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Rental Housing Supply and Build-to-Rent Conundrum in Australia

Piyush Tiwari * and Jyoti Shukla

Faculty of Architecture, Building and Planning, University of Melbourne, Parkville, VIC 3010, Australia; jyoti.shukla@unimelb.edu.au
* Correspondence: piyush.tiwari@unimelb.edu.au

Abstract: Traditionally, rental housing has been supplied by a large pool of individual investors who own a few units and invest their savings, with some leverage, to take advantage of the tax regime in Australia. The last five years have seen the emergence of build-to-rent (BTR) units, which are supplied by investors who own a large number of units. The state of Victoria in Australia has the largest share of these projects. In the current market and regulatory environment, the financial viability of BTR projects is low for investors and hinges on the ability of units to be leased at higher than market rents. This paper examines four groups of levers, including those already being pursued by the building industry, that can be used to improve the financial viability of BTRs. These include: (i) revenue maximization, (ii) cost reduction (iii) fiscal and (iv) planning incentives. An archetypical BTR project which mimics current practice is considered, assumed to be in Docklands, Victoria, where several BTR projects are planned. For the robustness check, a feasibility analysis is conducted for a site in North Melbourne, a neighbourhood in Victoria with several BTR projects. The results indicate that for revenue maximization, the mix of unit types in a BTR project should be location-specific, as market preferences (and the characteristics of renters) determine the rent for different types of units that can be achieved. In a conventional BTR project development, where land is bought upfront and the project is developed, the mixed-use BTR (residential in combination with commercial) does not provide significant financial benefits though including small retail (3–4% of the net lettable area) may provide complementary benefits. Incurring large capital costs upfront and having the revenue stream spread over long periods reduces financial viability. While construction costs are more difficult to reduce, ways to reduce land costs could be through zoning land for BTR use, through mechanisms such as joint ventures with landowners, and land leasing. Exemptions on income, land tax, and rates (like CHPs) can result in a higher return for investors. A full GST refund, an incentive that industry is lobbying for, results in a similar IRR as an exemption on income, land tax and rates would offer. These results will assist in determining priorities for policies that are aimed at BTR.

Keywords: build-to-rent, financial viability, Australia

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1. Introduction

The affordable housing crisis is a global issue, affecting many countries around the world. According to an estimate, by 2025, more than 1.6 billion people will be affected by the housing shortage and more than 90% of the 200 largest cities in the world will have average homes costing more than three times the average income [1]. The HousingAnywhere International Rental Index for cities shows that rents have risen much faster than income, and in Asia, home to some of the world's costliest housing markets, rents now comprise more than half of personal income [1].

The Australian housing system is facing similar challenges and is failing to deliver a sufficient supply of affordable housing [2]. The housing tenurial preference in Australia is

shifting towards rental housing, driven partly by the rising cost of homeownership and the change in the living preferences of young households. However, rental supply has been unable to keep pace with demand, with the consequence that rents have risen substantially, and the vacancy rates are low in all capital cities in Australia.

Housing (un)affordability is determined by income, household type and age. In 2017–2018, nationally, and in the state of Victoria in Australia, the housing rent burden on the lower two income quintiles was higher than 30% [3]. According to the Commissioner of Residential Tenancies [4], one-person and one-parent households comprised 45.2% of all Victorian households in 2022. These households are on the verge of rental stress. Young households (an age less of than 25 years) have faced rental stress much more than older households [3].

Policy drift from social and public housing, which contributed to affordable rental housing stock prior to the 1970s and to market-provided housing, has led to residualization, financial infeasibility, and the consequential undersupply of affordable rental housing in Australia [3]. Small private investors, typically referred to as 'mum and dad' investors, with some savings, started investing in rental housing. Tax policies, such as negative gearing, low interest rates on mortgages, and rising house prices, fuelled these largely uncoordinated investments in housing for rent [3]. The ability of small investors to scale up investment to supply new housing stock consistently is limited.

In the current environment, rents in Australian cities have increased substantially. Rising construction costs, rising interest rates and the disaggregated rental market where supply is dominated by a large pool of small investors and their inability to augment stock in current economic conditions, have been identified as the reasons for the lack of supply in rental housing market. The last decade has seen the emergence of large investors with the potential to supply a large stock of rental units, usually referred to as build-to-rent (BTR) housing. Build-to-rent (BTR) is a term that is interchangeably used with multifamily housing. RICS defines five characteristics of BTR: density (at least 50 self-contained dwellings), ownership structure (dwellings are separately let but held in unified ownership), management under a single entity with a potential onsite presence, facilities (the building is designed for rental purposes and may include amenities) and timeframe (short term assured tenancies) [3]. While BTR is recent in Australia, these institutional investor-owned rental housing assets have existed in markets such as Japan, Canada, the UK, and the US for much longer. In the US, the stock of rental housing owned by institutional investors is about 12% of the total housing stock [5]. In the UK, the share of BTR in rental housing is 5.4% [5]. The share of BTR in total housing stock in Australia is low, at 0.2%. The Interim National Housing Supply and Affordability Council of the Australian Government have attributed this to a large institutional investment into rental housing overseas, underpinned by demonstrated commercial viability, which includes attractive returns and moderate risks, and is supported by the availability of good quality data on revenues and costs associated with managing properties [5].

BTR's potential to augment rental housing stock has been highlighted by substantial amounts of the industry literature. However, to supply rental housing on a large scale requires financial barriers to be overcome. To put this in context, it is useful to review the characteristics of institutional investors who have been investors in BTR in the US and the UK. These are specialized financial institutions (pension funds, insurance companies, mutual funds, sovereign wealth funds, etc.) that manage savings on behalf of small investors, towards specific objectives in terms of acceptable risk, return maximization, and the maturity of claims [6]. They prefer diversification in their investment portfolios and liquidity. Illiquid assets such as property account for a small share of their investments [6]. They also prefer assets with low information risk and investments with low transaction costs. Since BTR assets are long-term assets that require huge initial and ongoing capital investments and face significant revenue risk, the literature has argued that, in countries where BTR has contributed to rental housing stock in a significant way, incentivizing institutional investment requires financial, planning, regulatory, and fiscal incentives to ensure

an adequate return on their investment [3]. These incentives are specific to countries and depend on the legal, planning, and taxation framework of a country. While a liberal institutional environment is most desirable for institutional investment, it may not be practical to expect such an environment. It is therefore necessary to examine the specifics of incentives and their potential to contribute to financial viability of BTR projects for investors. This will help in prioritizing a liberalization agenda that will result in a greater impact for housing market. The impact of various types of incentives on the financial viability of BTR projects from investors' perspective has not been examined in the literature, particularly in the context of Australia.

This paper contributes to the existing literature by examining a range of incentives, compiled from grey literature, that are being sought by property industry for their potential to contribute to the financial viability of build-to-rent (BTR) assets for investors in Australia. Though the growth in BTR construction in Australia has been phenomenal, whether this would plug the gap in rental housing market would depend on its attractiveness to large institutional investors. The focus of this paper is on the BTR development in Victoria, a state which has the largest share of BTR in Australia. The scientific contribution of this paper is in the comprehensive identification of various types of incentives (fiscal, market, planning, land management strategies) and examining their potential to influence the financial outcome of BTR projects for investors. Specifically, the paper asks the following questions:

First, what specific levers would be necessary to make build-to-rent financially viable for institutional investors in Victoria? This question requires a comprehensive assessment of various incentives that are either currently being used in other countries or are being sought by the industry. In addition, the paper also examines land management strategies that would contribute to BTR project viability. Land management strategies would encourage the industry to consider them for future BTR projects, as they make a substantial contribution to financial returns.

Second, what incentives would assist build-to-rent in generating affordable housing outcomes? This question is answered by examining additional incentives that will be required, on the top of incentives required for the viability of BTRs to make them affordable.

Using a discounted cash flow analysis for a representative BTR project in Victoria, this paper examines the financial viability of BTR, and simulates the potential impact of various levers on project returns for investors. The important result from this paper is that the incentive structure required for BTR to be viable option for rental housing supply in Australia would need to focus on innovative approaches for the procurement of land for BTR. This contributes to the global literature by opening up the debate to examine land management strategies other than the usual incentive structure, while seeking to incentivize institutional investors to channelize capital into BTR, particularly when affordability is also a criterion for rental housing supply. The sensitivity of incentives to project-specific returns depends on the share of land cost in the total project cost. As land becomes expensive, as is the case in inner city, land management strategies are more important in improving viability, which this paper demonstrates by analyzing another project in Victoria.

The rest of the paper is organized as follows: Section 2 discusses the literature. Section 3 presents the methodology. Section 4 presents an overview of the characteristics of the rental housing market in Victoria, which provides the context for BTR development. Section 5 provides a brief overview of BTR in Victoria. Section 6 presents key assumptions for the financial model. This section also provides information on respondents who were surveyed. Section 7 discusses the results. Affordability is a major concern in the rental market in Victoria. Section 8 examines the role that BTRs can play in supplying affordable housing and what levers would be required. Robustness checks were conducted by examining the potential of incentives for another project with a larger land cost, in order to validate most effective levers by varying the location. These are briefly mentioned in Section 9. Section 10 concludes the paper.

2. Literature

There is voluminous literature, published by the research departments of global property consultants and academies, that stresses the attractiveness of BTR for institutional investors as a result of BTR assets' cashflow characteristics [7], its potential to address fragmentation in a rental market with growing concerns pertaining to the quality, quantity, and management of rental housing properties [8–11], and as an asset class that embraces technology and sustainability [7]. Walsh [12] states that BTR landlords offer longer tenure, providing security to tenants against eviction, who then have incentive to maintain their units. Better living conditions for tenants reduces tenant turnover and offers a better return on an investment for investors [12]. Regarding the negative side of the institutional ownership of rental housing, the literature has argued that institutional investors' focus on profit maximization, while aligned with their legal obligations to shareholders, can adversely affect tenants, especially low-income groups, leading to higher rents and poorer property quality [5]. This has prompted public concerns and regulatory responses, such as rent controls in several countries, as institutional investors are accused of exploiting economic downturns to acquire distressed or social housing assets, further reducing the affordable rental housing stock [5].

The growth in BTR in the UK is an outcome of "an assemblage of national policy objectives, local state actors' urban regeneration activity and heterogenous global investor groups with different priorities all seeking a return" [13]. Given that BTR projects offer higher-quality amenities and better sustainability features than conventional rental units, they are expensive to build.

In most markets, BTR supply has been focused on luxury rental housing. However, the literature has also examined BTR in the context of housing affordability. Specifically, whether institutional investment in rental housing would augment supply to address rising rents and the affordability concerns of young single-parent households. The literature posits that the BTR's potential in large-scale development could contribute to affordable housing stock [10], urban regeneration [14], and economy through development activity [10]. The main customer segments for BTR units have been young, lone, and elderly households [15,16], as high rents in city centre locations have been found to be unattractive for family households [12]. Barnett and Michael [17] argue that with competition among developers, an increase in supply, and economies of scale in the management of dwelling stock, would adjust rents downwards. In the US, though, a range of BTR housing typologies (such as single-family dwellings, townhouses, horizontal apartments, and multifamily apartments) exist, offering rental housing to various household types and income ranges [18]. Investor interest and market demand can change the market for BTRs, as during COVID years, with a subsidy from government, the BTR target market shifted towards key workers in the UK who needed tenure security and provided income stability [19]. Whitehead [20] argues that for BTR to be affordable, innovative institutional arrangements such as public–private partnerships, as well as specialist institutions providing BTR units and tax incentives, would be necessary. BTR's potential as a solution for social housing is limited, as commercial considerations are at the core of BTR projects [21]. Abidoye et al. [22] propose that with grants and subsidies, social housing could be integrated into BTR projects.

The research highlights that the expansion of institutional investment in rental housing has shifted the focus from the use of housing to its asset characteristics [23]. Cashflows from rental housing assets, therefore, are matched with the liabilities of institutional investors, which are long-term, thereby creating new assets that contribute to the investment portfolios of these investors while helping in meeting the housing targets of cities [24]. The growth of investment in BTR assets, as examples from London and Amsterdam show, has been an outcome of public–private partnership, where the investor/developers' need for investment assets has aligned with the government's endeavour to attract institutional investment in housing sector [24].

In Australia, large institutional investors have been less enthusiastic in terms of incorporating BTR assets into their portfolio of investments [25]. The Australian superannuation funds' allocations to the overall property sector are on average about 8–9 percent, which is low compared to major global markets. Australian institutions have not made allocations for BTR assets yet, and much of the institutional investment in BTR assets in Australia is global [26]. Major concerns for institutional investors, who adopt a passive investment style, involve the fact that the market, planning and regulatory risks for investment are not fully understood, and returns are not adequate [17]. Another challenge that investors in Australia face is that the benchmark index for property does not include residential assets, making it difficult for them to benchmark [5]. BTR assets incur huge upfront capital costs, while their revenue streams are spread over many years, making this asset class financially similar to infrastructure assets. The location of BTR assets has varied in countries. In London, BTR units are largely concentrated on city fringes with good transport connectivity, which provide better land value for developers [7]. In Melbourne and Sydney, the BTR locations are inner city suburbs [27], where land costs are high. In cities where BTR investment has grown phenomenally, such as London, the BTR projects have been located on city peripheries, which offer better land values and good transport connectivity [7].

The role of government through supporting legislation and incentives has been identified as critical in the literature [19], which takes the form of flexibility in planning regulations and fast-tracking development approvals [21]. The specificities of BTRs, such as high density, small size apartments, minimum parking, and central location, could result in delays in securing planning approvals [21]. To access the incentives, the developers of BTRs need to meet the criteria related to unit size, typology, and ensure that a share of project is offered as affordable housing [28]. Land and planning issues have also been examined in the literature. Current zoning may need to change to accommodate high-density BTR development [29]. Urban planning zones for BTR have the potential to maximize returns for investors and to direct investment in locations where it benefits the communities the most [30]. Being a high-density product, affected by the negative portrayal of social housing, BTR development may find resistance from the community [29]. The willingness of investors to invest in BTR and acceptance by renters are crucial requirements for BTR development and growth [7]. International investment in BTRs requires changes to foreign investment taxes and rent regulations to make it attractive for investors [31].

Capital cost is an important consideration for BTR projects. Due to having better construction quality, sustainability features, and a higher level of amenities than build-to-sell properties, the initial construction costs are high. BTR developers have used prefabricated construction and green strategies to reduce timeframe and operational costs [32]. The interest rate incentives and financing options available for investment properties that are green-rated have been suggested as options for BTRs to reduce their initial cost [33].

Previous researchers have identified that the typical design features of BTRs include the presence of amenities, a high number of apartment units, the small size of units, and replicated floorplans [9]. There are some deviations from these design practices depending on government regulations, tenant preferences, and in response to the market [9].

In the UK, public incentives such as financing, the creation of a BTR fund, foreign investment incentives, the facilitation of office-to-residential conversions, and fast-tracking approvals were implemented by local and federal governments to minimize risks for developers and investors [31].

Though the literature has argued for tax, planning, regulatory, and financial incentives to enhance the viability of BTR projects, a comprehensive evaluation of how these measures will contribute to financial viability is lacking. Among the few studies that are available, Pawson et al. [34,35] modelled the potential feasibility of BTR in Australia, based on data and assumptions for BTR typologies in the inner-city of Sydney, New South Wales. Their analysis suggests that build-to-rent could be feasible in Australia but will not result in the provision of affordable housing without some form of public subsidy.

Acheampong and Earl [36] find that in Brisbane (Australia), under the current regulatory regimes and market structure, BTR will fail to deliver affordable housing outcomes. They find that providing free land alone will not suffice to make BTR affordable. Significant public subsidies, and tax concessions, particularly on Goods and Services Tax (GST) on construction-related costs, may be required if BTR developments are to contribute to affordable housing. This paper expands the literature by comprehensively examining the effect of various types of incentives, policy, planning interventions and land management strategies on the viability of BTR projects.

3. Methodology

The most common metric that the developers and investors use in assessing the viability of a project is the internal rate of return (IRR), obtained from a discounted cash flow model, which has the capability to model revenue and cost. In order to assess the viability of BTR projects for developers and investors, this paper uses the same methodology and viability metric as those that stakeholders would use. An alternative to DCF is a static model, which involves fewer assumptions, but is not useful when a number of financial parameters have to be incorporated and the holding period of an asset is long-term.

A discounted cash flow (DCF) model is formulated to analyze the financial viability of a BTR project. The implementation of DCF required the explicit projection of future cash flows and the calculation of an internal rate of return, which ensures the present value of the cash flows is equal to the initial cost. This approach is suitable for decisions about the feasibility or viability of investment in real estate, because its structure reflects the economic fundamentals on which investment decisions rely [37]. Figure 1 shows the financial modelling framework for a DCF.

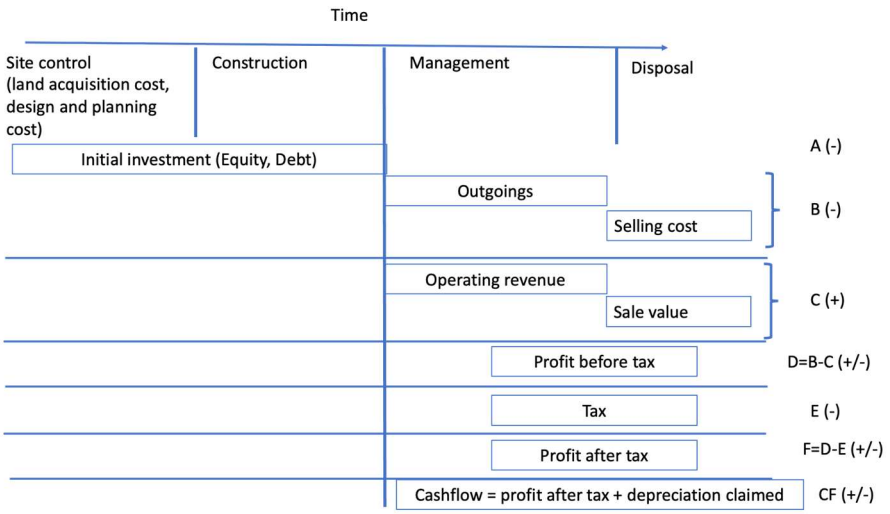

Figure 1. Framework for a discounted cash flow modelling.

The internal rate of return (IRR) is one of the metrics used to examine the financial viability of an investment. This is the discount rate at which net present value (NPV) of all cash flows equal zero.

$$0 = NPV = \sum_{t=1}^{t=T} \frac{CF_t}{(1 + IRR)^t} - A$$

where t is the holding period of property. DCF involves a number of parameters. Assumptions regarding parameters for the BTR DCF model are presented in Section 6. These assumptions are based on inputs from industry experts involved in BTR project development in Victoria.

A survey of industry experts involved in BTR projects in Australia (Table 1) was conducted to complement financial analysis. Respondents included ten eminent BTR housing

stakeholders currently operating in the Australian market. Together, they represented most BTR housing stock producers in Australia. Table 1 presents a broad-level profile description of respondents, including their roles, their organization's nature, and the geography of its operations. The survey was semi-structured and asked questions related to (i) market trends in Victoria, (ii) key aspects of BTR that are important for developers and investors, (iii) key market participants in BTR development and their (iv) processes to identify and procure land for BTR, and (v) levers that in their opinion would help BTR project viability.

In addition, the key assumptions and results from financial feasibility models were shared with four industry respondents (R3, R5, R6, R10) for their comments.

Table 1. Respondents' profile.

No	Respondent's Role	Nature of Organization	Geography of Operations
R1	Acquisitions Manager	Developer, owner, and operator of BTR apartments	Australia
R2	Real Estate Debt Manager	Real estate debt management	Australia
R3	Consultant (BTR)	Real estate advisory services including BTR	Global
R4	Chief Development Officer	Alternative asset management for BTR housing	Australia
R5	Chief Operating Officer	Residential and commercial development	Australia
R6	Valuer	Real estate advisory services including BTR	Global
R7	General Manager	Real estate development and management including BTR	Australia
R8	Regional Manager	Real estate asset management	Australia
R9	Chief Commercial Officer	Community Housing Provider	Australia
R10	Director	Real estate advisory and research services including BTR	Global

To achieve a financial feasibility model and analyze the viability of an archetype BTR project, this paper relies on secondary sources of data such as the Rawlinsons Cost Guide and primary data from respondents. The actual financial information for a project was not available due to the sensitivity associated with financial information, and primary data on financial parameters was obtained from limited primary sources. Nevertheless, the assumptions related to cost, revenue, taxes, and product mix were validated by respondents (Table 1) and are reliable. This validation technique assisted in designing a generalizable base case scenario. The financial tool allows for flexing input figures as scenarios and their impact on project returns.

A common approach in research is to conduct sensitivity analyses. These assess the impact, effect, or influence of key assumptions on the conclusions of the research. Sensitivity analysis also identifies which assumptions have a larger impact on outcome than others. This paper, for paucity, refrains from creating a sensitivity analysis for each assumption. We reason this by arguing that each analyzed scenario is a sensitivity analysis over the base case, which reflects the actual situation almost accurately. The tax rates in the base scenario are actual rates, and the scenarios modelling a reduction in these rates reflect a sensitivity on project returns to changes in taxes. We could model sensitivities to rental growth or the sale value of an asset at the end of the holding period, but these are unnecessary as it will only confirm that higher cashflows improve IRR and vice versa, without much insight. There are uncertainties in these market assumptions, which pertain to the future. Hence, we have limited our approach to a sensitivity analysis on policy variables, and have called them scenarios.

4. Characteristics of Rental Housing Markets in Victoria

There are four types of rental housing in Australia [5]. The first type is the private rental housing, which is owned privately and is made available for rent by tenants. The

price is set by the market and accounts for more than 80% of the rental housing stock. The second is below-market rental housing, which offers rental housing at a discount of 20–30% below the prevailing market rent to eligible tenants. The third is affordable rental housing, which is available for rent at a price related to a measure of affordability. These houses have some form of government assistance and can be owned by private investors. The fourth is social housing, which is subsidized by the government and offered for short- or long-term tenure to low or very-low-income households. The share of social housing in rental housing is very small. In Victoria, where 33% of households lived in rental housing in 2021 [4], 90% of households were renting in the private market (the first three categories of rental housing) and the rest were renting in social rental housing [4].

Figure 2 shows that households are renting for longer periods. The median tenancy duration in 2015 was between 16 and 18 months. In recent years, it has increased to 21–22 months (Figure 2). The tenancies are longer in metropolitan Melbourne than in regional Victoria.

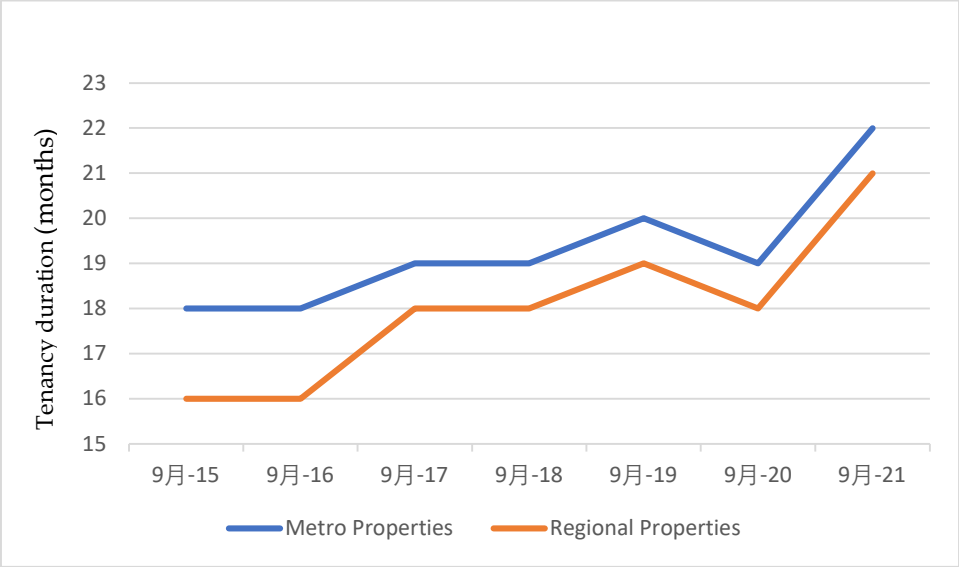

Figure 2. Median tenancy duration (months). Source: authors.

The tenant turnover rate (Figure 3) is between 8 and 9.5%. The rate had reduced in metropolitan Melbourne to 8.5% prior to the pandemic, but has since increased.

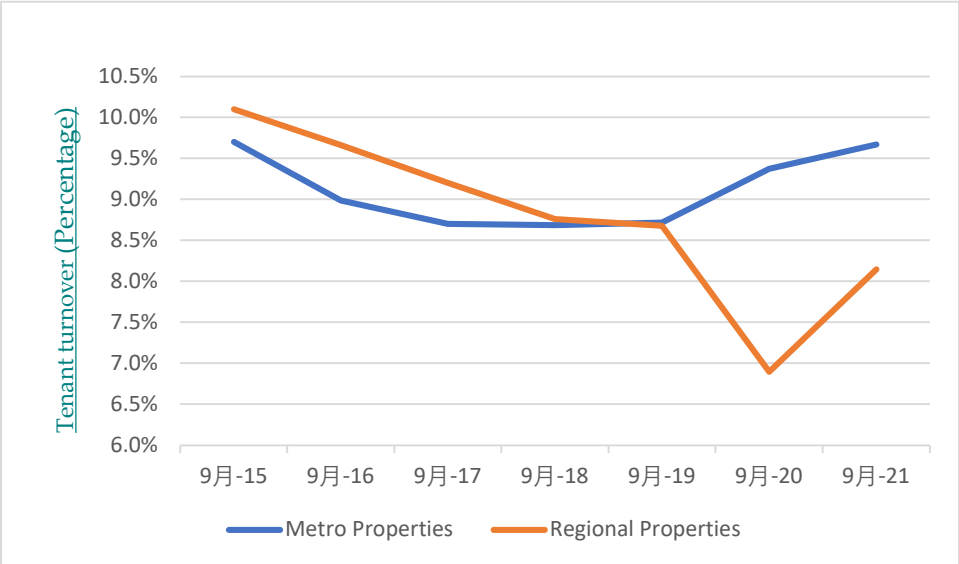

Figure 3. Tenant turnover rate. Source: authors.

In metropolitan Melbourne, the rental dwellings are affordable to merely 2–32% of the households who are on Centrelink (social security) incomes. Rental dwellings were far more affordable in regional Victoria to lower income households, but their share has decreased drastically as of 2021 [3].

There is a regional pattern to rental affordability within Victoria. Figures 4 and 5 provide region-wise affordable lettings for households on Centrelink incomes. Rentals in western Melbourne and south-eastern Melbourne are affordable to 16–40% of the households on Centrelink incomes. Rentals in other regions are largely unaffordable. Affordable lettings in regional Victoria have declined over time, as shown in Figure 5.

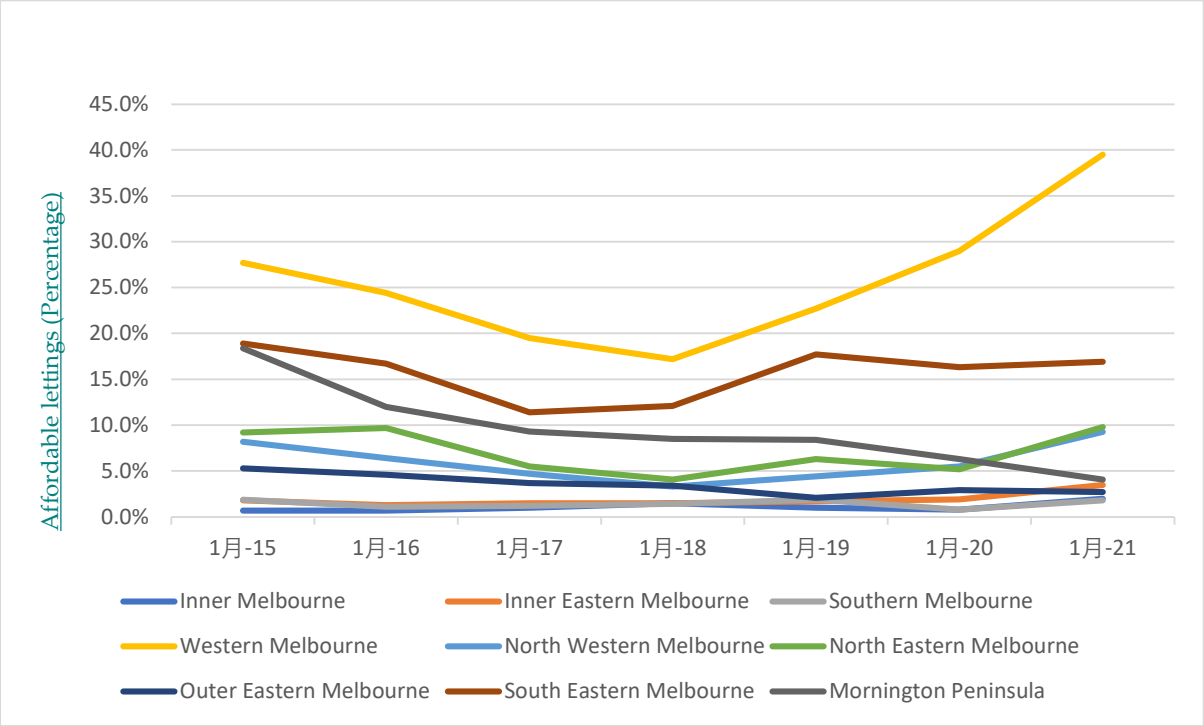

Figure 4. Affordable lettings for households on CentreLink incomes—metropolitan Melbourne. Source: authors.

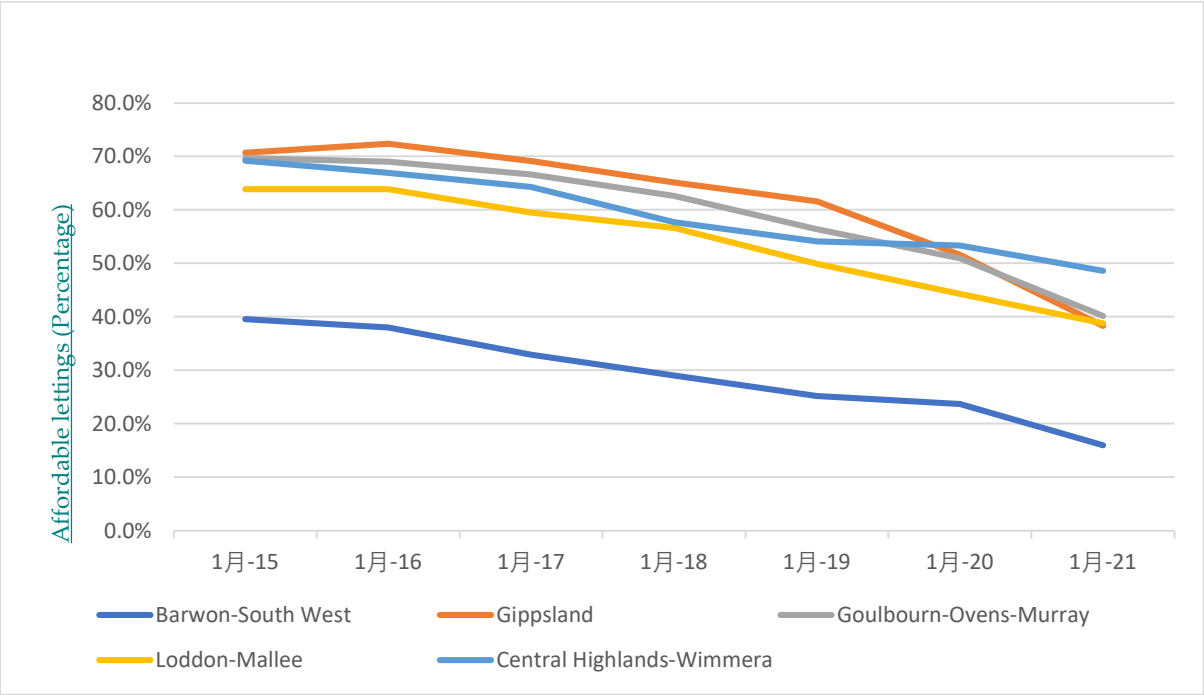

Figure 5. Affordable lettings on CentreLink—regional Victoria. Source: authors.

The private rental housing market is disorganized. Most of the suppliers of private rental housing in Victoria are small landlords who own one (72.1%) or two (18.6%) properties [3]. Almost 70% of the private rental properties were rented through a real estate agent. The length of tenancies is short, and 'no-fault' evictions are common. In 2019, about 7900 'no-fault' eviction applications were submitted to the Victorian Civil and Administrative Tribunal (VCAT). About 12,700 'at-fault' eviction applications were submitted to the VCAT in 2020/21 and the reason for 96% of the 'at-fault' eviction notices was the non-payment of rent.

Consumer Affairs Victoria received complaints against landlords. Almost half of Victorian renters faced an issue during their tenancy. Most of these related to the poor maintenance of their property or the maintenance issues not being attended to by the landlord or their agents [4]. Compensation issues and repairs were the most common reasons for complaints.

To summarize, in Victoria, rental affordability is a concern for low- and medium-income households due to rising rents and the lack of supply of affordable housing. The lease tenures are short and there are regional differences in the ability of medium- and low-income households to afford market rental housing. The condition of rental housing is unable to meet the expectations of tenants, many of whom feel harassed by landlords. This has provided an opportunity for build-to-rent housing providers in Australia.

5. Emergence of Build-to-Rent in Australia

Currently, BTR is being marketed as a luxury product through a combination of amenities and services, distinct from what the private rental market offers.

Table 2 presents the pipeline of BTR projects in Australia.

Table 2. BTR projects (planned or under construction) in Victoria.

BTR Location	BTR Developer	Number of Units
3 McNab Ave, Footscray	Investa and Oxford Indi	700
10 Ballarat Street, Brunswick	Hines	250
Caufield	Blackstone	450

9 Projects (Macaulay Road, Stubbs St, Roden St)	Assemble	3660 (includes social and affordable housing)
North Melbourne	Sentinel	170
LIV Munro, CBD	LIV Mirvac	490
LIV Aston, Melbourne	LIV Mirvac	474
LIV Albert Fields, Brunswick	LIV Mirvac	500
85 Gladstone St, South Melbourne	Greystar	700
35 Claremont St, South Yarra	Greystar	304
14 Yarra St, South Yarra	Greystar	321 units + commercial + retail
153 Sturt St, Southbank	Novis	170
Southbank, City Road	Home	403
Bridge Road, Richmond	Home	350
LaTrobe St, Docklands	Home	650
Vic Public housing renewal	Tetris	1162
Preston	Make	500

Source: EY [27].

Though the evidence of the performance of BTR in Australia is still premature, EY [27] calculates that with a gross yield of 6.5% and a net yield of 4–4.5% (assuming a gross-to-net margin of 30%), and an equity IRR of 8.5–10.5%, they are still not attractive unless there are tax exemptions.

Pawson et al. [34] conducted a feasibility analysis for BTR projects under the current set of regulatory and taxation norms. They found that the exemptions from income tax, land tax, council rates, provision for GST input claims, density bonuses, reduced parking requirements, and the availability of land at discounted prices for community housing providers do not make a standard apartment-type BTR a viable investment for developers/investors.

In its recent submission to the Victorian Government's Build-to-Rent Working Group, the Housing Mix Task Force explains that BTR in Australia is currently a purely market provided premium product and "should not be seen as a pathway to solve affordable and social housing shortage" without government intervention [38].

State and territory governments in Australia have offered certain concessions for BTR sectors [5]. These include a 50% reduction in land value for land taxation (in the states of Victoria, NSW, Queensland, Western Australia, and South Australia). Queensland also offers full exemption on a 2% foreign investor land-tax surcharge for 20 years. Tasmania offers a land-tax exemption for 3 years for housing built for rental purposes. The problem, however, is that these exemptions are too small and vary by states/territories. The lack of a nationwide policy on taxes for BTRs deters investors. In contrast, in countries where BTRs have been successful, supporting financial institutional environment and uniformity in taxation has played a role. Secondary mortgage market institutions such as Freddie Mac and Fannie May have dedicated multi-family arm loans to finance loan purchase and guarantee volume [5]. The UK offers concessional and guaranteed debt for BTR [5]. They have also set up a BTR co-investment fund [5]. In the UK, stamp duty concessions are offered on aggregated holdings of BTR units. In the US, tax credits for affordable housing construction and renovation have played a major role in augmenting affordable rental housing stock [5].

Within this context, this paper comprehensively examines various levers that may assist BTR project returns. This will update and expand Pawson et al. [34] and Acheampong and Earl [36]'s research by examining a larger basket of potential levers and conducting the analysis for Victoria.

6. A Financial Analysis of Alternative BTR Project Structures

The financial viability of build-to-rent assets is dependent on several factors. However, it is important to distinguish the cash flow profile of this asset class from the conventional build-to-sell (BTS) housing or apartment units for a developer and/or investor. Build-to-rent units are held by large investors during the renting phase as well, unlike build-to-sell units which are sold to end users after these are built. Differences in the cash flow profile and the holding period of assets (and hence, the associated risks) distinguish BTR from BTS. Being an income asset with a long holding period, the risk for investors regarding BTR is lower than that of BTS for investors/developers (which are asset-value driven and held for a short period, usually until construction is completed), and hence, the required return for BTR is generally lower than that for BTS. The risks associated with business cycles are also lower for BTR than BTS assets. This has implications for the sources of finance for BTR and the risk and return profile of investors who are likely to invest in BTR asset class. As the cash flow of BTS assets is highly skewed towards capital return, as the primary objective of investors is to sell the asset sooner, the motivation to operate and derive income return is minimal. Since the cash flows for investors in BTR depend largely on income returns, rental income and any other measure of increasing revenue becomes important. Capital return plays a less important role for investors' cash flow. While BTS is pure property play, BTR shares a similarity with infrastructure assets, where the business operations are important. The other aspect of this distinction is that, while developers/investors of BTS rely on debt (predominantly bank) financing with some equity and/or land as equity of their own, the financing of BTR has relied predominantly on equity finance with some debt. During initial operational phases, when the BTR project is not stabilized, leverage could impact the IRR adversely (A project finance model for the case of a BTR project considered in this report suggests that a debt with a structured repayment schedule is possible, with two years moratorium on the principal repayment of up to 20% of the total project cost at an interest rate of 6%, as the debt service coverage ratio remains above 1.20 for the entire term. A debt above 20% of the project cost leaves the DSRA below 1.20 for the first few years, and would not be seen favourably by lenders. A longer moratorium on the principal repayment may allow for a higher debt, but this would depend on the specific situation of the project, borrower, and lender. Nevertheless, debt reduces project IRR for BTR. Modelling debt is less generalizable, as developers often raise debt at the entity level rather than at the project level).

This paper examines the financial viability of a BTR project under various alternative scenarios. The scenarios are constructed over a base BTR model which assumes parameters based on the current cost, revenue, taxation, and planning regime in Victoria (see Table 3). The base model assumes the current practices that the BTR developers/investors adopt regarding product mix and the sizes of units. The base model, however, takes the achievable rent based on the median rent of comparable rental units (comparable in terms of beds, baths, and size) listed on the market for Docklands (Victoria) on www.domain.com.au, (Accessed 10 October 2022) rather than the expected rent by BTR investors, which is about 25% higher than the rent in the private rental housing market for higher-end rental housing. In our interviews with the industry, the proponents of BTR (respondents R6, R7, R10) argued that the BTR product is superior to private rental housing, as there are significantly more amenities offered with the BTR product. They argue that, operationally, BTRs are different assets, and since they are designed differently, the cost base is also different than private rental housing. While these arguments may carry some weight, this paper recognizes that the rents would be a factor of market demand and supply. The market for BTR in Victoria is still in the early stages, and the evidence that the expected rents are being realized is still premature (though respondent R10 pointed that there are six operating BTR projects in Australia and the rental these projects have achieved is higher than the private rental units. Arguably, tenants are paying higher rent because BTR is a better product with additional amenities and on-site service support). Within this context, it is prudent to assume that the rents prevalent in the private rental market would better reflect revenue expectations or our base market. Better amenities and

services offered by providers of BTR would result in higher rents than are currently prevalent in the market, but the extent of this premium would only be evident with time. It may also be argued that better services may result in higher occupancy and low tenant turnover, contributing to overall revenue, but may not result in substantially higher face rents. Nevertheless, if BTR units can achieve higher rent, this would only improve the financial viability. The amenities offered by BTR are charged separately and result in additional revenue. This paper incorporates revenue from amenities in the base model. The base model is referred as the base model—lower bound. In addition to the base model—lower bound, a model with 25% higher rent has also been estimated, referred to as the upper bound. The upper bound scenario assesses the sensitivity of project returns to upward changes in rent, to 25% above the current market rent.

The cost of construction is based on Rawlinsons Construction Cost Guide cost assumption for Victoria, and these costs are validated by industry respondents (R6 and R10). Rawlinsons Guide conducts a survey of construction costs each year. These costs are an accurate reflection of current construction costs. The land cost in our project cost is the land cost in Docklands (a part of Melbourne city; local government area in Victoria), where a large part of new BTR stock is being built (Table 1). It must be highlighted here, as an industry respondent points out, that there is no difference in the cost of land for a BTR and a BTS project. Both these users compete in the same market for the same parcel of land. Table 3 lists the assumptions for our base financial model. These assumptions are validated with industry respondents R6 and R10, who have extensive experience in BTR project due diligence in Australia. Being a long-term income asset, the revenue assumptions do not fluctuate widely. The statutory costs are in percentages, which have not changed. Developer margins (in percentage terms) are industry standard practices.

Table 3. Assumptions for the financial model.

Panel A: Project assumptions:	
Land area (sqm)	4414
Lettable area (sqm)	55,616
FAR	18
Building efficiency	70%
Panel B: Cost assumptions:	
Cost Assumptions	
Land Costs	$13,820 psqm
Construction Costs	$3369 psqm
Statutory Fees	5% of land purchase cost
Professional Fees	8% of total project cost (TPC)
Development Margin	8%
Operating Expenses	25% of gross revenue
Leasing Fee	2 weeks/1 week rent
Stamp Duty	5.50%
Land acquisition cost	0.5% of land cost
Land valuation cost	$20,000
Design contingency cost	15% of TPC
Development management fee	1.5% of TPC
Construction contingency	10% of construction cost
Metropolitan planning levy	0.13% of TPC
Headwork	1% of construction cost
Land tax (state) per year	1.13% of land purchase price
Rates (local govt) per year	1% of land value
Parking norm	0.5 per unit

Sale commission		1% of GRV	
Terminal yield		4.5%	
Project life		21 years	
Construction period		2 years	
Holding period		19 years	
Note: Where applicable, costs are inclusive of GST.			
Panel C: Revenue assumptions (base case):			
	Percent of total area	Size of unit (sqm)	Rent per week ($)
Studio	30%	45	430
1-bed unit	40%	55	480
2-bed unit	25%	70	650
3-bed unit	2%	95	1000
Affordable	0%	55	360
Commercial Space	3.50%	4400	

For the base model, 100% equity financing is assumed. The unlevered project IRR for the base model—lower bound is 8.84%. Respondent R6 mentioned that BTR project IRR would be around 10%. This is achieved through rents 25% higher than the median rent. The base model—upper bound scenario reflects that, and the project IRR is 10.28%. The sensitivity to a rent increase of 25% is an increase in project IRR of 1.44% ceteris paribus.

6.1. Potential Levers to Facilitate BTR Projects and Sensitivities of Project IRR to These Levers

The literature identifies several barriers to the development of BTR sector. These relate to current tax laws, construction cost and the cost of land, the yield requirement of investors and investor's preference for capital gain in residential investments, and the lack of clarity in the planning policies around land use for BTR (see, for example, [39]). The literature argues that tax reforms that align BTR investment with commercial property investment (such as office, retail and industrial), including access to the 15 percent Managed Investment Trust (MIT) withholding tax rate for foreign investors, land tax and stamp duty concessions, and full credits for GST incurred on construction costs, would be necessary to attract investment [39]. The federal government has reduced the MIT from 30% to 15%. In Victoria, the land taxes have been reduced by 50% and the surcharge for an absentee owner has been removed. The financial model in this paper incorporates rea duction in land taxes in the base and subsequent scenarios.

Though the growth in BTR projects in the last decade has been exponential, considering the size of the private rental market, it is very small. Mainstreaming BTR would require that a range of investors and developers participate in the incremental development and operation of this asset class. The risk-adjusted return on investment would need to be attractive. Four types of levers that the industry is prioritizing to make BTR viable for developers and investors, derived from the literature on BTR and affordable housing, are modelled in this research to assess on the sensitivity of project IRR to these levers. These relate to (i) revenue maximization, (ii) cost reduction, and (iii) fiscal and (iv) planning incentives. Before discussing the impact of these incentives on project IRR, an overview and rationale for these incentives is presented here.

6.2. Revenue Maximization Levers

BTRs are income assets, and any strategy to increase income positively contributes to the financial viability of the asset for investors. The main source of revenue is the rental income, which is supplemented by ancillary income arising from parking charges, as well as a service fee for amenities and services. The overall contribution of ancillary income to the revenue of a BTR operator is no more than 15% (respondent R6). Hence, the major impact on revenue arises from opportunities to increase the rental income. This could be

achieved either by maximizing the rent potential of a unit or by increasing the number of units per plot of land, i.e., either by decreasing the size of a unit or by increasing the building efficiency (increasing the leasable area). Reducing the size would require design innovations. Building efficiency would require the common areas (elevator well, stairwell, corridors, and lobby) to be redesigned. Respondent R10 highlighted that the corridors in BTR projects are in fact wider and better than conventional rental buildings. Typically, an apartment building has a building efficiency of about 75%, but the BTR has a building efficiency of about 70% (due to wider corridors and non-leasable amenity space).

Five alternative scenarios are assumed:

Increase in rent revenue through an alternative mix of units

The current mix of units in BTR projects is 70% studios and 1-bed units, 25% 2-bed units, and 5% 3-bed units. One would expect that the demand for the typologies in a particular neighbourhood would depend on the socio-economic profile of residents in that neighbourhood. This provides an opportunity to contextualize the unit mix to neighbourhoods, such that it provides the highest revenue for investors. In our base model—lower bound scenario, we have assumed median rents for private rental units that are currently available for rent in Docklands (the rents on units currently available for rent in private rental housing market (listed on Domain) are marginally higher than the moving annual median rent reported by Homes Victoria [40] for March 2022. For our base model—lower bound scenario, we have used the median rents reported on Domain for units in Docklands) (Table 3) and the mix of units, as currently being developed in BTR projects. This scenario will examine the sensitivity of project IRR to alternative mix of units.

Increase in rent revenue through mixed-use development

The argument for this scenario is that a mix-use development could provide opportunities to diversify the specific risk associated with a single type of use. Each type of use has its own risk, which can be diversified by combining different types of uses in a development. However, it could also be argued that investors diversify at portfolio level rather than a project level. Respondent R10 pointed out that investors in Australia are currently not looking at mixed-use buildings, as different uses have different risks. Investors would not like to mix these risks in one asset. Bigger opportunities for BTR development are available on brownfield sites in inner-city locations. It is possible that mixed use will open opportunities for the development of BTR in combination with other uses on brownfield sites. JLL argues that BTR provides four values – practical, experiential, financial and societal [41] and mix-use could contribute to these values. There is still a competitive edge to be gained by developers who may not have considered mixed-use typology before.

Increased density through increased floor–area ratio.

This scenario assumes that the floor–area ratio (FAR) is increased by 25% over the base case. With more built space, this will increase the number of units that can be built in the project.

Increased density through a reduction in the size of each unit by 10%.

The focus of this scenario is on the functional performance of units rather than the square-metre size. Design efficiency that could reduce any negative space in the unit can have the benefit of increased density at the project level without compromising the performance and appeal of the unit.

Increase in building efficiency from 70% to 80%.

Building efficiency relates to increasing the leasable space by optimally reducing the common areas without compromising functionality. This provides additional space for units that can be added to the project.

6.3. Cost Reduction Levers

A BTR project involves two types of costs: initial development cost (project cost), and operation cost.

The two major components of the initial development cost for a BTR project are the construction cost and the land cost. In addition, parking development and landscaping also add to the development cost. For the reasons mentioned earlier, the base model in this paper uses 100% equity financing; hence, the interest cost is not included. The cost reduction strategies could aim to reduce the development or operational costs, or both. BTR developers have argued that these are superior products compared to conventional apartments, and since developers/investors hold these assets, a reduction in construction cost may not be possible. A strategy to reduce development cost could be to reduce parking development cost. BTR may not require the same norm for parking per unit as conventional multi-family housing. Respondent R1 pointed out that BTR projects in Melbourne are mostly located in inner-city areas that offer superior locational amenities and transit options, reducing dependency on cars. A major cost reduction can come from adopting alternative strategies for reducing land cost. These include:

Land leasing in the private market: Though used for infrastructure such as telecom, windfarms, advertising billboards, optical fibre lines, etc., in Australia, ground leases of private land are not very common for real estate projects in Australia. These, however, could be an important way in which the cost of land could be eliminated from the project cost.

Land leasing of crown and council land: Crown and local councils own a large tract of land which is either vacant or under-utilized [42]. In a recent transaction, public land from Homes Victoria was leased to a consortium to develop social, affordable, accessible, and market-focused rental housing in Melbourne. The land has been leased for 40 years, and after that the land and improvements will be transferred to Homes Victoria. While the Homes Victoria land is being leased to a not-for-profit special-purpose vehicle, with a community housing provider as the lead member of the consortium, the model can be extended to BTR, particularly when BTR projects include social/affordable housing. Private developers/investors appears to show reservation in leasing public land for BTR, but with social and affordable housing as components of BTR, the ground leasing of public land for BTR by private developers can be explored.

Project cost reduction through removal of parking: The base model assumes 0.5 parking per unit, and this is not a dedicated parking for a unit. Residents pay a parking fee, and that contributes to ancillary income. Given the rise of shared economy and the location of BTR projects near transit hubs, a scenario could be examined where there is no parking. Respondent R10 pointed out that there is one BTR project in Australia that had removed parking.

Air rights: These rights are the legal ability to occupy the vertical space above a plot of real estate. The air rights over an under-capitalized land parcel could be used for BTR development. An alternative for air-rights transaction is found in the form of the transferable development rights. These rights can also be applied to another parcel of land within the scope of zoning and building height regulations. Air-rights transactions have occurred in Melbourne. These sales, like land transactions, attract stamp duty. An alternative would be leases on air rights that could reduce the capital cost. Such transactions involving air-rights leases are prevalent in the US. The scenario with air rights in our model involves lease rentals for air rights as an operational expense like land leases. This is not modelled separately, as the outcome would be like the land lease scenario.

Subsidies to reduce land or construction *cost*: No specific approach is proposed here, but approaches like the advanced procurement of material or subsidies from government could result in a reduction in initial development cost.

6.4. Fiscal Levers

The fiscal levers to facilitate BTR, that the industry is seeking, involve access to the 15 percent MIT withholding tax rate for foreign investors, and providing a level playing

field for BTR and BTS developers, particularly in relation to the treatment of GST. There are three types of taxes and duties that are levied on development and operation of real estate. These are classified as federal, state, and local government level taxes, as outlined below. These become the basic scenarios.

Federal taxes*:* Companies are taxed at a rate of 30% on their income. The grey literature indicates that these taxes are punitive, particularly when the market is in a formative stage where the interest from Australian institutional investors is weak. Most investors in BTR projects that are currently underway or planned are international investors who also use managed investment trusts (MITs) as a vehicle for investment in Australian passive income assets. such as equities, property, or fixed interest assets. MITs are subject to a concessional withholding tax rate of a 15% or 10% clean building rate [26]. However, residential housing income other than for affordable housing is subject to a non-concessionary withholding tax rate of 30% [26].

The community housing providers (CHPs) are an important stakeholder for the provision of affordable rental housing. These are tax exempt entities registered under a law of Commonwealth or state or territory, or an Australian government agency, who own and manage affordable a rental housing stock of their own or on behalf of investors. While CHPs are complex entities with regard to tax treatment, testing a scenario where the tax treatment for BTR is like CHPs may be worthwhile. The rationale for this scenario is that there are affordable BTR projects, where the lead partner is a CHP.

Without detailing the legal structures of BTR investors/developers, a scenario to test the impact of concessionary withholding tax on project IRR is constructed as follows: (i) when withholding tax rate is 15% and (ii) when there is no withholding tax.

State tax:` The state tax that the developers face is the GST, which can be complex depending on various factors,. The developers of BTS use a margin scheme to reduce their GST liability, as the GST is payable only on the profit margin. Since BTR does not involve a property sale like the BTS, this becomes difficult. Developers are not able to claim GST on development cost. The other possibility involves the sale of BTR project, which, along with leases to an investor, is a growing concern. A sale of this nature would not attract GST for seller. Without detailing the framework necessary to avoid or reduce GST, we have modelled the impact of lowering GST to nil. CHPs are not liable to pay GST. Levelling it with them will help us understand the impact that 'no GST' would have on project IRR.

Local council taxes: Two taxes are levied on rental properties—land tax and rates. The Victorian Government has included a 50% land tax discount in its 2020/21 budget. Certain BTR developments may also qualify for an absentee owner surcharge exemption, and the additional duty exemption for a foreign purchaser. The scenario that we model involves a reduction in land tax and stamp duty to zero, a level that is available to CHPs for affordable housing. While extreme, this is to test the potential of this lever on project IRR.

6.5. Sensitivity of Project IRR to Planning Levers

The fourth set of levers considered in our analysis are the planning levers. The effect of planning levers on the BTR development is in the form of the competitive advantage that they can provide relative to other land uses. These could be a density bonus or special zoning for BTRs. These could be justified if BTRs include affordable and social housing in the mix. We have modelled a scenario which includes a density bonus.

There is also the possibility of combining these levers. However, we have not created such scenarios. The objective is to identify those levers that have the highest impact on project IRR. All other levers, if available, can provide additional financial benefits to BTR developers/investors.

7. Results

The results are presented as the project IRR under the four thematic levers discussed above.

7.1. Sensitivity to Project IRR with Revenue Maximization Levers

To test the sensitivity to a different mix of units on rental revenues, a hypothetical scenario is constructed, where the development includes only one type of unit. It must be emphasized here that the purpose of this scenario is to identify the contribution that a typology can make to revenue at a particular location. For the typology which contributes the most to revenue, its share in the mix can be increased, while reducing the share of those typologies that have a lesser contribution to the revenue. It is also important to mention that a building with only one typology or a less diversified mix of typologies (as seen in private rental housing) would determine the revenue risk, and BTR developers/investors would not build these buildings.

Project IRR from single-typology buildings is compared with the base scenario—lower bound and base scenario—upper bound, where the mix of unit types is based on the current BTR projects in Victoria. The rents are the same as the current market rent for different typologies of units in Docklands. The results are presented in Figure 6. Project IRR with 3-bed units is the highest, followed by studios. From a marketability point of view, a mix of different units is desired in a BTR project; however, in terms of the share of a type of unit in a lettable area, studios and 3-bed units seem to generate higher revenue, and hence, could claim a larger share. It may also be pointed out that the rent that different types of units can generate is dependent on local market conditions. While for Docklands studios and 3-bed units are favourable, this may be different for other locations.

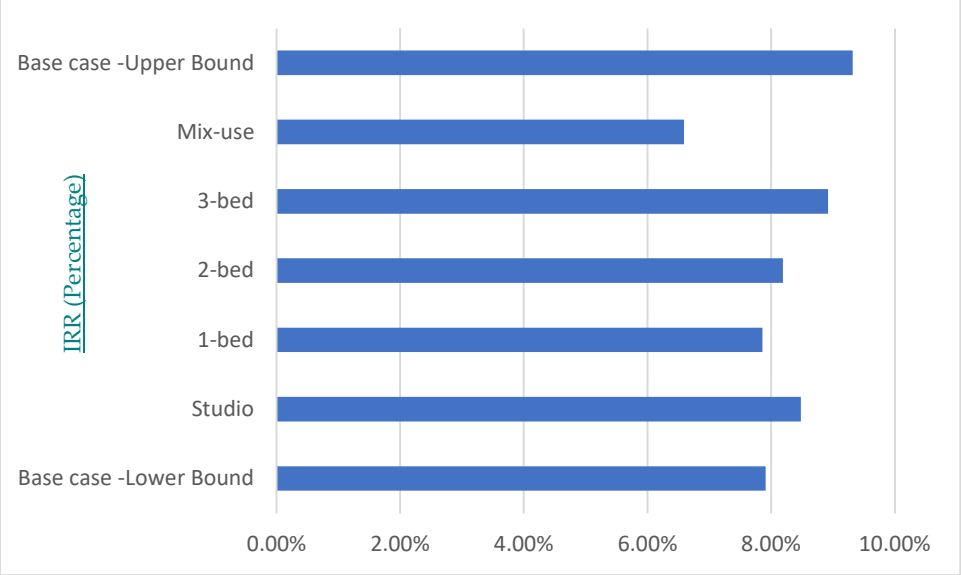

Figure 6. Project IRR sensitivity to unit type. Source: authors.

In inner-city locations, commercial use may positively affect IRR. In the base case, the commercial space is assumed to be 3.5% of the total lettable area based on inputs from industry respondents. The rent assumption is that this space would fetch a net effective rent (net of incentives, which in 2022, are 28–37%) of 38 AUD psqm per month (current market rent for secondary office market in Melbourne CBD [43]). A similar rent has been assumed for retail leases. Given that it is a BTR project with the primary objective of providing rental units, the scenario that we have constructed is based on a mix of 25% commercial and 75% residential. The project IRR for mixed-use development is presented in Figure 6. Increasing the share of commercial reduces the project IRR. This is because of the loss in ancillary income due to a reduced number of residential units. The inclusion of

commercial in the mix would need to be thought through carefully, depending on the market condition and potential for ancillary income.

Another method of maximizing revenue is through development at a higher density. This could be achieved by developing with an increased floor–area ratio (which requires planning approval) or through a reduction in the size of the units. A reduction in the size of the units would allow for more units in the same net lettable area. We have constructed three scenarios: (i) increase in FAR by 25% (the base-case FAR is 18, and hence, an increase of more than 25% may not be seen favourably by planning agencies), (ii) a reduction in the size of each unit by 10% and (iii) an increase in building efficiency from 70% to 80%. As shown in Figure 7, these strategies increase the project IRR in comparison to the base case. The model is quite sensitive to the size of the units. A 10% reduction in the size of the units results in a project IRR of 8.58%.

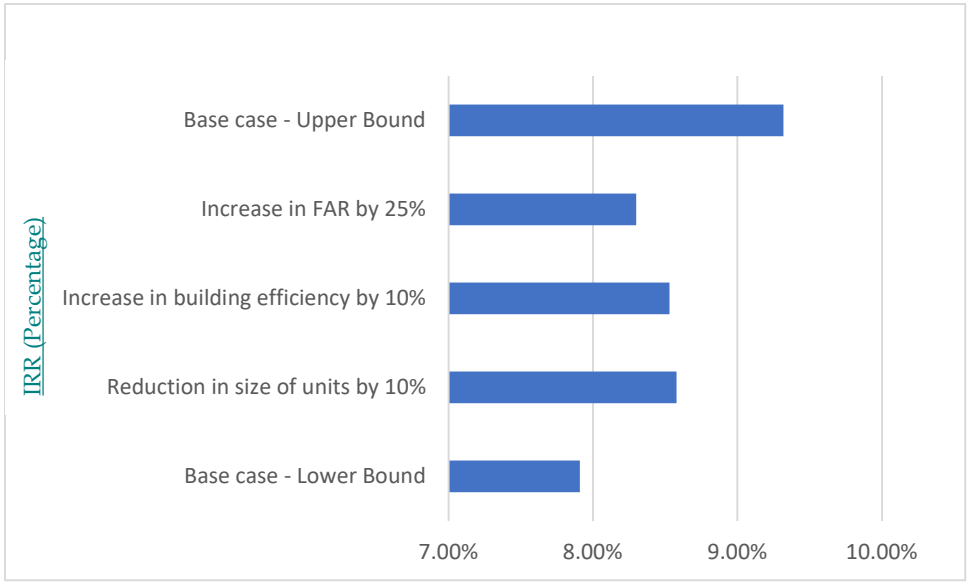

Figure 7. Sensitivity to revenue levers through increased density. Source: authors.

7.2. Sensitivity of Project IRR to Cost Reduction Levers

The initial development cost reduction levers are land (ground)-leasing instead of a land purchase and reduction in parking. The three strategies, the leasing of government land, the leasing of private land, and the leasing of air rights, though legally different, operate in the same way in our financial model. They remove the land cost from the project cost and convert this into an operational expense. The treatment of the reversionary value of an asset after the lease period requires that the value gain in land is taken off from the project cash flows. While this places the dependency of project returns on the income yield rather than on the reversionary yield, given the reduction in project cost, overall, it may still be advantageous for the project IIR. For an inner-city location, land leasing or air rights provide immense opportunities in Victoria.

The other mechanisms for cost reduction are the construction cost reduction strategies. The reduction in construction cost is modelled through two mechanisms. One is to eliminate parking (though only one BTR project in Australia has eliminated parking) and the other through a reduction in construction cost by 20%. This may be difficult to achieve in the current economic conditions. Respondent R5 pointed that the construction costs have increased by 20–30% since 2020, though the competition may lower the cost a bit. An approach for construction cost reduction could be through the advanced procurement of building material.

Land cost reduction and land lease generate almost similar outcomes (Figure 8). Ways to reduce land cost could be through zoning land for BTR use, which will reduce competition from BTS developers, or through mechanisms such as joint ventures with

landowners. Land lease is also an option for improving the financial viability of the project.

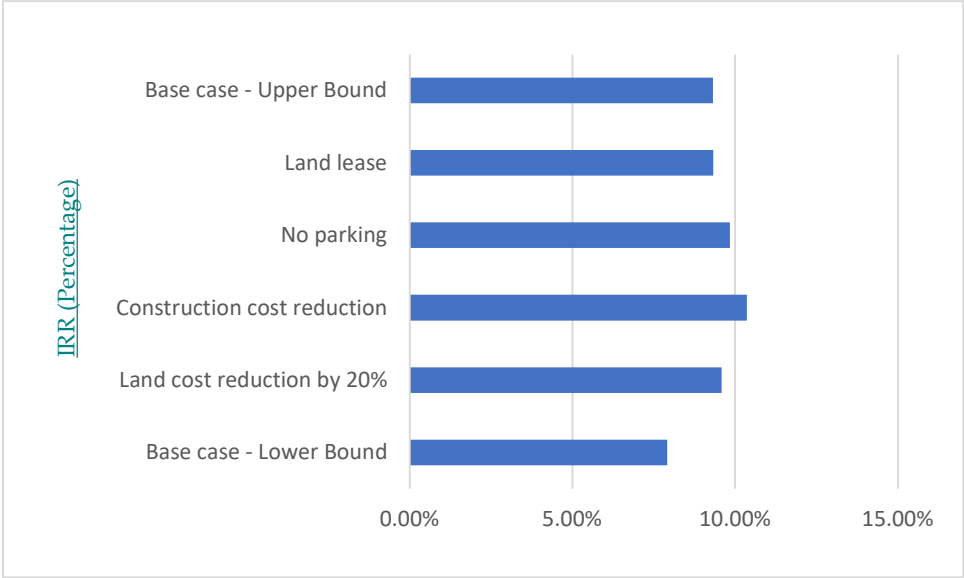

Figure 8. Project IRR with project cost reduction strategies. Source: authors.

7.3. Sensitivity of Project IRR to Fiscal Levers

Five fiscal levers that have been modelled are (i) no GST liability, (ii) a withholding tax of 15%, similar to MITs, (iii) 50% land tax, (iv) no land tax, and (v) a tax treatment like CHPs in a CHP-led BTR project, which essentially means no tax on income and no rates. The reason for including CHPs in this analysis is that historically CHPs have played a role in holding land and providing social and affordable housing. While this form of investment is a different market to the BTR investments, it can fall under the broader umbrella of 'build-to-rent housing' [40]. PwC [40] highlights that the CHPs have access to lower taxes and council rates, density bonuses, and even access to cheaper land through collaborations with the government, significantly lowering the cost of entry to BTR investments. In Australia, many affordable and social housing charities are registered as CHPs. As a result of the lower cost of entry, CHPs are a natural gateway to stimulate the growth of the BTR sector in Australia, and they can play a role in bringing together private investors into BTR.

The project IRR under these scenarios is higher than the base case (Figure 9). Exemptions on income, land tax and rates (similar to CHPs) can result in an IRR of about 9.56%. A full GST claim also results in similar IRR.

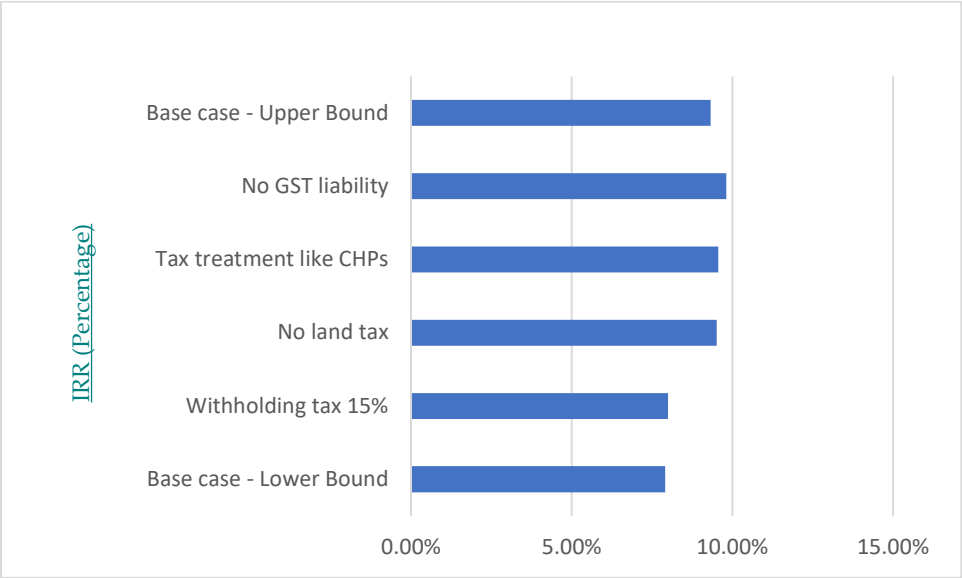

Figure 9. Fiscal levers. Source: authors.

7.4. Sensitivity of Project IRR with Planning Levers

Planning levers such as density bonus (25% more floor–area ratio than the base case) have a positive impact on IRR. When combined with the land-lease option, the IRR is 9.51% (Figure 10).

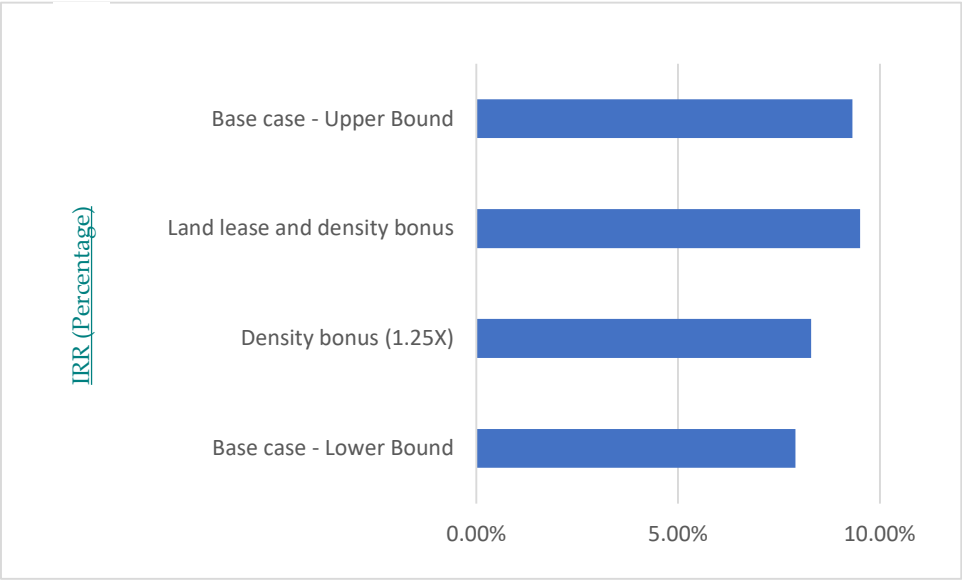

Figure 10. Planning levers. Source: authors.

The above discussion indicates that while the four levers have the potential to increase the project IRR, none of these individually would be able to increase the IRR enough to attract significant interest from developers/investors. Among the various scenarios discussed above, GST exemption, land leasing and land cost reduction seem attractive. While the additional floor–area ratio is at the discretion of planning approving authority, it is still plausible, as some of the proposed BTR projects have been allowed a floor–area ratio of more than 18. Land lease is also attractive, as it allows land cost to be removed from project cost, and the ground-lease rentals are tax-deductible. The disadvantage, however, is that ground-lease rentals have a higher claim on cash flows, and a default on the payment of a lease rental can result in eviction. Fiscal levers in the form of

concession on taxes will increase IRR. A withholding tax rate reduction to similar levels as MITs does not have a large effect on project IRR. Exemptions on GST, land tax and rates have a bigger impact on IRR. Innovations in design that can increase the building efficiency or reduce the size of units with compromising functionality can also be used as levers to increase IRR. Cost-reduction strategies (construction and land cost) also act as levers, but other than land-lease or land-cost-reduction strategies, they are difficult to implement.

8. Affordable Build-to-Rent Housing

Affordable housing is housing that is appropriate for the needs of the range of very low- to moderate-income households, and priced (whether purchased or rented) so that these households can meet their other essential basic living costs. For affordable housing, rent is calculated at up to 30% of the gross household's income plus 100% of the Commonwealth Rental Assistance entitlement, or 75% of market rent. The feasibility of BTR, solely on an affordable housing basis, would provide very low project IRR. This paper considers an affordable BTR project as the one which has 20% of units that meet the affordable rent criteria, i.e., for which rent is 75% of the market rent. The 20% share of affordable units is merely a guide, and the basis for this assumption is that one of the few developers, Assemble, engaged in providing affordable housing in Victoria have a 20% share of units as affordable rental units in their BTR projects. For the analysis in this paper, 55 sqm affordable units are considered. The project IRR for affordable BTR is 7.39%. Assuming that this is an acceptable project IRR for affordable BTR (since affordable BTRs with 20% affordable units are being planned/developed in Melbourne), scenarios are constructed to see what level of affordable BTR units could be incorporated. The objective is to identify the most effective lever for facilitating higher levels of affordable dwelling units in a BTR project.

Three levers are evaluated:

1. Tax treatment like CHPs (no income tax, land tax and rates)
2. Land lease
3. Density bonus (1.5×)

When fiscal levers are used and the tax concessions like CHPs are considered, the maximum share of affordable BTR units that can be provided in the project is 28%. There is a gain of 8% more BTR units relative to the base case. The Land-lease scenario, with 80% units provided as affordable units and 3.5% of the lettable area as commercial, results in a project IRR of 7.39%. With ground leases, it is possible to provide most of the BTR project as affordable. Tax benefits similar to CHPs increase the project IRR only marginally. The third lever is the density bonus—an increase of 25% in floor–area ratio for affordable BTR. The feasibility model reveals that, with a density bonus of this kind, 42% of the units can be affordable BTR of a 55 sqm size. If the land tax exemption is also available, it would increase the share of affordable housing units in the project to 44%. If, in addition to land tax, stamp duty is also exempted, then the share of affordable housing units will be 46%.

The above discussion suggests that the biggest gain in affordable BTR is achieved with land leasing or land-cost reduction models, followed by the treatment of GST liability similar to BTS developers. The tax benefits do help, but are not that strong as levers. Construction cost reduction is a strong lever, but it is difficult to implement.

9. Robustness Check and Generalizability of Findings

It must be pointed out that the financial viability is specific to a location, as input costs and revenue assumptions may change with location. This may also affect the relative importance of levers in the feasibility of a project. However, from a policy point of view, it would be important to identify levers that affect the financial viability of BTRs the most. A feasibility model for north Melbourne has been developed, several BTR projects are being planned or are under-construction in north Melbourne, an inner-city suburb in Victoria. The cost of land in north Melbourne is far lower than in Docklands. The density of

development is also lesser than Docklands, which means that the balance of project cost will tilt away from unit construction cost to land cost. Due to the paucity of space, the results are not included here. Interested readers can request the results from authors. The results for North Melbourne affirm that land management levers such as land lease will be an important mechanism for making affordable BTR viable here.

It should be highlighted here that the financial viability of BTR assets is also subject to economic conditions, regulatory changes, and changes to consumer preferences. Extreme economic conditions such as economic downturn could result in a drop in rents for new leases. A rise in construction costs will affect the viability of new projects. Regulatory risk is considered as the most constraining for institutional investment. In the current regulatory environment, where the tax rates differ by states in Australia, institutions find it difficult to commit large capital. A uniform and stable regulatory regime would reduce the risk premium, making it more desirable to investors for investment in BTR assets. Consumer preferences have been stable in Australia. Young, single-parent households in Australia prefer to rent. The share of renting has increased over time. This is favourable for the BTR sector.

10. Conclusions and Recommendation

The affordable housing crisis in Victoria (Australia) is acute, with lower two income quintiles, single parents with children, single-tenant households, and those below 25 years of age facing rental stress. The lack of affordable public and private rental housing supply has further aggravated the problem. The poor quality of rental housing stock, the largely disaggregated ownership of stock, poor services to renters and low affordability are major challenges that the private rental housing market faces.

This has opened up an opportunity for the large scale supply of build-to-rent (BTR) dwelling units that are owned by institutional investors. This research examined the financial attractiveness of BTR for institutional investors in Victoria. As highlighted by Swanzy-Impraim, Ge, and Mangioni [20], the BTR project is not attractive under the current tax, planning and regulatory environment; a detailed financial viability model has been developed to examine various levers that can be used to improve the financial viability of BTRs in general, and affordable BTRs in particular.

The paper analyses four types of levers and their impact on financial feasibility for a BTR project. These relate to (i) revenue maximization, (ii) cost reduction, and (iii) fiscal and (iv) planning incentives. A BTR project is assumed in Docklands, Victoria for this purpose, a location where a number of BTR projects are in development or planned. Cost and revenue components are assumed based on current market trends and in consultation with industry experts.

The results indicate that the unit mix in a project affects returns. In the case of Docklands, the project IRR with 3-bed units is the highest, followed by studios. From a marketability point of view, a mix of different units is desired in a BTR project; however, in terms of share of a type of unit in the lettable area, studios and 3-bed units seem to generate higher revenue, and hence, could claim a larger share. The mix of units will be location-specific because market preferences (and the characteristics of renters) for the type of units would determine the rent that can be achieved in the market.

Scenarios that increase the revenue by increasing the density of development, such as an increase in FAR by 25%, a reduction in the size of each unit by 10%, and an increase in building efficiency from 70% to 80%, increase the project IRR in comparison to the base case. However, the model is highly sensitive to the size of the units.

The other mechanism considered to improve project IRR is cost reduction. The reduction in construction cost is modelled through two mechanisms. One is to eliminate parking requirements in the project, and the other through a reduction in construction cost by 20%. Both these improve project IRR significantly, but a reduction in construction costs may be difficult to achieve in the current economic conditions. Another way to reduce cost is by reducing land cost. Land cost reduction and land lease generate almost similar outcomes. Ways to reduce land cost could be through zoning land for BTR use, which will reduce competition from BTS developers, or through mechanisms such as joint ventures with landowners. Land lease is an established mechanism for transferring the use rights of public land and the land owned by not-for-profit entities, but it is not widely prevalent. A case can be made to use land-lease structure in the case of BTRs by involving public and private landowners.

Exemptions on income, land tax and rates (similar to CHPs) can result in higher IRR, but due to complexities in tax structures, involved market participants are less keen on this option. A full GST refund results in a similar IRR as exemptions on income, land tax and rates would offer. This is also demanded by the industry.

The paper also examined the levers that can build affordable housing components in a BTR project. The biggest gain in the number of affordable units in a BTR project is achieved with land-leasing or land-cost-reduction models, followed by the treatment of GST liability similar to BTS developers. Other tax benefits do help, but their impact is very small.

It must be pointed out that the feasibility is specific to a location, as input costs and revenue assumptions change with location. This may also affect the relative importance

of levers in the feasibility of a project. A more generalized model of a BTR project could include non-contiguous land parcels (owned and/or leased) and air rights. The management of units, tenancies, and amenities can be achieved economically with a larger project size. By combining sub-projects on non-contiguous land parcels, similar gains can be achieved. The Australian BTR sector is currently focused on multi-family dwelling units in central city locations. As the market matures, other typologies of BTR rental housing, as in the US, will emerge at different locations.

The specific recommendation that this paper provided is that while fiscal incentives are being sought and considered by the government, it is important to look at planning incentives as well. These could be in the form of zoning, high-density development, and fast-tracking approvals. Markets should explore ways to reduce land cost and the use of air rights, land-lease mechanisms, and public under-used land, as the possibility of long leases could enable markets to achieve better financial returns.

The paper has not explored the impact of some of the assumed scenarios on the regulatory and planning regime, the legal system related to properties in allowing land leases and air-rights transactions, and the tax implications of different types of investors. These are limitations and could pave the way for future work.

Finally, for the development of BTR assets at scale, capital from domestic institutional investors will be necessary. A stable fiscal, financial market and planning regime for BTR asset classes, a stable pipeline of projects, and an appropriate property index that includes residential assets to benchmark returns on investment would be necessary.

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