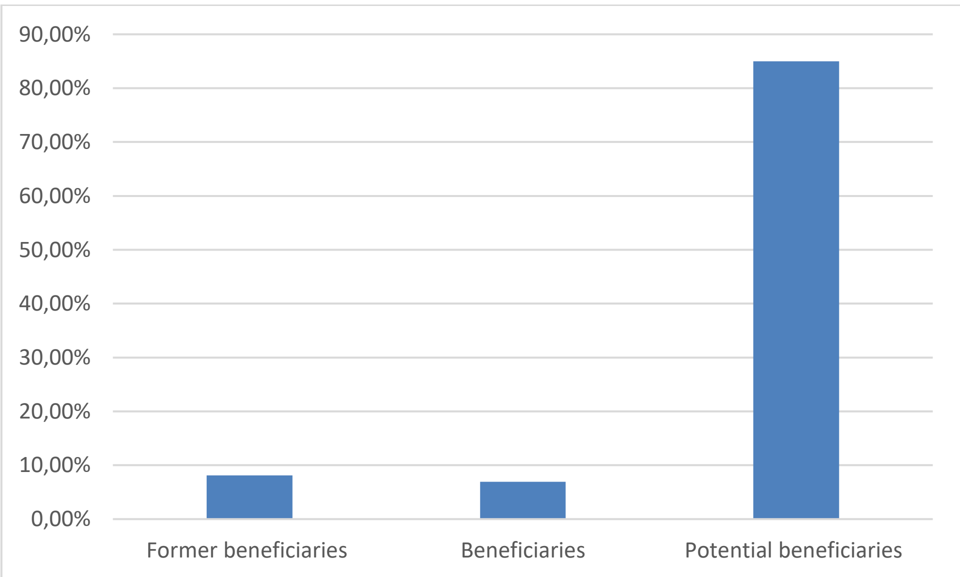

Figure 5 - Respondent Profile According to Housing Experience with IASFA

4.2. Factor Analysis: Perceptions of Military Housing and the Role of REIFs

This section operates as a guide to understanding and assessing the validity and consistency of the data collected, as well as the interpretation of the results. The quantitative structure is essential to guarantee that the inquiry is conducted in a systematic and uniform way, allowing the production of reliable and relevant findings that contribute to scientific knowledge in the field of military housing investment.

Although the questionnaire targeted three distinct respondent profiles, the representation of current and former beneficiaries in the sample was notably limited. As illustrated in Figure 5, only 6.9% of respondents were current beneficiaries and 8.1% were former beneficiaries, making up a combined total of merely 15% of the overall sample. Given the small sample size for this group, the application of EFA was considered methodologically inadequate. According to Hair et al. (2019), EFA requires a minimum number of observations per variable to ensure statistical validity and reliability. Therefore, to maintain analytical rigor, factor analysis was performed exclusively for the group of potential beneficiaries, which accounted for 85% of respondents and provided a sufficiently robust dataset.

By providing a detailed description of the methods used in data collection and analysis, this section approaches a crucial basis for evaluating the reliability of results. Additionally, it explores the fundamental relationships among the central variables. The descriptive statistics of the extracted factor scores are presented in Appendix A.

4.2.1. Metric Qualities of a Factorial Analysis

The EFA was conducted to identify the underlying dimensions within the section of the questionnaire targeting potential beneficiaries of IASFA-managed housing. This analytical focus was adopted given the sufficiently large sample size for this subgroup ($n = 209$), ensuring statistical robustness and adherence to established methodological standards.

To validate the applicability of EFA, the correlation matrix among observed ordinal variables was computed using Spearman's rank-order correlations, appropriate for non-parametric data. The suitability of the dataset was evaluated using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity. As shown in Table 9, the KMO statistic was 0.774 and Bartlett's test returned a p-value below 0.001, both supporting the factorability of the correlation matrix.

Table 9 - KMO and Test of Sphericity by Bartlett

Variable	KMO Statistic	Bartlett's Sphericity Test
Potential Beneficiaries	0.774	$p<0.001$

The factor extraction method employed was Maximum Likelihood (ML), chosen due to its compatibility with continuous or approximately continuous data and its capacity to estimate model fit indices. Although the original data were ordinal, the application of ML was justified by the large sample size and the Central Limit Theorem. The Varimax orthogonal rotation was subsequently applied to enhance interpretability by producing uncorrelated factors.

Before finalizing the factor structure, items with low communalities (< 0.40) or insufficient factor loadings (< 0.50) were excluded from the analysis. According to Hair et al. (2019), such thresholds are appropriate to ensure that retained variables meaningfully contribute to the latent constructs. The following items were excluded due to inadequate communality: Q32, Q33, Q34, Q35, Q38, Q41, Q43, Q48, Q50, Q51, Q52, Q55, Q56, Q58, and Q59. This refinement improved the reliability and clarity of the factor solution.

The cleaned dataset was then reanalyzed, and five factors were retained based on eigenvalues greater than 1 and interpretability criteria. The rotated solution provided a factorial structure that aligned with theoretical expectations and empirical adequacy. Detailed results on the retained factors and their loadings are presented in Table 14 Appendix C.

This refined factor structure was later used to compute factor scores via Thurstone's regression method, implemented in the JAMOVI platform. These scores served as continuous composite variables for subsequent analyses and were validated in terms of normality and inter-factor relationships, as discussed in Section 4.2.3.

4.2.2. Factor Extraction

After validating the data for factor analysis and excluding items with insufficient communalities, five interpretable latent factors were extracted using ML estimation and Varimax rotation. The factors reflect core perceptual constructs among potential IASFA housing beneficiaries, aligned with the research objectives of understanding attitudes toward military housing and the role of REIFs.

Each factor was defined based on the content and thematic coherence of the items with high loadings. Items with factor loadings greater than 0.50 were retained to ensure construct validity (Hair et al., 2019). As demonstrated in Table 10 the following thematic dimensions emerged:

- Factor 1: Perceived Impact of REIFs on Housing Availability and Modernization

This dimension aggregates perceptions regarding the strategic benefits of REIFs in expanding the supply and improving the quality of military housing. High loadings were observed for items concerning the potential to reduce waiting times, increase unit availability, modernize infrastructure, and leverage international models (e.g., Q39, Q40, Q46, Q57).

- Factor 2: Institutional Communication and Access Clarity

This factor captures the perceived transparency and accessibility of the IASFA housing process. It includes items reflecting knowledge of eligibility criteria, clarity in application procedures, and awareness of housing options (e.g., Q31, Q37, Q53).

- Factor 3: Support for PPPs and Alternative Management Models

This factor reflects openness to structural reforms, particularly the integration of public-private partnerships and private-sector management in military housing (e.g., Q47, Q49).

- Factor 4: Maintenance Efficiency and Infrastructure Quality

This factor includes items evaluating the quality and upkeep of current IASFA housing. The items emphasize the importance of timely maintenance and adequate infrastructure (e.g., Q42, Q45).

- Factor 5: Perceived Equity and Fairness in Allocation

This factor reflects attitudes toward the fairness of the housing allocation process. It includes a positively loaded item on the need for reform (Q54) and a negatively loaded item indicating disagreement with the transparency of current procedures (Q36).

Table 10 – Thematic Compositions of Extracted Thems

Factor	Items	Example Questions	Thematic Label
Factor 1	Q39, Q40, Q46, Q57	"REIFs reduce waiting time"	Perceived Impact of REIFs
Factor 2	Q31, Q37, Q53	"Clear communication of criteria"	Institutional Communication
Factor 3	Q47, Q49	"Support for PPPs"	Alternative Management Models
Factor 4	Q42, Q45	"Efficient maintenance"	Infrastructure and Maintenance
Factor 5	Q36, Q54	"Fairness in allocation"	Perceived Equity

The total variance explained by the five retained factors was 60.9%, a level considered satisfactory for social science research (Hair et al., 2019). The first factor alone accounted for 19.2% of the variance, indicating a strong perceptual dimension associated with the impact of REIFs. The breakdown is shown in Table 11:

Table 11 - Eigenvalues and Variance Explained

Factor	Eigenvalue	% of variance	Cumulative %
1	2.69	19.24%	19.2%
2	1.76	12.56%	31.8%
3	1.43	10.25%	42.0%
4	1.35	9.64%	51.7%
5	1.29	9.19%	60.9%[1]

The multidimensionality of the solution was further validated through Pearson correlation analysis between the factors, confirming the absence of multicollinearity and supporting their independent use in subsequent regression models. This analysis is presented in Appendix C.

4.3. Qualitative Data Analysis

The qualitative data analysis was conducted using the content analysis method, which, according to Appolinário (2009), enables the identification, quantification, and classification of collected data. As emphasized by Gomes (2001), the procedure of categorization intends to establish classifications that group together elements, ideas, or expressions related to situations, activities, events, or individual perspectives.

This analysis is based on semi-structured interviews with institutional stakeholders, sector experts and legal expert, who provided in-depth, contextual perceptions on the current state of military housing and the feasibility of using REIFs as a financing mechanism for its rehabilitation. The data were essential to develop a comprehensive understanding of the structural, legal, and operational challenges involved, as well as the institutional attitudes toward innovative financing models. The corresponding interview analysis tables are presented in Appendices F, G, and H.

To address (SO2): Evaluate the current conditions of IASFA’s housing stock and identify renovation needs., most interviewee acknowledged the structural obsolescence of

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1 The table displays the explained variance values based on Jamovi’s default output, which applies the Principal Component Analysis (PCA) method. Although the extraction in this study was performed using the Maximum Likelihood method, these figures are presented as an approximate reference for interpretative purposes.

the housing stock. Issues reported included water infiltration due to roof degradation, damaged fades and window frames, outdated water system and electrical systems, and the absence of accessibility features for senior residents. Respondents noted that, while some units have undergone partial upgrades, many others require full-scale renovation, particularly in urban areas where demand remains high. The limited budget and growing maintenance were cited as major obstacles, with one participant highlighting that "maintenance is often reactive rather than preventive, due to lack of funds and staff capacity." Although efforts were made to secure funding under national programs such as Primeiro Direito (PRR), interviewees expressed concern over repeated rejections and bureaucratic inefficiencies, which have slowed the pace of structural improvements.

To address (SO5): Evaluate the viability of implementing a REIF focused on the rehabilitation properties managed by IASFA, a significant portion of participants expressed institutional resistance to REIF implementation. Concerns were mainly focused on the risk of deviating from IASFA's core mission of providing affordable housing to military beneficiaries. Some participants stated fears that REIFs, especially those with private capital, might enforce profit-driven dynamics inappropriate with the current affordability model. As one respondent stated: "We cannot risk transforming military housing into speculative assets. Our mission is social, not commercial." While most respondents were uncertain, some acknowledged the potential for hybrid models, provided that strong legal safeguards and ownership controls remain in place. In their vision, any external investment should be subordinated to IASFA's values and regulatory framework.

To address (SO4): Explore the existence and operational mechanisms of REIFs in Portugal., and the legal implications for IASFA, several interviewees pointed to critical regulatory barriers. Under current Portuguese law, public institutes such as IASFA cannot independently create or participate in REIFs unless authorized by both their internal statutes and the ministries of Finance and Defense. These legal constraints limit IASFA's ability to attract alternative capital for housing rehabilitation. Nevertheless, respondents with legal expertise proposed possible institutional models that could bypass these limitations, including the creation of a publicly managed REIF under entities like *Fundiestamo*, already experienced in managing public real estate assets. A proposal raised during the interviews involved designing a special-purpose REIF, where IASFA would retain ownership of the assets while transferring operational rehabilitation responsibilities to a fund manager bound by strict performance and rent regulation clauses. This structure, they argued, would preserve the social function of the housing units while increasing access to funding.

Overall, the qualitative interviews provided deep insight into the institutional, legal, and operational dynamics that molded the future of military housing investment. The findings suggest that while there is considerable resistance to market-oriented mechanisms, there is also a growing recognition of the need for sustainable investment solutions. The challenge lies in ensuring that any financial innovation adopted by IASFA does not compromise its public mission and that legal and governance reforms are implemented to secure transparency, accountability, and social protection.

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CHAPTER 5 – DISCUSSION OF RESULTS

5.1. Quantitative Data Analysis

5.1.1. EFA Analysis

The exploratory factor analysis conducted among potential IASFA housing beneficiaries identified a five-factor solution, revealing a multidimensional structure of perceptions. These factors reflect distinct but interrelated themes concerning housing quality, institutional communication, governance preferences, and procedural fairness. Together, they explain 60.9% of the total variance, with the first factor alone accounting for 19.24%, underscoring its central role in shaping respondents' perceptions.

Factor 1 – Perceived Impact of REIFs on Housing Availability and Modernization

This factor explains the largest share of variance and aggregates responses expressing strong agreement with the use of Real Estate Investment Funds (REIFs) as a mechanism to expand and modernize military housing. High mean scores on items related to increasing housing supply, improving infrastructure, and reducing waiting times indicate a favorable view of REIFs. It is directly aligned with Specific Objective 5 (SO5), which assesses the perceived relevance of REIFs as an investment strategy. It also contributes to SO3 and SO4, by capturing conceptual awareness and perceived applicability of REIFs in international housing models. Moderate correlations with Factor 3 ($r = 0.476$) and Factor 4 ($r = 0.416$) suggest that perceptions of REIFs are linked to expectations about infrastructure improvement and governance reform.

Factor 2 – Institutional Communication and Access Clarity

This factor addresses the clarity, accessibility, and transparency of institutional communication regarding housing opportunities. It includes items assessing how well IASFA informs potential beneficiaries about eligibility criteria and the state of available housing. The relatively low mean score indicates dissatisfaction with communication processes, making this factor particularly relevant to SO2, which explores barriers to access and awareness. Weak correlations with other factors (e.g., $r = 0.192$ with Factor 1 and $r = 0.035$ with Factor 3) reinforce their analytical independence from broader themes of investment or governance.

Factor 3 – Support for PPPs and Alternative Governance Models

This factor captures respondents' openness to governance innovation, particularly through PPPs and private-sector models. High loadings indicate a perception that such models may contribute to enhanced service quality and administrative efficiency. It contributes to SO4 and complements SO5, as openness to PPPs is seen as a facilitator of financial innovation. The moderate correlation with Factor 1 ($r = 0.476$) supports this view, while the near-zero correlation with Factor 2 suggests that trust in governance alternatives is resilient to deficiencies in communication.

Factor 4 – Perceived Infrastructure Quality and Maintenance Efficiency

This factor reflects concerns about the physical condition of the current housing stock and the adequacy of maintenance. High mean scores indicate that respondents perceive widespread infrastructure degradation and advocate for more proactive rehabilitation efforts. It is directly related to SO2, which investigates housing quality and accessibility. Correlations with Factor 1 ($r = 0.416$) and Factor 3 ($r = 0.248$) suggest that perceptions of poor infrastructure strengthen support for REIF-based improvements and alternative governance models.

Factor 5 – Perceived Equity and Fairness in Allocation

This factor concerns views on procedural fairness in the allocation of housing units. The presence of a negatively loaded item (Q36) reflects a critical stance regarding the equity of current practices. Though not directly associated with a single objective, this factor is indirectly relevant to SO2 and SO5, as perceptions of fairness influence both access to housing and the legitimacy of financial reforms. Weak correlations with other factors (e.g., $r = 0.155$ with Factor 4) highlight its status as a distinct and independent dimension.

Taken together, the five extracted dimensions confirm that beneficiaries' perceptions are shaped by both material and institutional considerations. While there is evident support for REIFs and governance reforms, this support is conditional upon institutional trust, transparent communication, and procedural fairness. The internal consistency of the extracted factors and their alignment with the research objectives reinforce the validity of the measurement model and provide an empirical foundation for the subsequent quantitative analyses.

5.1.2. Descriptive Analysis

In addition to the factorial structure derived from the EFA, an analysis of item-level mean scores offers further insight of beneficiary perceptions. Items with mean scores below 3 reflect dissatisfaction, while those above 4 indicate consensus and positive expectations, reinforcing the study's specific objectives (SOs).

The most critical result was item Q32, with the lowest mean score ($M = 2.02$), highlighting a broad perception of housing limited supply. This strongly supports SO2, emphasizing the need to expand IASFA's housing stock, and informs SO5, as a REIF could potentially address this deficit. Other low-scoring items Q31 ($M = 2.66$), Q43 ($M = 2.84$), and Q53 ($M = 2.73$), point to communication gaps. These findings impact both SO2 and SO5, as any REIF-based reform must be fortified by effective institutional support and clear communication to gain stakeholder trust.

In opposition, items with mean scores above 4 reflect areas of strong agreement. The highest-rated item, Q48 ($M = 4.31$), highlights concerns with equity and inclusiveness, central to SO5. Respondents support reform but expect it to preserve affordability. High scores in Q46 ($M = 4.16$), Q50 ($M = 4.26$), and Q55 ($M = 4.17$) further support SO2 and SO5, showing openness to REIFs as tools for physical and strategic improvement. These also reflect a degree of alignment with SO3 and SO4, suggesting awareness of REIFs' potential and successful external models.

Together, these results reveal a clear pattern, while beneficiaries are receptive to structural change and innovation, depends on addressing communication problems, increasing the supply of housing, and maintaining equity. These findings validate the EFA results and strengthen the empirical foundation for policy recommendations that combine financial innovation with institutional responsibility and social equity.

5.2. Qualitative Data Analysis

The interviews supported and contextualized the quantitative findings. Institutional actors acknowledged the deteriorated condition of military housing and emphasized the lack of preventive maintenance due to not enough funding. There was general agreement that the current model is unsustainable in the long term. As stated by one senior IASFA representative: "We are managing the system reactively, not proactively."

The interviews also revealed a polarized stance on REIF implementation. While the potential to mobilize capital was acknowledged, strong concerns were raised about the risk of deviating from IASFA's social mission. These reservations are consistent with the low correlation between opinions toward REIFs and perceptions of current communication or management practices, indicating that support for innovation is theoretically distinct from current satisfaction levels.

The legal expert confirmed that IASFA cannot, under current law, create or co-manage a REIF without amendments to its organic statute and national legislation. However, alternative models such as a public REIF under *Fundiestamo* with predefined social safeguards were identified as legally viable. The REIF specialist emphasized the importance of long-term leases, guaranteed rents, and occupancy stability as factors that would attract institutional investment, highlighting the alignment potential if social and financial incentives are appropriately balanced.

5.2.1. Key Challenges and Opportunities for Policy Innovation

The results revealed several triggering tensions that must be carefully considered in any future restructuring effort. One of the most salient is the conflict between the social mission of military housing and the logic of market-based instruments. While there is broad support for modernization and improved infrastructure, many interviewers expressed concern that the use of REIFs could compromise the affordability and accessibility of military housing. This tension reflects wider debates in the literature regarding the risks of financializing public goods, particularly in contexts where social equity must be preserved (Brest et al., 2018).

Another critical issue is the strictness of governance and legal frameworks. Interview participants consistently emphasized that IASFA is constrained by strict legal, financial, and administrative rules, which limit its capacity to innovate or affiliate with private actors. These limitations delay the development of adapted funding models and require legislative reforms that can enable the creation or co-management of REIFs specifically adapted to the needs of military housing.

The analysis also highlighted significant deficits in communication and transparency, particularly among prospective beneficiaries. Factor 6, which addressed perceptions of accessibility and information flow, scored comparatively low, indicating that many individuals feel uninformed about application procedures, eligibility criteria, and renovation plans. These gaps weaken institutional credibility and may undermine public support for future initiatives, even if those initiatives are financially sound. Improving communication channels, through digital platforms, regular updates, and clear allocation criteria, will consequently be crucial to the success of any REIF-backed solution.

Despite these challenges, the findings also point to a promising avenue: the potential for hybrid solutions. A substantial number of interviewees indicated that they are not categorically opposed to private-sector involvement. Instead, they called for well-defined legal safeguards to ensure that the social mission of IASFA is defended. This opens the door to the design of hybrid models, in which public entities retain strategic control and ownership while leveraging private capital under contractual arrangements that protect affordability, access, and long-term stability.

5.2.2. Alignment with Literature and Strategic Implications

These findings align with international literature highlighting REIFs as tools for urban regeneration and military housing modernization when used under performance-based contracts (e.g., Allenby/Connaught in the UK; RCI in the USA; DHA in Australia). The case of Portugal, particularly the existence of *Fundiestamo* and recent reforms under Article 2, ee) *Decreto-Lei n,º 60/2023* (República Portuguesa, 2023) , offers a domestic model for the establishment of public REIFs with defined public service goals.

Overall, the results suggest that REIFs can be viable instruments for military housing rehabilitation if implanted within robust legal frameworks and managed with transparent, mission-driven supremacy. For IASFA, the path forward involves not simply financial reform, but institutional adaptation, strategic communication, and stakeholder inclusion to ensure that the modernization process improves rather than compromises the social function of military housing.

CONCLUSION

This study used a mixed-methods approach to investigate the viability of applying REIFs to finance the rehabilitation of military housing managed by IASFA. The findings derived from the literature review, EFA, and qualitative interviews enabled a comprehensive and evidence-based response to the research questions.

RQ1 – What are the Portuguese real estate market's current trends, challenges, and opportunities?

The study revealed that the Portuguese real estate market faces a growing mismatch between housing demand and public supply, intensified by rising prices and the degradation of existing stock. However, it also presents opportunities for innovative financial mechanisms, such as REIFs, particularly in light of recent legal reforms *Decreto-Lei n,º 60/2023* (República Portuguesa, 2023) and entities like Fundiestamo capable of managing socially oriented investment funds.

RQ2 – What is the current condition of IASFA housing, what are the primary renovation needs, and how can such renovation improve housing conditions?

Both the quantitative and qualitative data confirmed widespread dissatisfaction with the current condition of IASFA housing. EFA results identified a distinct factor linked to infrastructure quality, with high mean scores indicating perceived degradation and insufficient maintenance. Interviewees corroborated this by noting the reactive nature of current management and the urgent need for a proactive rehabilitation policy. Improved infrastructure was continually linked to beneficiaries' quality of life and institutional credibility.

RQ3 – What are the most common strategies real estate investment funds use to raise capital for housing projects, and how can they be applied to the Portuguese context?

Internationally, REIFs use long-term leasing contracts, performance-based management, and guaranteed returns to attract capital. The qualitative analysis suggested that similar mechanisms could be applied in Portugal, primarily through hybrid public-private models. Respondents showed familiarity with these concepts, particularly when framed around equity, access, and modernization. The case studies of the USA (RCI), UK (Allenby/Connaught), and Australia (DHA) were considered relevant for adaptation.

RQ4 – How do real estate investment funds operate in Portugal?

REIFs in Portugal are typically structured under strict regulatory supervision and are often oriented toward commercial investment. While IASFA cannot currently manage or co-manage a REIF under existing legislation Article 13 (*Lei-Quadro dos Institutos Públicos, Lei n.º 03/2004, de 15 de janeiro.*), the qualitative data indicated that legal reform would be required to align IASFA's mandate with investment-oriented practices. Analogous frameworks, such as those in the statutes of ESTAMO Articles 2 and 3 (ESTAMO – Participações Imobiliárias, S.A., 2023), offer potential legal precedents.

RQ5 – What are the main challenges and opportunities in implementing a real estate investment fund, and which models are most suitable for renovating IASFA properties?

The main opportunities lie in accessing private capital and improving infrastructure efficiency through structured investment. However, the challenges are significant: legal restrictions, institutional rigidity, and the risk of undermining IASFA's social mission. Both data strands pointed to hybrid governance models as the most viable, provided that clear social safeguards, transparent allocation criteria, and affordability protections are implemented.

The quantitative findings further reinforced these conclusions by empirically validating a multidimensional perception structure among potential IASFA housing beneficiaries. The five extracted factors—related to infrastructure quality, institutional communication, governance preferences, fairness in allocation, and attitudes toward REIFs—provided a robust analytical framework that aligned closely with the study's objectives. While support for REIFs and structural reform was evident, such support was conditional upon institutional transparency, perceived fairness, and improved infrastructure. These interdependencies highlight the need for an integrated policy approach. The internal consistency and empirical relevance of the factor structure confirmed the reliability of the survey instrument and its applicability as a diagnostic and planning tool.

In light of these findings, the central research question—"Can Real Estate Investment Funds serve as an effective financing source for the renovation of IASFA housing units?"—can be answered affirmatively, but with qualifications. REIFs are perceived as a viable mechanism for mobilizing investment in military housing, especially when linked to improved management and infrastructure quality. However, their success depends on specific enabling conditions: legal reform, robust governance, transparent communication, and strict adherence to IASFA's social mission. Without these safeguards, the risk of financialization outweighs the potential benefits.

The study's limitations must be acknowledged. The quantitative component reflects a cross-sectional snapshot and may not capture evolving perceptions or the long-term effects of policy interventions. While rich in institutional knowledge, the qualitative sample remains limited in scope. Furthermore, the research design is context-specific and may not be directly transferable to other public housing systems.

Future research should explore the implementation of pilot REIFs in military housing and assess their long-term social and financial impacts. Comparative studies across different segments of state-managed housing in Portugal could enhance the understanding of scalability and institutional feasibility. Longitudinal designs incorporating post-renovation satisfaction indicators offer critical insights for policy refinement and implementation monitoring.

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APPENDICES

APPENDIX A – STATISTICAL EVALUATION OF DATA

Following the data collection, which resulted in a sample of 246 of the Portuguese Army personnel, statistical procedures were carried out in two stages to value the validity and reliability of the questionnaire. These stages incorporated statistical evaluation of the data and reliability assessment. In this appendix, descriptive statistical analyses were handled to examine the conditions of normality and linearity of the data. These statistical analyses are crucial for determining the distribution of the collected data and confirming whether the criteria for the application of the established statistical techniques are met.

It is important to notice that only the subgroup of potential beneficiaries was analyzed, as they represent 84.96% of the total sample, thereby ensuring a more consistent and focused evaluation of the questionnaire's psychometric properties.

The calculation of data linearity is particularly relevant when performing regression or correlation analyses, as it determines whether the affiliation between variables is linear, explicitly, whether variations in one variable are proportionally related with changes in another. Through conducting these descriptive analyses, it was possible to validate whether the collected data met the necessary assumptions for following statistical procedures, ensuring the relevance of the applied techniques and the validity of the results.

To validate the data's normality and linearity, descriptive statistical analyses were carried out.

Table 12 - Descriptive statistics "Potential beneficiaries"

Variable	Mean ± Standard deviation	Median	Median	Maximum	Skewness	Kurtosis
31	2.66 ± 1.063	3	1	5	0.0347	-0.8659
32	2.02 ± 0.983	2	1	5	0.6576	-0.2000
33	3.71 ± 0.928	4	1	5	-0.1876	-0.1915
34	4.08 ± 0.973	4	1	5	-1.199	1.3832
35	3.16 ± 0.977	3	1	5	-0.2696	-0.4892
36	2.87 ± 0.859	3	1	5	-0.1612	0.2148
37	2.61 ± 1.041	3	1	5	-0.0194	-0.8988
38	4.06 ± 0.801	4	1	5	-0.842	1.2424
39	3.91 ± 0.845	4	1	5	-0.6562	0.5245
40	3.83 ± 0.837	4	1	5	-0.5094	0.3344
41	4.04 ± 0.804	4	1	5	-1.1413	2.0435
42	4.09 ± 0.782	4	2	5	-0.7694	0.5282
43	2.84 ± 0.733	3	1	5	-0.6311	1.4069
44	3.90 ± 0.821	4	1	5	-0.137	-0.5966
45	4.27 ± 0.725	4	2	5	-0.5442	-0.6549
46	4.01 ± 0.809	4	1	5	-0.6787	0.7857
47	3.52 ± 1.088	4	1	5	-0.4844	-0.3231
48	4.31 ± 0.735	4	1	5	-0.8463	0.7478
49	3.52 ± 1.075	4	1	5	-0.5367	-0.2389
50	4.27 ± 0.859	4	1	5	-1.3849	2.271
51	3.55 ± 1.051	4	1	5	-0.3723	-0.5429
52	3.83 ± 0.800	4	2	5	-0.0865	-0.6969
53	2.22 ± 0.952	2	1	5	0.4813	-0.3402
54	3.70 ± 0.765	4	1	5	0.1703	-0.3109
55	4.17 ± 0.700	4	1	5	-0.7609	1.5564
56	3.33 ± 0.832	3	1	5	-0.3175	0.0719
57	3.75 ± 0.800	4	1	5	-0.3744	0.6865
58	3.91 ± 1.073	4	1	5	-1.2101	1.209
59	3.88 ± 0.932	4	1	5	-1.0433	1.2576

Table 12 presents the descriptive statistics for the items measured on a 5-point Likert-type scale, reflecting. These variables capture a range of dimensions related to beneficiaries and potential beneficiaries perceptions.

Mean values range from 2.02 to 4.31, indicating a wide variation in perceptions among respondents, with generally favorable evaluations in several dimensions. Median values are typically consistent with the means, suggesting a balanced distribution of responses. Standard deviations range from ±0.700 to ±1.088, indicating varying levels of response dispersion.

Distributional properties were assessed using skewness and kurtosis. Skewness values extend from −1.3849 to 0.6576, indicating a slight to moderate negative skew in many variables, with a general tendency toward higher agreement ratings. Kurtosis values range from −0.8988 to 2.2710 indicating that most item distributions are close to normal, with some showing flatter or more peaked shapes. All values remain within acceptable tolerances for parametric statistical analysis.

According to West et al. (1995), in social science research, skewness levels within < 2 and kurtosis values within ≤ 7 are considered appropriate for presuming normalcy. None of the variables show significant departures from normalcy according to these standards. As a result, parametric statistical methods such as factor analysis, regression models, and correlation analyses are judged suitable.

APPENDIX B – QUESTIONNAIRE VIABILITY

According to Field (2009), from a statistical perspective, the usual method for assessing reliability is based on the notion that individual items or a set of items should produce similar results. So, the internal consistency of each dimension was calculated during the analysis of Cronbach's alpha (α) coefficient**.**

According to Tavakol and Dennick (2011), if a Cronbach's alpha (α) value is less or equal to 0.6 its unacceptable, if the value is between 0.6 (exclusive) and 0.7 (inclusive) its weak, between 0.7 (exclusive) and 0.8 (inclusive) its reasonable, between 0.8 (exclusive) and 0.9 (inclusive) its good and over 0.9 its excellent. Substantially lower values may indicate that the scale lack's consistency.

Based on the results presented in Table 13, the internal consistency of the instrument for Potential Beneficiaries is overall acceptable. Specifically, the alpha values range from 0.653 (Q40) to 0.729 (Q36). Items Q36, Q31, Q37, Q54, and Q57 fall within the "reasonable" range, indicating that they are well aligned with the rest of the scale. The remaining items (Q39, Q40, Q42, Q45, Q46, Q47, Q53) fall into the "weak" category, but none fall below the unacceptable threshold of 0.6.

These results suggest that while the scale demonstrates adequate internal consistency, some items show relatively lower coherence with the construct, possibly due to conceptual variability or multidimensionality within the group of potential beneficiaries. Nonetheless, no item appears problematic enough to warrant removal, and the overall reliability of the scale remains statistically reasonable for exploratory analysis purposes.

Table 13 - Internal consistency values "Potential Beneficiaries"

Cronbach's α		
Q31	0.703	Reasonable
Q36	0.729	Reasonable
Q37	0.704	Reasonable
Q39	0.656	Weak
Q40	0.653	Weak
Q42	0.683	Weak
Q45	0.687	Weak
Q46	0.659	Weak
Q47	0.670	Weak
Q53	0.680	Weak
Q54	0.719	Reasonable
Q57	0.715	Reasonable

APPENDIX C – SURVEY FACTORS

This appendix shows the results of the factor analysis conducted on the questionnaire. EFA was performed, which includes questions related to potential beneficiaries. The objective of this analysis was to identify the fundamental factors within this dimension of the study, using VARIMAX rotation, which aims to maximize the variance of factor loadings within each factor, thereby producing more interpretable groupings of variables, as described by Field (2009).

Table 14 - Factors of questionnaire "Potential beneficiaries".

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Uniqueness	Communalities
Q31		0.797				0.365	0,635
Q36					-0.616	0.500	0,500
Q37		0.710				0.440	0,561
Q39	0.935					0.083	0,917
Q40	0.868					0.184	0,816
Q42				0.530		0.628	0,372
Q44						0.537	0,463
Q45				0.884		0.098	0,902
Q46	0.739					0.339	0,661
Q47			0.790			0.285	0,716
Q49			0.750			0.361	0,639
Q53		0.659				0.526	0,474
Q54					0.651	0.550	0,450
Q57	0.521	0.797				0.582	0,418

Following the EFA, a Pearson correlation matrix was considered to reflect the linear interrelationships among the factors dimensions and to support the validation of the factor structure. Below it's the Pearson correlation for "Potential Beneficiaries".

Table 15 - Pearson correlation "Potential Beneficiaries"

	Mean	SD	1	2	3	4	5
Factor 1	3.88	0.708	-----	-----	-----	----	----
Factor 2	2.81	0.655	0.192	-----	-----	----	----
Factor 3	3.52	0.990	0.476	0.035	-----	----	----
Factor 4	4.18	0.653	0.416	0.069	0.248	----	----
Factor 5	3.29	0.443	0.001	0.270	00.25	0.155	----

To assess the relationships between the five factors, a Pearson correlation analysis was conducted, as shown in Table 15. This analysis enables the identification of statistically linear associations between dimensions of perception related to military housing. The results reveal a range of correlation strengths, suggesting changing degrees of conceptual alignment among the factors.

The strongest positive correlation was observed between Factor and Factor 3 with an (r = 0.476). This suggests that individuals who understand REIFs as effective in improving military housing availability are also more likely to support alternative management solutions such as PPPs, indicating a shared belief in financial and structural reform mechanisms.

A moderate correlation (r = 0.416) was also identified between Factor 1 and Factor 4, implying that positive views on REIFs are moderately associated with positive evaluations of maintenance and infrastructure quality. This may reflect a broader expectation that investment mechanisms should also result in physical improvements to housing.

Lower correlations were found between Factor 1 and Factor 2 (r = 0.192), and between Factor 3 and Factor 4 (r = 0.248), indicating more limited overlap between these dimensions. The correlation between Factor 2 and the other factors was generally weak or negligible, particularly with Factor 5 (r = 0.001), suggesting that communication perceptions are relatively independent from perceptions of fairness or reform.

Although most correlations were statistically modest, they support the multidimensional structure of the construct and reinforce the theoretical distinctions between the factors. The fact that no correlations are excessively high (none above r = 0.90) means that the factors are not too similar to each other. In other words, each factor measures a different but related aspect of military housing perceptions. This also means there is no multicollinearity, which is important because it allows the factors to be used safely in further analyses, such as regressions or structural models, without overlapping or distorting the results.

APPENDIX D – QUESTIONNAIRE SURVEY

This questionnaire is part of a research project conducted within the scope of a Master's dissertation in Military Sciences, with a specialization in Military Administration. Its main objective is to assess the perceptions of military personnel and institutional representatives regarding the military housing provided by IASFA, as well as the feasibility of using real estate investment funds as an alternative financing mechanism for its renovation.The Armed Forces Social Action Institute (IASFA) is the entity responsible for providing social support to the Portuguese Armed Forces, offering healthcare services, social assistance, and housing. IASFA housing is intended for active-duty personnel, reservists, and retirees, as well as their families, ensuring access to affordable accommodation adapted to the needs of this community.All responses are anonymous and will be used exclusively for academic purposes.Instructions: This questionnaire aims to gather perceptions about the current state of military housing and explore potential solutions for its improvement. All responses are anonymous and will be used solely for academic purposes.

<u>Individual Data</u>

1. Género

☐ Male

☐ Female

2. What is your rank category?

☐ Officer

☐ Sergeant

☐ Soldier

3. What is your current service status within the Armed Forces?

☐ Contract/Volunteer Regime

☐ Special Contract Regime

☐ Permanent Staff

4. What is your association with IASFA housing?

☐ I am a current beneficiary of IASFA housing

☐ I was previously a beneficiary of IASFA housing

☐ I am a potential candidate for IASFA housing

Perceptions of Beneficiaries Regarding IASFA Housing

Real estate investment funds are a collective investment model in which multiple investors allocate capital to real estate assets, such as residential and commercial buildings. These funds are managed by specialized professionals and enable the modernization and maintenance of housing without requiring direct funding from the State.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

1.	The general conditions of IASFA housing are adequate for military personnel and their families.	
2.	The state of conservation of IASFA housing is satisfactory.	
3.	The application process for IASFA housing is transparent and accessible.	
4.	The waiting time to obtain IASFA housing is reasonable.	
5.	The cost associated with renting IASFA housing is fair.	
6.	The location of IASFA housing is convenient for military personnel's needs.	
7.	The infrastructure of IASFA housing meets basic habitability requirements.	
8.	The support provided by IASFA during the housing allocation process is effective.	
9.	Communication between IASFA and housing beneficiaries is efficient.	
10.	Maintenance of housing is carried out adequately and within reasonable timeframes.	
11.	Regular inspections are conducted to ensure the quality of the housing.	
12.	There is an efficient channel for reporting structural issues in IASFA housing.	
13.	Beneficiaries are involved in decisions related to housing improvements.	
14.	The allocation of housing by IASFA is based on clear and objective criteria.	
15.	There is a structured program for the renovation of older housing units.	
16.	The security of IASFA housing is adequate.	
17.	Accessibility of IASFA housing for military personnel with special needs is guaranteed.	
18.	The presence of common areas and support infrastructure in IASFA housing is satisfactory.	
19.	IASFA has clear policies to resolve disputes among residents.	
20.	There are sufficient incentives for military personnel to remain in IASFA housing long-term.	
21.	The introduction of real estate investment funds could improve the quality of IASFA housing.	
22.	The management of IASFA housing could be more efficient with greater private sector involvement.	
23.	The use of real estate investment funds for renovations could ensure more modern and comfortable housing.	
24.	Implementing a public-private partnership model for managing military housing would be beneficial.	
25.	The allocation of housing by IASFA is based on clear and objective criteria.	
26.	Private investment in the renovation of military housing could reduce waiting times for accommodation.	
27.	Military personnel would be willing to pay slightly more for housing if significant improvements were made.	
28.	The duration of eligibility to use IASFA housing is adequate.	
29.	Private sector involvement should not compromise equitable access to IASFA housing.	
30.	Modernizing IASFA housing should be a priority in military housing management.	

In your opinion, what are the main improvements that should be implemented in

IASFA housing to better meet the needs of military personnel and their families?

<u>Perceptions of Military Personnel Interested in IASFA Housing.</u>

O The Armed Forces Social Action Institute (IASFA) is the entity responsible for providing social support to military personnel, offering healthcare services, social assistance, and housing. Among its functions, it manages housing units intended for active-duty, reserve, and retired military personnel, providing affordable accommodation to ensure better living conditions and greater stability for military families. Real estate investment funds are a collective investment model in which various investors allocate capital to real estate assets, such as residential and commercial buildings. These funds are managed by specialists and enable the modernization and maintenance of infrastructure without requiring direct State funding. Military personnel interested in IASFA housing may face challenges in accessing these units due to limited availability and specific allocation criteria. This section aims to assess the expectations and perceptions of military personnel who wish to apply for IASFA housing, as well as the potential impact of introducing real estate investment funds on the expansion and modernization of the housing supply.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

31.	I am familiar with the application process for IASFA housing, and it is clear and accessible.	
32.	The number of housing units available for military personnel is sufficient.	
33.	The waiting time to obtain IASFA housing is too long.	
34.	IASFA housing is an attractive option compared to the private rental market.	
35.	The location of IASFA housing meets the needs of military personnel and their families.	
36.	The selection process for housing allocation is fair and transparent.	
37.	The criteria for obtaining IASFA housing are well communicated to military personnel.	
38.	The lack of housing options within IASFA forces military personnel to seek alternatives.	
39.	The introduction of real estate investment funds could improve the availability of military housing.	
40.	Real estate investment funds could reduce the waiting time to obtain military housing.	
41.	I would be willing to pay a slightly higher amount if significant improvements were made to the housing.	
42.	The quality of IASFA infrastructure is an important factor in deciding to apply for housing.	
43.	The support provided by IASFA during the application process is adequate.	
44.	Transparency in the management of IASFA housing could be improved.	
45.	Maintenance and renovation of IASFA housing need to be more efficient.	
46.	Real estate investment funds could bring significant improvements to military housing infrastructure.	
47.	Implementing a public-private partnership model could benefit the management of IASFA housing.	
48.	Private sector involvement should not compromise accessibility to IASFA housing for military personnel.	
49.	A private management model could improve the quality of housing offered to military personnel.	
50.	Modernizing military housing should be a priority for IASFA.	
51.	The lack of financial incentives discourages military personnel from seeking IASFA housing.	
52.	Bureaucratic processes make it difficult to obtain IASFA housing.	
53.	Military personnel are well informed about the housing options offered by IASFA.	
54.	The criteria for allocating IASFA housing should be revised to increase fairness.	
55.	The existence of deteriorated housing affects the perception of IASFA's housing offer.	
56.	The cost-benefit ratio of IASFA housing is satisfactory.	
57.	The experience of other countries in using real estate investment funds could serve as a reference for IASFA.	
58.	I would be interested in applying for IASFA housing.	
59.	Military personnel who own a home show less interest in applying for IASFA housing.	

In your opinion, what are the main challenges faced by military personnel in accessing adequate and affordable housing?

APPENDIX E – INTERVIEW SURVEY

A – INTERVIEW IASFA COUNCIL

Informed Consent

Me, ____, freely and voluntarily agree to participate in this research entitled "Investment Strategies in Military Housing: The Role of Real Estate Investment Funds", conducted by Aspirante-Aluno in Military Administration Diogo Francisco Ventura Carvalho, in accordance with the explanation previously provided to me.

I fully understand the explanation and the objectives of this research, in particular that the data collected will be used solely for scientific purposes and that all information provided will be treated confidentially. I was also given the opportunity to ask any questions I deemed necessary regarding the study.

I am aware that the results of this research may be used for publication purposes, and I was informed that, once the data has been processed, all related materials (transcriptions) will be destroyed.

I hereby give my consent for all processed data to be made available as open-source. My identity will not be disclosed without prior authorization, and anonymity will be ensured throughout the entire research process. After signing, I will receive a copy of this consent form duly signed by both parties, and I understand that it cannot be revoked.

Investigator's Signature	Participant's Signature
_________________________	_______________________

Interview Guide

Name:
Position/role:
Workplace:
Date:

Este his interview guide aims to collect informed opinions on the management of military housing by IASFA and to explore the feasibility of using real estate investment funds as an alternative mechanism for financing and rehabilitation. Your responses are essential to complement the questionnaire results, enabling a deeper, illustrative, and qualitative analysis of the topic. Whenever you consider it relevant, you may complement your answers with concrete examples in order to enrich the study's analysis.

Section 1: Current Condition of IASFA Housing

1. How would you describe the current state of military housing?

2. What are the main structural or functional shortcomings observed in the housing units?

3. Could you provide examples of recurring maintenance issues or signs of degradation?

4. Compared to previous years, have you noticed an improvement or deterioration in the housing conditions??

Section 2: Management, Application Process, and Transparency

5. Do you consider the housing application process to be fair and transparent?

6. Do all branches of the Armed Forces handle the application process in the same way?

7. What operational challenges arise in managing the waiting list and the allocation criteria?

8. Are there effective communication mechanisms with beneficiaries? Are there noticeable differences in communication between the different branches?

9. Have you received suggestions for improvement from beneficiaries??

Section 3: Satisfaction with Management and Institutional Support

10. Do you believe that the processes of maintenance and rehabilitation of housing units are carried out efficiently?

11. Which resources (human, technical, or financial) are most limited in your operations?

12. Is there sufficient autonomy for local decision-making?

Section 4: Real Estate Investment Funds and Alternative Management Models

13. Are you familiar with the concept of real estate investment funds?

14. Do you consider their application viable in the context of military housing?

15. What benefits do you anticipate from applying this model?

16. What risks do you identify in its implementation?

17. Do you believe a hybrid model (IASFA + real estate fund) would be acceptable?

18. What do you consider to be the main challenges in managing and maintaining IASFA housing? In what ways could the introduction of real estate funds contribute to the sustainability and modernization of the military housing supply?

Section 5: Sustainability, Risks, and Institutional Implications

19. Is the current model sustainable in the long term?

20. What social or institutional impact could result from the introduction of real estate investment funds?

21. What guarantees would be necessary to preserve IASFA's social mission?

22. Which aspects of international experience could be applicable to the Portuguese case?

23. Would you like to add any comments or suggestions that have not been addressed?

Thank you for your cooperation!

B – INTERVIEW LAWYER

Informed Consent

Me, ____, freely and voluntarily agree to participate in this research entitled "Investment Strategies in Military Housing: The Role of Real Estate Investment Funds", conducted by Aspirante-Aluno in Military Administration Diogo Francisco Ventura Carvalho, in accordance with the explanation previously provided to me.

I fully understand the explanation and the objectives of this research, in particular that the data collected will be used solely for scientific purposes and that all information provided will be treated confidentially. I was also given the opportunity to ask any questions I deemed necessary regarding the study.

I am aware that the results of this research may be used for publication purposes, and I was informed that, once the data has been processed, all related materials (transcriptions) will be destroyed.

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Investigator's Signature	Participant's Signature
________________________	______________________

Interview Guide

Name:
Position/role:
Workplace:
Date:

This interview guide aims to collect detailed information on the legal framework applicable to IASFA military housing and the potential creation of a real estate investment fund for its modernization and rehabilitation. The responses will help to better understand the legal boundaries, the possible mechanisms for public-private partnerships, and the risks and safeguards required for a legally viable implementation.

Section 1: Current Legal Framework

1. What is the current legal framework applicable to the management of IASFA military housing?

2. Are there legal limitations on establishing partnerships with private entities in the military housing sector?

3. What legal mechanisms exist for the transfer or sharing of public housing management with private entities?

Section 2: Real Estate Investment Funds in the Public Sector

4. Does Portuguese law allow the State to create or participate in real estate investment funds for housing purposes?

5. As a public entity, can IASFA legally be a shareholder, partner, or promoter of a real estate fund?

6. What legal or regulatory adjustments would be necessary to enable this model?

Section 3: Legal Risks and Guarantees

7. What are the main legal risks associated with implementing a real estate fund for military housing?

8. How can the social mission and equitable access to military housing be legally safeguarded under a private management model?

9. What contractual clauses do you consider essential in any potential agreement between IASFA and a real estate fund?

Section 4: Precedents and International Models

10. Are you aware of any national or international cases where the public sector has legally collaborated with real estate funds for housing?

11. Are there any experiences you consider to be good practices or cautionary examples for the Portuguese context?
12. What legal recommendations would you give to IASFA before starting any negotiations involving real estate funds?

13. Would you like to add any further comments or legal considerations?

Thank you for your cooperation!

!

C – INTERVIEW REIF SPECIALIST

Informed Consent

Me, ____, freely and voluntarily agree to participate in this research entitled "Investment Strategies in Military Housing: The Role of Real Estate Investment Funds", conducted by Aspirante-Aluno in Military Administration Diogo Francisco Ventura Carvalho, in accordance with the explanation previously provided to me.

I fully understand the explanation and the objectives of this research, in particular that the data collected will be used solely for scientific purposes and that all information provided will be treated confidentially. I was also given the opportunity to ask any questions I deemed necessary regarding the study.

I am aware that the results of this research may be used for publication purposes, and I was informed that, once the data has been processed, all related materials (transcriptions) will be destroyed.

I hereby give my consent for all processed data to be made available as open-source. My identity will not be disclosed without prior authorization, and anonymity will be ensured throughout the entire research process. After signing, I will receive a copy of this consent form duly signed by both parties, and I understand that it cannot be revoked.

Investigator's Signature | Participant's Signature

________________________ | ______________________

Interview Guide

Name:
Position/role:
Workplace:
Date:

This interview guide aims to collect detailed information on the functioning, structure, and applicability of Real Estate Investment Funds (REIFs) in the context of IASFA military housing and the potential creation of a fund dedicated to its modernization and rehabilitation. The responses will help to better understand the legal boundaries, the possible mechanisms for public-private partnerships, and the risks and safeguards required for a legally viable implementation.

Section 1: Real Estate Investment Funds and Military Housing

1. What are the critical factors that make public housing projects attractive to real estate investment funds?

2. How do real estate funds evaluate the financial return of such housing projects?

3. What types of tax or contractual incentives are most effective in attracting real estate funds to these types of projects?

4. What are the main challenges in implementing such projects?

Section 2: PPPs

5. Which public-private partnership models do you consider most effective in the real estate sector?

6. How could such partnerships be applied to the military context?

7. What are the main risks associated with PPPs in housing projects and how can they be mitigated?

8. Are there examples of PPPs in other sectors that could serve as a model for military housing projects?

Section 3: Asset Management and Value Maximization

9. What are the best practices to maximize asset value in projects of this type?

10. How can the maximization of financial returns for funds be balanced with the need to provide affordable housing in public sector projects?
11. What metrics or key performance indicators are most commonly used to measure success in asset management for these projects?

Section 4: Challenges and Examples

12. What are the main challenges faced in integrating real estate investment funds into public housing projects?

13. Are there any success stories or failures you are aware of that you can share?

14. What are the determining factors that most contribute to the success or failure of such operations?

15. Would you like to add any additional comments or legal considerations?

Section 5: Trends and Sustainability

16. What global trends in the real estate sector do you believe could be applied to the context of military housing?

17. How do real estate investment funds balance financial objectives with social impact?

18. What impact could changes in the real estate market have on the development of these types of projects?

19. Is there any point we have not addressed during the interview that you consider important to this topic?

Thank you for your cooperation!

APPENDIX F – ANALYSIS IASFA COUNCIL

Table 16 - QUALITATIVE ANALYSIS IASFA COUNCIL

Question	Interviewee	Key Expressions	Central Ideas
Q1	Participant A	Responsible for overseeing the execution of social action policies in military housing; coordinates internal processes, supervises applications, manages rehabilitation projects, and ensures legal compliance.	Participant A plays a central leadership role in housing management, ensuring compliance with regulations and the operational efficiency of IASFA's support services.
Q1	Participant B (collective response)	We oversee the entire housing attribution process; decisions are made collegially. We define criteria, approve procedures, and ensure that policies are aligned with military social objectives.	Participant B group collectively ensures governance and strategic alignment of the housing attribution process, highlighting transparency, fairness, and inter-forces consistency.
Q2	Participant A	Issues with water infiltration, deteriorated roofs, old façades and window frames; lack of elevators and accessibility for elderly residents.	Participant A highlights significant physical deterioration in IASFA housing, stressing the urgency of structural rehabilitation and lack of accessibility adaptations.
Q2	Participant B (collective response)	Elevators often non-functional, buildings without thermal insulation, outdated infrastructures, need for modernization in a large share of the housing stock.	Participant B identifies widespread degradation and energy inefficiency, acknowledging that most housing units are not suited to current comfort and safety standards.
Q3	Participant A	Frequent complaints regarding roof leaks, humidity in walls, outdated elevators, and repetitive plumbing failures.	Participant A notes that maintenance problems are recurrent and consume significant resources, which limits long-term investment capacity.
Q3	Participant B (collective response)	Elevator breakdowns, heating inefficiencies, and degradation of façades are among the most reported problems.	Participant B emphasizes that recurring issues are well-documented and addressed based on budgetary prioritization, though not all can be solved promptly.
Q4	Participant A	There have been improvements in some buildings, especially after tenant efforts and internal funding.	Participant A acknowledges some progress but stresses that major renovations are still lacking.

Q4	Participant B (collective response)	Significant progress in rehabilitation efforts over the past six years; many units were improved.	Participant B highlights institutional efforts but notes that challenges remain due to funding limits.
Q5	Participant A	The process is done online and evaluated based on legal criteria – income, family size, vulnerability.	Participant A believes the system is transparent and aligned with regulatory norms.
Q5	Participant B (collective response)	We use an automated platform to process applications; scoring is consistent and rules based.	Participant B underlines fairness and process traceability supported by digital systems.
Q6	Participant A	Yes, access is based on common criteria.	Participant A confirms standardization in eligibility regardless of military forces.
Q6	Participant B (collective response)	All forces are treated the same way under the scoring and selection model.	Participant B confirms institutional neutrality across forces.
Q7	Participant A	Staff shortages and high volume of applications make the process slower.	Participant A identifies bureaucratic constraints and human resource limitations.
Q7	Participant B (collective response)	We struggle to respond quickly due to procedural complexity and legal requirements.	Participant B emphasizes regulatory burdens as key operational hurdles.
Q8	Participant A	We maintain communication through newsletters, website updates, and phone support.	Participant A values diversified communication channels to maintain transparency.
Q8	Participant B (collective response)	Yes, including periodic communications, updated platforms, and direct helplines.	Participant B underlines improved communication over recent years.
Q9	Participant A	Yes, we regularly collect feedback and consider it in operational planning.	Participant A supports participative improvements through ongoing feedback.
Q9	Participant B (collective response)	We receive many suggestions and complaints, especially through the call center.	Participant B sees feedback as a core part of service improvement.

Q10	Participant A	We try to intervene quickly, but delays happen due to funding cycles.	Participant A mentions resource-dependent efficiency with a reactive maintenance model.
Q10	Participant B (collective response)	We do our best, but our capacity is tied to the yearly budget.	Participant B links process efficiency directly to budgetary constraints.
Q11	Participant A	We are limited in human resources and budget flexibility.	Participant A identifies staffing and rigid budget cycles as major constraints.
Q11	Participant B (collective response)	Main limitations are financial. We cannot plan long-term renovations without secure funding.	Participant B highlights funding instability as the core issue.
Q12	Participant A	Most decisions require central validation, which delays execution.	Participant A points to excessive centralisation as a barrier to efficiency.
Q12	Participant B (collective response)	Legal and procedural frameworks limit autonomy; we need approval for almost everything.	Participant B stresses structural dependence on higher-level decisions.
Q13	Participant A	Yes, I am aware of REIFs but their implementation in public housing raises concerns.	Participant A acknowledges REIFs but questions their suitability to IASFA's mission.
Q13	Participant B (collective response)	Yes, we understand the model but it's not compatible with our current legal and social framework.	Participant B shows institutional knowledge and reservations.
Q14	Participant A	Only under strict conditions that ensure affordability and ownership retention.	Participant A is conditionally open to REIFs, if safeguards are guaranteed.
Q14	Participant B (collective response)	No, it would threaten the affordability and social mission of the housing system.	Participant B rejects the viability of REIFs under current conditions.
Q15	Participant A	Potential access to capital and acceleration of renovation works.	Participant A sees benefits if aligned with public interest.
Q15	Participant B (collective response)	Possibly greater funding availability, but not enough to justify the risks.	Participant B acknowledges theoretical benefits, but prioritises mission integrity.

Q16	Participant A	Loss of control, deviation from social objectives, rent increases.	Participant A is concerned with financialization and mission drift.
Q16	Participant B (collective response)	Asset alienation, reduced accessibility, and external pressure on rents.	Participant B warns of incompatibility with social housing policies.
Q17	Participant A	Only if full public control and criteria enforcement are ensured.	Participant A considers a hybrid model feasible under strict governance.
Q17	Participant B (collective response)	No, hybridisation risks compromising our foundational principles.	Participant B rejects shared governance models due to mission risks.
Q18	Participant A	Aging infrastructure and funding constraints – REIFs could unlock investment.	Participant A sees REIFs as a tool to bridge funding gaps if adapted.
Q18	Participant B (collective response)	The challenge is balancing investment needs with the social function.	Participant B recognises the investment gap but prioritises institutional values.
Q19	Participant A	Not without significant investment – current budgets are insufficient.	Participant A believes the model is unsustainable without new funding strategies.
Q19	Participant B (collective response)	No, we are managing the system reactively, not proactively.	Participant B considers the current structure structurally unsustainable.
Q20	Participant A	Potential loss of public trust and access limitations for low-income families.	Participant A sees REIFs as a risk to equity and institutional credibility.
Q20	Participant B (collective response)	Undermining our role as a provider of social support to military personnel.	Participant B fears REIFs would erode the foundation of IASFA's mission.
Q21	Participant A	Strict contractual obligations, legal safeguards, and monitoring mechanisms.	Participant A emphasises the importance of binding legal instruments to protect affordability and eligibility criteria.
Q21	Participant B (collective response)	Legal and political guarantees, and exclusive retention of property by IASFA.	Participant B argues that ownership and governance must remain fully public.

Q22	Participant A	Countries like France and Spain use state-supported funds with social safeguards.	Participant A sees potential in adapting public REIF experiences from other EU countries.
Q22	Participant B (collective response)	Portugal has Fundiestamo, which manages public assets with defined public interest.	Participant B believes existing national frameworks could be adapted instead of importing foreign models.
Q23	Participant A	Any reform must involve military representatives to safeguard their specific needs.	Participant A stresses participatory governance and representation.
Q23	Participant B (collective response)	We remain open to innovation, but solutions must align with our institutional mission.	Participant B concludes with a call for alignment between financial innovation and public service values.

APPENDIX G – ANALYSIS IASFA LAWYER

Table ANALYSIS IASFA LAWYER

Question	Interviewee	Key Expressions	Central Ideas
Q1	Participant A	Decreto-Lei n.º 380/97, (as amended), Decreto-Lei n.º 69/2022, and Portaria No. 7/98 and 1238/2010.	Participant C outlines the comprehensive legal framework that governs IASFA's housing responsibilities.
Q2	Participant A	Yes. Article 13 of the Framework Law for Public Institutes restricts such partnerships unless authorized.	Participant C confirms legal barriers to private participation without prior governmental approval.
Q3	Participant A	Decreto-Lei n.º 27/2023 regulates Asset Management and enables REIFs to invest in housing projects.	Participant C indicates that recent reforms open legal space for REIF activity in real estate.
Q4	Participant A	Yes, through Organismos de Investimento Alternativo (OIA), as shown in ESTAMO's operations.	Participant C explains the State's current capacity to invest via public asset management entities.
Q5	Participant A	No. IASFA cannot do so under current legislation.	Participant C stresses the current legal prohibition on IASFA's direct participation in REIFs.
Q6	Participant A	Reform of IASFA's Organic Law and the Framework Law for Public Institutes.	Participant C identifies key legislative amendments as prerequisites for REIF involvement.
Q7	Participant A	Risk of deviating from supported-rent housing regime; possible rent inflation post-investment.	Participant C is concerned that REIFs could compromise affordability and eligibility.
Q8	Participant A	Legal revision is needed to ensure allocation quotas for economically vulnerable military personnel.	Participant C proposes legal safeguards to maintain IASFA's social objectives.
Q9	Participant A	Contractual protections based on the Fundiestamo or FNRE models; full public oversight required.	Participant C recommends a public REIF under Fundiestamo with predefined clauses to protect mission.
Q10	Participant A	Yes, including ESTAMO and FNRE in Portugal.	Participant C confirms precedent for state-managed REIFs with public objectives.

Q11	Participant A	The FNRE example provides a useful model; aligns with points discussed earlier.	Participant C sees FNRE as a viable template for IASFA application.
Q12	Participant A	Legislation should be published beforehand, preferably by Council of Ministers resolution.	Participant C advises pre-legislative action to establish legal certainty before negotiations.
Q13	Participant A	None.	No additional considerations were offered by Participant C.

APPENDIX H – REIF SPECIALIST

Table ANALYSIS REIF SPECIALIST

Question	Interviewee	Key Expressions	Central Ideas
Q1: What makes public housing projects attractive to REIFs?	Participant D	Stable cash flows, long-term leases, government guarantees, permanent demand, and strategic locations.	Participant D identifies financial stability and risk mitigation as the main appeal for REIFs.
Q2: How do REIFs evaluate financial return on such projects?	Participant D	Use of IRR, NPV, DCF methods; comparison with sector benchmarks; importance of occupancy guarantees.	REIFs rely on predictable revenue streams and risk-adjusted return analysis to assess viability.
Q4: What incentives are most effective for attracting REIFs?	Participant D	Tax exemptions, subsidies, guaranteed payments, and long-term concessions.	Incentives must reduce fiscal pressure and increase revenue predictability.
Q5: What are the key implementation challenges?	Participant D	Bureaucracy, legal uncertainty, budget constraints, and financial balancing.	Participant D sees structural and fiscal barriers as major impediments to REIF involvement.
Q6: Which PPP models are most effective in real estate?	Participant D	Sponsored and administrative concessions, BOT, and long-term lease models.	Participant D favours models combining public guarantees and private efficiency.
Q7: How could these PPPs apply to the military context?	Participant D	Private partners can build, manage, and maintain housing on military land.	Military-specific PPPs must integrate long-term services and cost reduction.
Q8: What are the main risks in PPP housing projects and how can they be mitigated?	Participant D	Construction, demand, regulatory, and financing risks; mitigation via legal clauses and guarantees.	Risk transfer and institutional clarity are critical for PPP success.
Q9: Are there PPP models from other sectors that are applicable?	Participant D	Examples from roads, sanitation, and hospitals with strong contracts and performance metrics.	Best practices involve risk sharing, transparency, and contractual precision.
Q10: Best practices for asset value maximization?	Participant D	Preventive maintenance, proptech systems, revenue diversification, KPI monitoring.	Participant D stresses operational efficiency and data-driven asset management.
Q11: How to balance financial returns with affordability?	Participant D	Cross-subsidies, ESG-linked goals, revenue sharing, tax incentives.	Social impact can be aligned with investment logic through smart contractual tools.

Q12: What metrics are most used to evaluate asset management success?	Participant D	Occupancy rates, ROI/IRR, resident satisfaction, maintenance costs, and payback time.	Success depends on performance, cost-efficiency, and user satisfaction.
Q13: Key challenges in integrating REIFs in public housing?	Participant D	Aligning interests, administrative burden, governance, and fiscal limitations.	Public-private alignment and institutional coordination are fundamental.
Q14: Success/failure examples?	Participant D	RCI in the US (success), poorly designed contracts (failures), DHA Australia (hybrid success).	Case studies highlight importance of design, oversight, and durability.
Q15: Factors that determine partnership success?	Participant D	Contract structure, legal stability, governance, political commitment.	Success hinges on predictability, trust, and shared vision.
Q16: Global trends applicable to military housing?	Participant D	Modular construction, smart buildings, ESG certifications, digitalization.	Modern construction and sustainability are becoming essential.
Q17: How do REIFs balance financial and social goals?	Participant D	ESG mandates, sustainability reports, NGO partnerships.	Institutional REIFs are increasingly integrating social responsibility.
Q18: Market impact on these projects?	Participant D	Economic cycles, interest rates, urban mobility.	External trends influence cost, demand, and feasibility.
Q19: Additional relevant considerations?	Participant D	Integrated planning, contract flexibility, public communication, international benchmarking.	Participant D recommends proactive governance and transparent stakeholder engagement.