INSTITUTIONAL INVESTMENT IN SOCIAL HOUSING IN DUBLIN CITY

Potential Solutions to Encourage Institutional Investors to Deliver Social Housing to the Dublin City Market

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Submitted to the National College of Ireland, August 2018

ABSTRACT

The residential real estate investment market in Ireland has gained interest from both institutional investors and Real Estate Investment Trusts (REITs[1]) in recent years and has begun to form part of their real estate asset portfolios. This is evidenced in the increasing percentage of investment spend on residential investment assets in Ireland, approximately 26% in the first half of 2018 up from 13% for the full year in 2012. Residential investment to date has been in private housing, and other than Part V housing, investors have not invested directly in social housing. In Dublin City the supply of new social housing is currently one unit for every 9.88 persons on the social housing wait list which is nearly four times higher than Ireland's average household size of 2.75 persons per household.

The author's aim is to research the relationship between the social housing needs of the current population in Dublin City, the policy framework in place to supply social housing and the potential role of institutional investors and REITs.

The current mechanisms for the delivery of social housing to the Dublin City market were found to be predominantly debt financing of housing associations and local authorities with little scope for institutional investors to invest directly in social housing assets.

The results of development appraisals comparing a private housing scheme with a social housing scheme highlight the need for incentive mechanisms to be introduced to encourage institutional investors to participate in the direct acquisition of social housing schemes. Changes to policy at Government level are required if a mechanism to deliver social housing by institutional investors and REITs is to be introduced with the aim of alleviating the supply demand imbalance currently witnessed in the Dublin City market.

[1] A REIT is a public listed company which has as its main activity the ownership and management of property-related assets. Definition Source: Zurich Life

KEY WORDS

Residential investment, real estate, population demographics, residential rental market, social housing, valuations, development appraisals, Dublin City, institutional investment.

DECLARATION

The work being submitted for examination is wholly the author's and all materials consulted and ideas garnered in the process of researching for this dissertation have been properly and accurately acknowledged.

TABLE OF CONTENTS

ABSTRACT ..... **I**

KEY WORDS ..... **II**

DECLARATION ..... **II**

LIST OF FIGURES ..... **V**

LIST OF ABBREVIATIONS ..... **VI**

1. INTRODUCTION **1**

2. LITERATURE REVIEW **4**

2.1. INTRODUCTION 4

2.2. RESIDENTIAL INVESTMENT ASSETS 4

2.3. HOUSEHOLD SIZE 5

2.4. SOCIAL HOUSING SUPPLY AND DEMAND 6

2.5. WHY INVEST IN SOCIAL HOUSING 7

2.6. ENCOURAGING INVESTMENT IN SOCIAL HOUSING BY INSTITUTIONAL INVESTORS 9

2.7. CONSIDERATIONS FOR INVESTMENT IN SOCIAL HOUSING 10

2.8. CONCLUSION 11

3. RESEARCH QUESTION **13**

4. METHODOLOGY **16**

4.1. RESEARCH DESIGN 16

4.2. DATA SOURCES 17

4.3. METHODOLOGY EMPLOYED 18

4.3.1. INTRODUCTION 18

4.3.2. UNDERSTANDING HOUSING NEEDS 18

4.3.3. POLICY REVIEW 19

4.3.4. RESIDUAL DEVELOPMENT APPRAISAL 19

4.3.5. LIMITATIONS OF RESEARCH 22

4.4. ETHICAL CONSIDERATIONS 22

5. FINDINGS & ANALYSIS 23

5.1. MARKET INTRODUCTION 23

5.1.1. HOUSEHOLD SIZE 23

5.1.2. RESIDENTIAL RENTAL MARKET 26

5.1.3. SOCIAL HOUSING DEMAND AND SUPPLY 27

5.1.4. RESIDENTIAL PLANNING REQUIREMENTS 30

5.1.5. CURRENT PROGRAMMES FOR INVESTING IN SOCIAL HOUSING IN IRELAND 31

5.2. VALUE IMPLICATIONS FOR SOCIAL HOUSING SCHEMES IN DUBLIN 33

5.3. IMPACT OF POLICY AND TAX CHANGES 36

6. DISCUSSION 40

7. CONCLUSION 47

REFERENCES 51

APPENDIX 1 | RESIDUAL DEVELOPMENT APPRAISALS 54

APPENDIX 2 | SUBMISSION FORM FOR THESES FOR NCI 60

APPENDIX 3 | DECLARATION FORM FOR THESES SUBMITTED TO NCI 61

LIST OF FIGURES

Figure 1: Conceptual Framework of the Study 1

Figure 2: The Research 'Onion' 16

Figure 3: Average Number of Persons in Private Households in Ireland, 1991-2016 24

Figure 4: Population of Males and Females By Age in Ireland, 1966 versus 2016 25

Figure 5: Households who Rent By Age in Ireland, 1991-2016..... 27

Figure 6: Dublin City CounciL Housing Waiting List Figures – Bed Size Requirements... 28

Figure 7: Dublin City Council Housing Waiting List Figures: Bed Size Requirement January 2017 VS. January 2018 28

Figure 8: Dublin City Social Housing Delivery 2017-2018 29

Figure 9: Housing Supply and Demand Balance 30

LIST OF ABBREVIATIONS

CSO	Central Statistics Office, Ireland
CSR	Corporate Social Responsibility
DCC	Dublin City Council
DoHPLG	Department of Housing, Planning and Local Government
GFC	Global Financial Crisis
ISIF	Ireland Strategic Investment Fund
LIHTC	Low Income Housing Tax Credit
NAMA	National Asset Management Agency
NOI	Net Operating Income
NRAS	National Rental Affordability Scheme
NTMA	National Treasury Management Agency
REIT	Real Estate Investment Trust
SCSI	Society of Chartered Surveyors Ireland
SDZ	Strategic Development Zone
SRI	Socially Responsible Investment
VAT	Value Added Tax

1. INTRODUCTION

There is a supply and demand imbalance in the provision of social housing in the Dublin City market. There are currently 19,503 persons on the Dublin City Council (DCC) social housing waiting list and the supply of housing is lagging significantly to meet this demand which has created a housing crisis not only in Dublin but at a national level. The Government has been active in preparing reports outlining solutions to deliver housing, both private and social. The initiatives proposed and implemented by Government are focused on public entities providing social housing through local authorities and housing associations (Department of Housing, Planning and Local Government, 2014). This research topic is designed to explore the potential role of institutional investors and REITs in the supply of social housing in Dublin City. Figure 1 below highlights the key areas of study in this proposal.

FIGURE 1: Conceptual Framework of the Study

The author, who is professionally involved in the real estate industry, believes this research topic to be worthwhile given the great need for an increase in social housing to alleviate demand. In a 15 month period, from January 2017 to March 2018 one social housing unit was delivered for every 9.88 persons currently on the DCC wait list and in

the same 15 month period, an additional 584 people were added to the social housing wait list. If the rate of demand and supply were to continue at this pace, it would take approximately 51.2 years to provide housing to those on the DCC wait list alone.

Much of the current policy in Ireland for delivering social housing is via funding of local authorities and housing associations and through planning regulations. The key research within the literature highlights the importance of policy and tax changes, required to incentivise institutional investors to seek opportunities in social housing investment (Haffner et al., 2016). Comparison studies have been undertaken to review various policies implemented in different jurisdictions such as the United States of America and Australia (Blessing, 2011).

Real estate investment is a niche area of investment and within investment funds, typically accounts for a small proportion of an overall portfolio, somewhere between 5% to 10%, with bonds and equity taking the lion's share of the capital allocation. In the context of the Irish commercial real estate investment market, the focus of investors has traditionally been on office, retail and industrial/logistics assets. Since 2012 and the first residential investment asset sales, which originated from the National Asset Management Agency (NAMA), the residential investment market has become a feature of the Irish real estate investment market as an alternative commercial real estate asset. This is evidenced in the increasing percentage of investment spend on residential investment assets in Ireland, approximately 26% in the first half of 2018 up from 13% for the full year in 2012.

Many of the residential investment assets transacted between 2012 and 2017 have been acquired by Irish and international funds and REITs and these assets have predominantly been located in Dublin City and County. The majority of the residential investment assets acquired in this period were existing stock with a number of recent transactions being forward purchase deals. However, the stock acquired to date has been private residential units with a small proportion being social units complying with Part V planning requirements. There has been no direct residential asset acquisition by institutional investors or REITs which is entirely social.

This study has set out to review the policies in place in Ireland which work to supply social housing and in doing so, provide potential policy and tax changes which could be implemented to make social housing investment viable from the initial development stage and become an attractive investment prospect for institutional investors and REITs.

2. LITERATURE REVIEW

2.1. INTRODUCTION

The key readings in the area of commercial real estate have found that market essentials such as key economic factors and valuation inputs, yield, also described as capitalisation rate, net operating income (NOI) and income growth rates are fundamental to the valuation outputs (Clayton et al., 2009). In relation to the specific variables relating to residential investment assets, there are other key considerations including population demographics and rental demand. Within the literature, it is recognised that social and economic factors influence investment and demand for housing (Arestis and González, 2014). The following sections within this literature review will detail the key thoughts on residential investment, both private and social, and the links with population demographics and investors motivation for acquiring such assets.

2.2. RESIDENTIAL INVESTMENT ASSETS

Residential investment assets, owned by institutional investors, such as pension funds, commercial banks and insurance companies and REITs are typically large developments in excess of 100 units and within a single or multiple blocks (Department of Housing, Planning and Local Government, 2016) in contrast to single-family investment which is classically a traditional single or two storey family dwelling typically within a housing estate or small land holding.

Residential investment has historically been found to be more stable from a return perspective (less volatility) than other asset classes within both the real estate sector

and also within the wider investment market including equities (Cotter and Roll, 2015). In part, due to this volatility stability, institutional funds and REITs have diversified their real estate portfolios to include residential investments along with more core and traditional real estate assets such as office, retail and industrial/logistics investments.

In order to ensure a portfolio achieves or betters its return targets, the local economic situation rather than a global view is preferred for analysis (Lekander, 2015). To further strengthen this point, it has been found that when occupiers' needs are made a focus of a real estate management strategy, the returns are greater, linking occupier satisfaction with property performance (Sanderson and Devaney, 2017). So, in order to ensure the best returns from a residential investment asset, the main consumer, the local renter population, i.e. tenants, need to be considered.

2.3. HOUSEHOLD SIZE

Household size has been going through a steady decline over the past half century throughout many developed countries in Europe, North America, Australia and New Zealand. Birth rates in these areas have dropped to some of the lowest in the world (Zeman et al., 2018) which impacts the ultimate household size. A change in household size is in part due to smaller family sizes and a study of five major US cities, New York, Washington D.C., Denver, Austin and Seattle shows that there is a growing trend of single person households. The study found that this was due in part to persons delaying marriage, choosing not to marry and persons separated or widowed (Infranca, 2014). With the change in household size, the need of households also changes. The study carried out by Infranca found a growing requirement for alternative units such as micro

units and accessory dwellings[2] rather than a traditional residential unit to accommodate a larger household.

2.4. SOCIAL HOUSING SUPPLY AND DEMAND

It is well documented in research papers that among European welfare-state economies, government investment in social housing has been in decline since the 1980's and the role of providing social housing has been taken up by non-profit organisations and institutional investors (Scanlon et al., 2015). The onset of the global financial crisis (GFC) has further reduced the role of government spending in the area of social housing (Blessing, 2011) in order to curtail expenditure and implement austerity measures. While this had been the case, the demand for social housing has not declined and it is widely noted that there are housing shortages for social tenants resulting in the lengthening of housing wait lists across many European countries (Scanlon et al., 2015). Scanlon et al. also highlight that social housing is mostly in demand from single parent families and pensioners and in all cases income levels of those in need of social housing are far lower than the average income for their respective jurisdictions.

Within the German residential market, which is considered to be a 'renter nation' it has been found that within lower income households, there is a higher percentage of renters versus owner-occupiers (Lerbs, 2014). This was also found to be the case in the UK (Kemp, 2015). However, as institutional investors and REITs have entered the residential

[2] An accessory dwelling would commonly be known as a 'granny flat' in Ireland.

investment market, there has been a focus on income growth and as a consequence, the renter profile changes to middle and higher income tenants (Fields and Uffer, 2016).

2.5. WHY INVEST IN SOCIAL HOUSING

There are two perspectives for investing in social housing, one from the investor and the other from the housing association. Firstly, from the perspective of the investor, there are a number of reasons to invest in social housing. It is widely regarded as being secure income as it is effectively government backed and therefore in terms of risk, likened in many ways to low risk government bond income. Social housing investment is typically inflation linked income which provides a steady income profile removing large swings in peaks and troughs (Oxley et al., 2015). Social housing investment is typically long dated with investment hold periods of between 10 and 20 years. Given these characteristics and the perceived stability of income, pension funds and annuity funds view social housing investment as liability matching investments (Haffner et al., 2016).

A growing sector of the investment market is Socially Responsible Investment (SRI) and as a subsector of that, real estate ethical funds. SRI developed from the concept of Corporate Social Responsibility (CSR) and has been in existence since the 1960's and 1970's (Junkus and Berry, 2015). SRI has variations of definitions however broadly it involves investing in funds from anti-military to environmentally friendly funds. Real estate ethical funds include investing in real estate which is sustainable and environmentally led but it also includes investing in real estate which has a social impact, such as investing in health and housing (Dean et al., 2017). As with other forms of investment such as equities, institutional investors have a requirement to be conscious

of CSR and SRI policies and are therefore driven by their client base to invest in real estate ethical funds (Oxley et al., 2015).

The driver for investment in social housing is the belief that returns are more stable than traditional investment. However, a study of SRI portfolios versus their conventional counterparts has shown there is no significant difference or evidence that SRI portfolios perform better (Junkus and Berry, 2015).

In contrast to their desire to develop portfolios which include social housing, there are concerns for institutional investors to invest in this asset class. One of the drawbacks for investing in social housing is the lack of understanding of the asset class (Oxley et al., 2015). The primary source of social housing in many countries in Western Europe is directly via the government or a housing association and therefore there is a lack of experience on the part of the institutional investors. Another concern is reputational risk. An institutional investor, who has many stakeholders to report and answer to cannot risk being the centre of controversy relating to the treatment of social housing tenants, for example tenant evictions. Finally, the scale of investment in social housing, either by number of units available to acquire or the investment value being too small, is a limiting factor for institutional investors given a lack of available opportunities (Oxley et al., 2015).

From the perspective of the housing association, they require funds in order to deliver social housing to an area. Since before the GFC, governments across Europe, including Ireland have been reducing their spend on social housing, a trend which was accelerated during the GFC (Norris, 2014). While the funds available for investment in social housing

have been reducing, the need for social housing has been increasing. In order to provide social housing units to an area, housing associations require funding from alternative sources, i.e. not government sources. To fulfil this requirement, they require a funding source which can provide long term debt for construction but also a counterparty who has specialist knowledge of the social housing market and understands the leasing and cash flow structures which can be provided (Oxley et al., 2015).

2.6. ENCOURAGING INVESTMENT IN SOCIAL HOUSING BY INSTITUTIONAL INVESTORS

In order to encourage investment in social housing, previous research suggests there are a number of ways to do this in the form of government policy and the 'invisible hand' of tax credits. The main form of investment in social housing in the UK is government issued bonds which are used to fund social housing developments (Haffner et al., 2016). Within the UK and from a local authority/housing association perspective, the desired form of investment is bond finance, rather than equity, partially driven by a lack of understanding from both the local authorities and investors on how equity investment can be mutually beneficial (Oxley et al., 2015).

There are various forms of policy initiatives led by governments to influence the supply of social housing depending on the government structure, such as federal in the United States of America and Australia or parliamentary such as in many European countries including Ireland and the United Kingdom. In the US, the Low-Income Housing Tax Credit (LIHTC) has been in place since the mid 1980's. Institutional investors enter a syndicate which invests in a number of tax credit transactions, which include the funding of social

housing. Banks, housing agencies and the city or county involved also invest by way of loans. The Australian system, called the National Rent Affordability Scheme (NRAS), is modelled on the US system with the exclusion of the investment syndicate as it is not a widely used mechanism of investment in the Australian market however it includes land donations from the State of local authority (Blessing, 2011).

In 2008, the Italian Government introduced a multi-pronged approach to deliver social housing into a market which was under supplied. The housing plan created a number of initiatives, among others being a greater emphasis on public-private partnerships and the promotion of private developers in the social housing realm (Ingaramo and Sabatino, 2011).

In order to drive change and provide more equity based investment into the sector which has the ability to improve investment flows, changes at a government level are required and likely to be in the form of policy changes and taxation (Haffner et al., 2016).

2.7. CONSIDERATIONS FOR INVESTMENT IN SOCIAL HOUSING

Key considerations for investors when creating strategies for their current holdings or indeed underwriting an acquisition will be the overall economic situation, valuation inputs and an asset level review (Nordby et al., 2015). What is needed is a framework for social housing to be viable from an investment perspective in areas where the demand exists and not have a scenario where development is only viable in low cost areas outside the area of demand (Blessing, 2011).

2.8. CONCLUSION

The literature available on the topic of residential real estate investment is extensive and has been a topic of academics and professionals for a number of years. However, while the research question posed by the author is not widely discussed in journal articles, there is a clear theme in the literature with a link between housing stock, tenant demand and investor returns.

The increase of institutional investment in housing, more typically in private housing is multifaceted. Institutional investors including REITs see housing investment as a diversification of their real estate portfolios which will also provide stable returns over a longer time horizon and likened to low risk Government type bond income with liability matching properties. Investment in social housing in recent times has been via government sources however since the 1980's and 1990's many governments have been reducing spending in areas such as social housing, a trend which was further accelerated by the 2008 GFC. This decrease in government spending has seen the emergence of institutional investment in the social housing realm predominantly via funding of housing associations or similar not-for-profit organisations although this also has its limitations in terms of the scale of investment opportunities for investors.

While funding and delivery of social housing has been decreasing, household size is also decreasing which results in a requirement for more housing per person. Also, in the same period, demand for social housing has been increasing as evidenced in lengthy social housing wait lists throughout many welfare state countries in Europe.

To drive a greater proportion of investment into equity and direct asset investment in social housing, rather than debt funding as it currently stands, governments have been implementing policy and tax changes. Depending on the current government structures already in place this has taken varying forms from tax credit to policy changes. In many instances, these government initiatives are relatively new and look to old models such as the US LIHTC system. Regardless of the method employed, many governments recognise the need to encourage greater institutional investment in social housing.

While the literature reviewed highlights Ireland as being a country which has seen a decrease in Government funding and an increase in the need for social housing provision, there is very little written about the potential policy and tax changes which could be implemented to encourage investors and REITs into the social housing area of investment.

3. RESEARCH QUESTION

The demand for housing in Dublin at present far outweighs the supply of housing which in part is causing the significant rental price increases witnessed in recent years which in turn influences an asset's valuation. (Residential Tenancies Board (RTB), 2017). The Daft.ie Rental Price Report which is researched by Ronan Lyons Assistant Professor, Economics in Trinity College Dublin, is issued quarterly. The most recent report published in Q2 2018 highlights there have been 24 consecutive quarters of rental increases (Ris, 2018). As a consequence of rental price increases, the affordability of rental housing is becoming out of reach for many people and is a key topic of concern for the Government (Department of Housing, Planning and Local Government, 2016). Linked to the affordability of rental income is the large volume of people within DCC's jurisdiction currently on the housing list and recent supply figures from DCC show a trickle of new housing coming to the market.

Since 2012, residential investment has become a feature of the Irish real estate market. The demand for this asset type has grown year on year from the first transactions in this area and where once there were a small number of institutional investors acquiring residential investments, this has grown, and recent sales have seen strong competition for these assets. The most recent feature of the residential investment real estate market in Dublin has seen institutional investors acquire sites to develop residential housing or enter into forward commitment transactions where an investor will forward purchase a scheme by paying a deposit on agreement and the remaining transaction price being paid upon delivery of a completed residential scheme.

The residential investment sales to date have been for housing units which supply the private market rather than social housing. As such, the key question of this study is as follows;

Overall Research Topic

"*To investigate the dynamics of the social housing market in Dublin with particular focus on how social housing is delivered into the market, by way of policy and incentives with a focus on mechanisms to potentially encourage institutional investors to deliver social housing developments to alleviate the excess demand for units*."

Research Objective One

"Analyse social housing demand within Dublin City Council's jurisdiction and the current supply of social housing."

Research Objective Two

"Determine what are the current mechanisms for delivery of social housing units and what is the current role of institutional investors."

Research Objective Three

"Examine the asset value implications for investors in the context of current policy and the tax system in relation to the construction of private housing versus social housing."

Research Objective Four

"Examine if policy and tax credit changes could be introduced to improve the supply of social housing from institutional investment."

Within the literature it is noted that social housing supply has come under pressure in recent years, across most jurisdictions in Europe, including Ireland, due in part to the withdrawal of government funds to provide for new schemes which was also exacerbated by the 2008 GFC. Market transactions between 2012 and the first half of

2018 show there is strong demand for residential investment in Ireland, but this has been focussed almost entirely on private housing. The literature also points to an interest from institutional investors to invest in social housing schemes for reasons such as portfolio diversification, liability matching, to satisfy socially responsible investing and stability of income given it is guaranteed by Government.

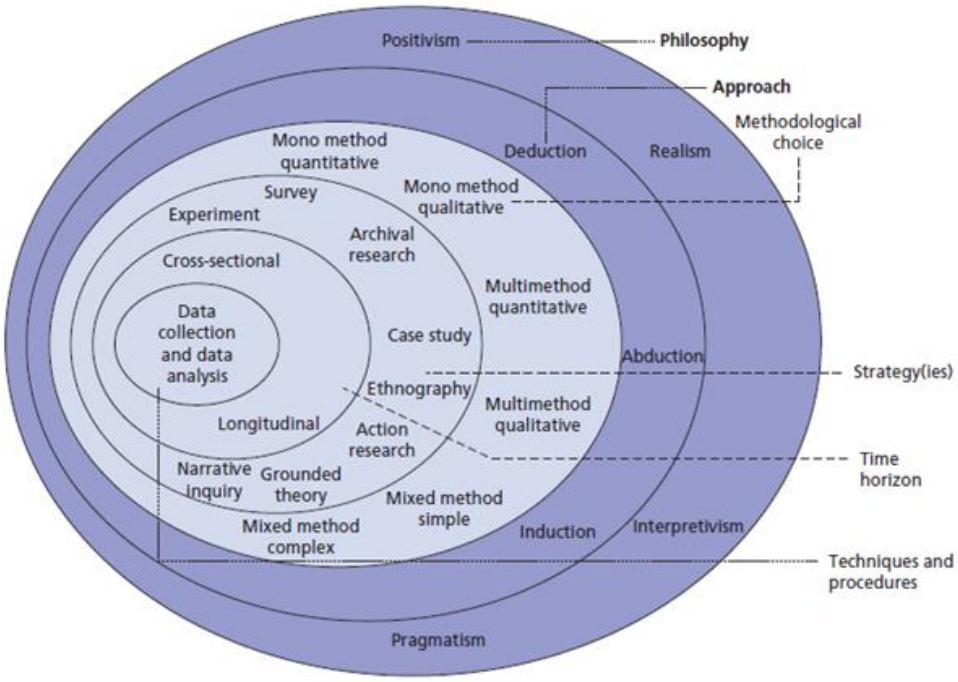
Governments also want to encourage investment in housing generally with social housing falling within this desire also. In Ireland, there is a supply demand imbalance for housing and the Government have introduced various measures to boost supply, some of which have been successful. What has not been seen to date is institutional investors in the Irish real estate market moving away from private residential rented investments and investing in social rented residential investments.

4. METHODOLOGY

4.1. RESEARCH DESIGN

The research design for this paper has been formed on the outline of the research 'onion' as detailed in Figure 2 below.

FIGURE 2: THE RESEARCH 'ONION'



SOURCE: SAUNDERS ET AL., 2012

The philosophical approach to this research is positivistic with the use of data collection and the application of an existing hypothesis, i.e. social housing investment requires policy and tax changes in order to become a viable investment option for institutions and REITs. The approach is deductive whereby the data is used to evaluate the hypothesis and through this approach the theory will either be falsified or verified. The methodological choice is a mono method quantitative study. A case study strategy has

been employed to generate answers to the 'why', 'what' and 'how' questions (Saunders et al., 2012). The time horizon for this research is cross-sectional rather than longitudinal. Data collection and analysis will be discussed in more detail in Section 4.2.

4.2. DATA SOURCES

The data required to undertake the research questions, as laid out in the previous chapter will come from a number of primary sources. The author has collated this information, which is not readily available in one single source, to undertake this study.

Firstly, the population demographic data has been sourced from the Central Statistics Office, Ireland (CSO). The most recent Census occurred in 2016 with data finalised and had been made publicly available throughout the course of 2017.

Data on Dublin City's demand for social housing has been sourced from the Dublin City Council's Housing Allocations Reports which are issued on a quarterly basis. The housing supply data is also sourced from Dublin City Council via its Supply Report, also issued quarterly throughout the year.

Details for the development appraisal have been sourced from various locations. Construction costs have been informed by Linesight's Average Construction Cost Guide for 2018. Other details for the development appraisal have been sourced from the Society of Chartered Surveyors Ireland report entitled, 'The Real Cost of New Apartment Delivery'. The author of this dissertation is also involved professionally in real estate and some inputs provided are based on market knowledge.

4.3. METHODOLOGY EMPLOYED

4.3.1. INTRODUCTION

Within the literature review, many methodologies were employed depending on the question being asked and the data available. Detailed quantitative models such as time series models were employed (Arestis and González, 2014) in cases where data was available for residential investment over a long time period. More subjective quantitative models such as an analytic hierarchy process (AHP) (Cervelló-royo et al., 2016) were used where multiple strands of information were available and forward projections of demographic data was being sought in the results. Finally, multiple papers undertook policy reviews (Infranca, 2014), (Blessing, 2011) and (Berry and Hall, 2005) to understand the implication of policy and tax structures on the delivery of social housing.

Based on the literature reviewed and the data available to the author, the research methodology chosen to progress this research is with a policy review and case study undertaking a residual real estate development appraisal.

4.3.2. UNDERSTANDING HOUSING NEEDS

To address the first research objective, the author has collated details on population growth and household size in Ireland from the CSO along with the social housing demand data and social housing supply data from DCC. The extraction of this data with accompanying commentary will highlight the contrast in supply and demand and provide insight into the need for changes to Government policy to improve the delivery

of social housing units. The data shown will be the basis for why the research topic is worthwhile.

4.3.3. POLICY REVIEW

There are two elements to the policy review to complete the research question and objectives set out by the author. Firstly, to address research objective two, a review of current policy into the mechanisms of encouraging investment in social housing was required. This was focused on Government produced documents, namely the 'Rebuilding Ireland: Action Plan for Housing and Homelessness', the 'Social Housing Strategy 2020' report and the 'Planning and Development Act 2000'.

The second element of the policy analysis will address research objective four and will flow from the results of the residual development appraisal case study, satisfied by research objective three. The results of the residual development appraisals then informed the author's suggested policy changes to make social housing a viable development for institutional investors based on findings within the literature review.

4.3.4. RESIDUAL DEVELOPMENT APPRAISAL

The residual development appraisal analysis has been chosen to address research objectives three and four as set out by the author. The focus will be on the viability and competitiveness of a social housing development appraisal competing in the open market with a private housing development for a single development site to accommodate a residential development. The resulting net site value i.e. residual value determines the amount which an investor can bid for the land in order to be successful

in acquiring the site for development. A residual appraisal model has been developed and the resultant analysis of data has been carried out using Microsoft Excel. The entire workings of the residual development appraisals are detailed in Appendix 1.

Residual Appraisal Overview

A residual real estate development appraisal will determine the viability of a scheme by determining the value (net of VAT) and total cost to develop a scheme, plus profit and development risk, after standard sale costs. Where the capital value of the scheme is greater than the total cost to develop, the scheme is financially viable and the residual sum remaining is determined to be the land cost. Where the resultant value is negative, the cost to develop is greater than the underlying asset value and the scheme is deemed to be financially unviable.

Procedure Adopted

A residual real estate development appraisal involves a number of component parts. Firstly, the unit mix i.e. percentage of one bedroom, two bedroom and three bedroom units, including the net unit sizes in square meters, all of which are based on planning guidelines (Department of Housing, Planning and Local Government, 2018). An assessment of individual values is applied to provide a gross capital value, from which VAT at 13.5% is deducted for the first sale of a residential dwelling providing the net capital value of the scheme. For the social housing units, a discount has been applied to the units, as local authorities and housing associations typically pay below market rates for units, a percentage which is negotiated on a case by case basis.

Total costs are broken down into various components to include, construction costs, enabling costs including development levies, professional fees, other fees i.e. contingency, legal and sale fees and finally finance costs. Construction cost information has been based on the Linesight Average Irish Construction Costs 2018 (Linesight, 2018) which provide a cost range. In the case of 'residential developer standard apartments', the construction cost range is between €1,610 per sq. m (€150 per sq. ft) and €2,380 per sq. m (€221 per sq. ft) in addition to 10% to 20% for mechanical and electrical services (M&E).

Enabling and infrastructure costs is an assumed cost based on the author's experience however development levies have been taken from the Dublin City Council Development Contribution Scheme 2016 – 2020 (Dublin City Council, 2017a). Professional fees and finance costs have been benchmarked from those outline by the Society of Chartered Surveyors Ireland (SCSI) in its report on apartment costs (Society of Chartered Surveyors Ireland, 2017). Contingency costs, legal and sales costs and home bond insurance costs are also assumed within the appraisal, again based on the author's professional experience.

The difference between the net capital value and total construction cost is the balance remaining for site and profit. Profit on cost as a percentage is also based on a range as detailed in the SCSI's report 'The Real Cost of New Apartment Delivery' (Society of Chartered Surveyors Ireland, 2017). Gross site value is the net capital value, less total construction costs and profit on costs. Acquisition costs are deducted at 8.46%, which is Stamp Duty, currently at 6% plus 2.46% for legal and agent fees including VAT, which is a real estate market practice in Ireland. Planning risk is an assumed percentage, and one

which is subjective depending on the site, location, local authority involved and complexity of the potential development. This is deducted from the net site value (with planning) to provide the net site value (without planning). The resultant net site value, the residual, is the level to which an investor can bid on the site based on their appraisal.

4.3.5. LIMITATIONS OF RESEARCH

The author understands there are limitations to this research. While the residual development appraisals have been carried our using the best data available to the author, the schemes proposed are hypothetical. The location of the site is not identified and therefore the costs have not been verified by a quantity surveyor or development project team. Likewise, the gross capital values applied to the residential units is based on the author's knowledge of the real estate market as there is no source of new apartment sale prices published. Also, the discount rate applied to the social housing units versus market value of the private units has been assumed and based on the author's real estate market knowledge. This discount figure is a negotiated rate between a developer/investor and the applicable local authority on a case by case basis.

4.4. ETHICAL CONSIDERATIONS

As this research proposal is a quantitative study with the data being sourced from publicly available sources with no direct linkages to specific people or identifiable groups, the author feels there are no potential ethical concerns within the study.

5. FINDINGS & ANALYSIS

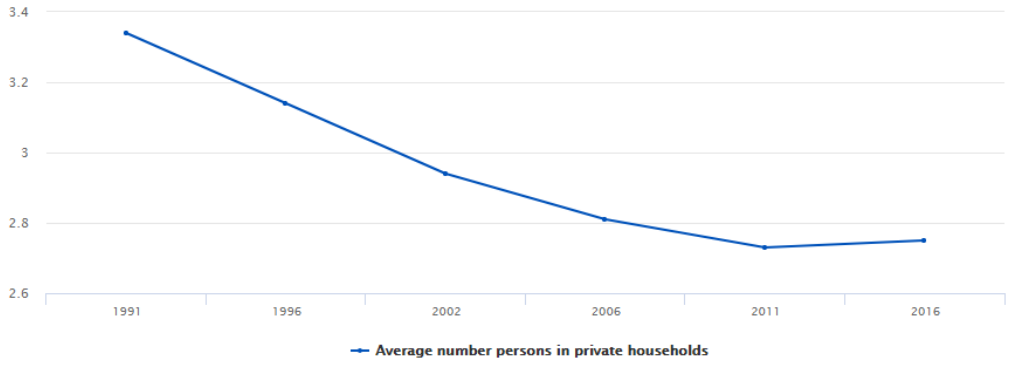
5.1. MARKET INTRODUCTION

The housing market in Ireland has seen a dramatic change in the past 50 years and even in the past eight years since the GFC. There are several dynamics at play which form part of the residential investment rationale of an institutional investor. The following section will discuss these dynamics to include household size, the rise in popularity of renting versus owning and housing demand, specifically in the study area of Dublin City Council's jurisdiction.

5.1.1. HOUSEHOLD SIZE

Household size has been evolving in Ireland over the past 25 years. The current average number of persons in a private household is currently 2.75 compared to 3.34 in 1991. The chart below highlights the declining average household size in Ireland. This trend is not unique to Ireland. Europe has also seen average persons per household reduce from 3 or more persons in the past decades to 1 to 2 persons per household (Cervelló-royo et al., 2016).

FIGURE 3: AVERAGE NUMBER OF PERSONS IN PRIVATE HOUSEHOLDS IN IRELAND, 1991-2016

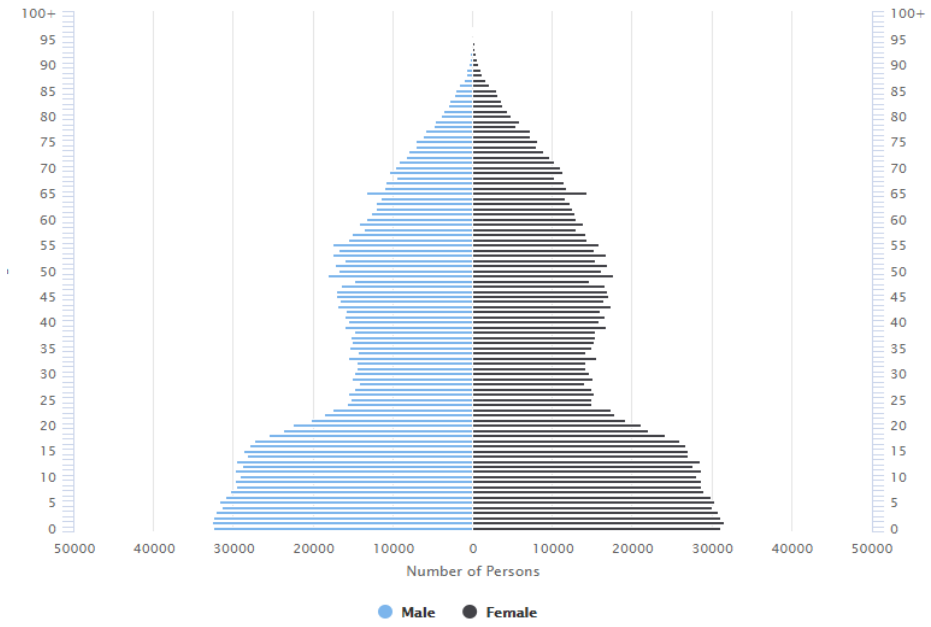


SOURCE: CSO CENSUS OF POPULATION 2016

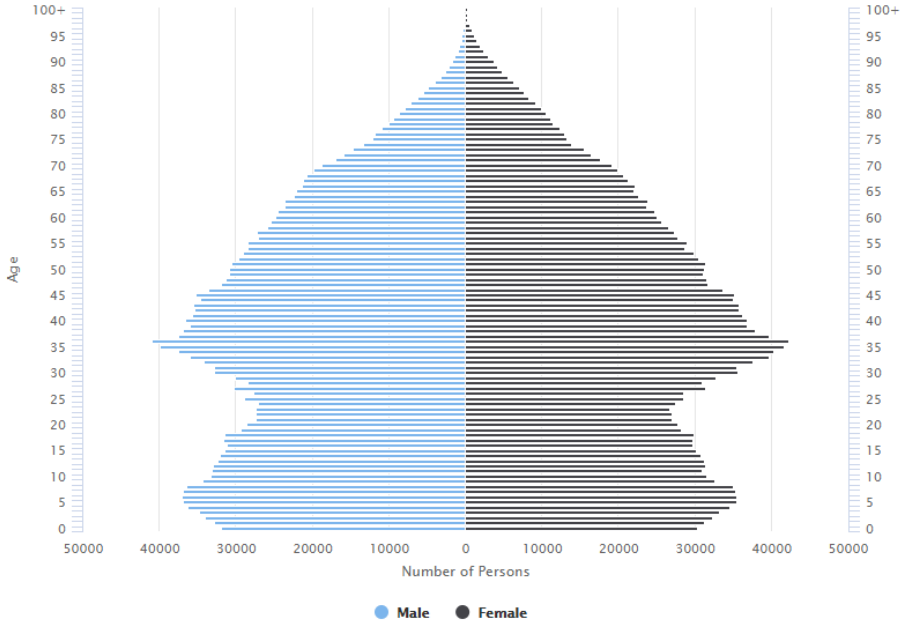
The age profile of Ireland has also changed in the past 50 years with a large proportion of 30 – 45 year olds in 2016, 23.3% of the population, compared to 1966 when the same age group was only 16.1% of the population and the dominant age group was under 20's at 40.2% of the population.

FIGURE 4: POPULATION OF MALES AND FEMALES BY AGE IN IRELAND, 1966 VERSUS 2016

1966



2016



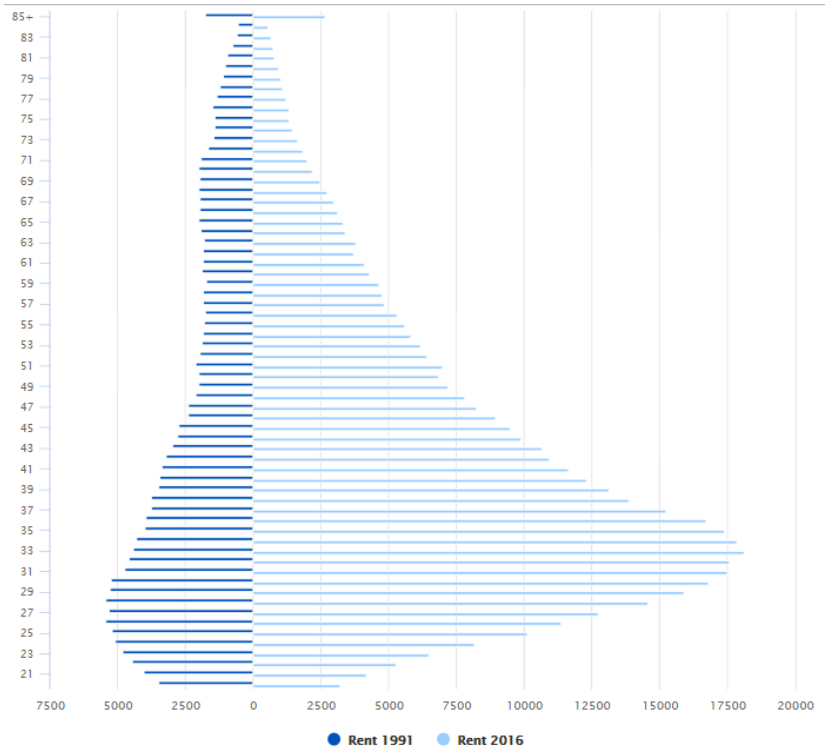
SOURCE: CSO CENSUS OF POPULATION 2016

In the case of Ireland's declining average persons per household, the requirement for alternative dwellings in the Dublin market may be impactful to the investment decisions of investors in residential investment assets.

5.1.2. RESIDENTIAL RENTAL MARKET

The Irish Government, in its 2016 'Rebuilding Ireland' document details several reasons for the increase in renters compared to owner occupiers currently in Ireland. The factors contributing to this include the improvement in the economy, increased population, lending restrictions to first-time buyers, rising population entering the rental market, and the supply of new homes to the market (Department of Housing, Planning and Local Government, 2016). To add to this, decreasing population size, increasing household formation numbers and rising residential property prices are also contributing factors to an increase in the renter population. In Ireland, between 1991 and 2016, there has been a large increase in the number of renters compared to owner occupiers with the largest proportion being in the mid-20's to mid-40's as seen in Figure 4. An owner-occupier to renter ratio of approximately 70:30 exists at present, being approximately 80:20 in 2006 which is a move from a 4:1 owner-occupier to renter ratio to a 2.3:1 ratio. As shown in the literature review, this move to a greater proportion of renters is not unique to Ireland (Lerbs, 2014) and (Kemp, 2015).

FIGURE 5: HOUSEHOLDS WHO RENT BY AGE IN IRELAND, 1991-2016



SOURCE: CSO CENSUS OF POPULATION 2016

5.1.3. SOCIAL HOUSING DEMAND AND SUPPLY

Housing demand in the private market in Ireland is hard to quantify as a database of requirements is not centrally held on a city, county or national level. An area of housing demand where a database does exist is the social housing waiting lists. DCC produce reports on the demand for social housing through its Housing Allocations reports and on supply of social housing via its Housing Supply Report.

The Dublin City Council Housing Allocations Report details the number of people who require housing along with the bedroom requirement, one, two or three bed unit etc.

The January 2018 report from DCC lists 19,390 people on the social housing waiting list excluding the 8,212 people who are on the housing transfer list (Dublin City Council,

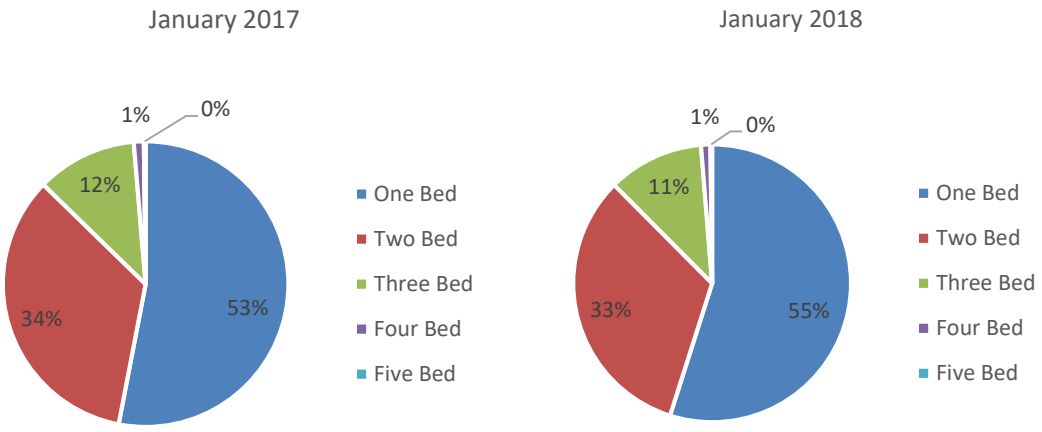
2018a). The 2018 figure is up from 18,946 in January 2017, an addition of 444 persons (Dublin City Council, 2017b). The April 2018 report details 19,503 on the social housing waiting list, a 0.58% increase in a three month period (Dublin City Council, 2018b). The table and chart below detail the requirements from this report.

FIGURE 6: DUBLIN CITY COUNCIL HOUSING WAITING LIST FIGURES – BED SIZE REQUIREMENTS

	January 2017	January 2018	% Change
One Bed	10,048	10,647	5.96%
Two Bed	6,488	6,327	-2.48%
Three Bed	2,157	2,167	0.46%
Four Bed	215	211	-1.86%
Five Bed	38	38	0.00%
Total	**18,946**	**19,390**	**2.34%**

SOURCE: DUBLIN CITY COUNCIL HOUSING ALLOCATIONS REPORT JANUARY 2017 & JANUARY 2018

FIGURE 7: DUBLIN CITY COUNCIL HOUSING WAITING LIST FIGURES: BED SIZE REQUIREMENT JANUARY 2017 VS. JANUARY 2018



SOURCE: DUBLIN CITY COUNCIL HOUSING ALLOCATIONS REPORT JANUARY 2017 & JANUARY 2018

The Dublin City Council (DCC) Housing Supply Report April 2018 outlines there were 1,972 units delivered into the social housing market in 2017 and Q1 2018 (Dublin City

Council, 2018c). Of this number, 55.1% were units classified as 'Voids Restored' which are not new stock being delivered to the market, therefore 886 new units were supplied to the Dublin City social housing market.

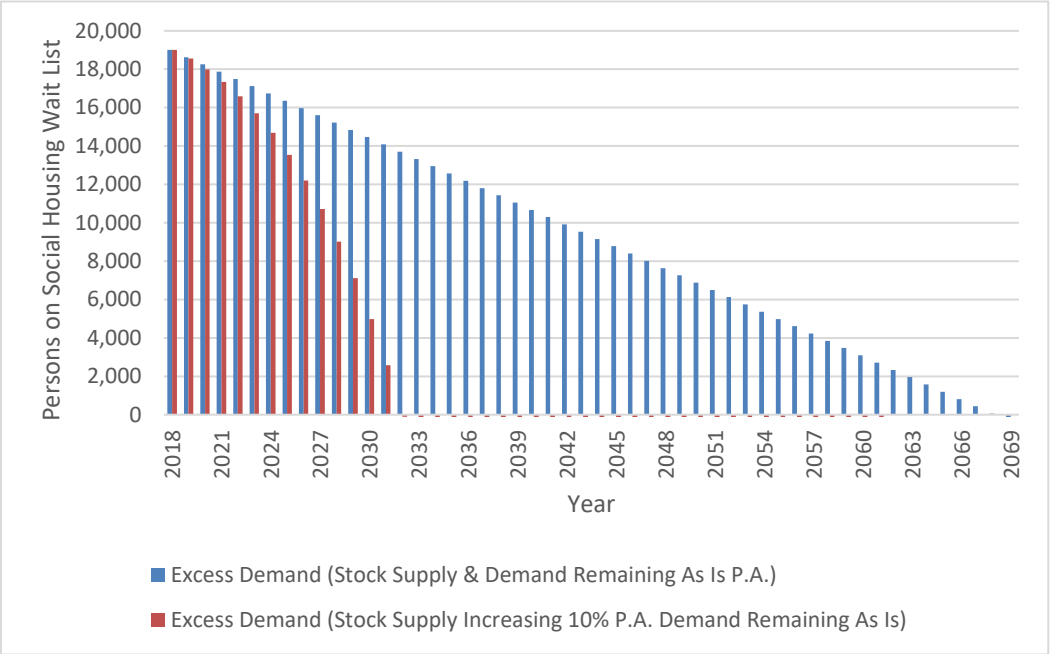
FIGURE 8: DUBLIN CITY SOCIAL HOUSING DELIVERY 2017-2018

Delivered	2017	Q1 2018	Total	%
Units Competed to Date	634	60	694	35.2%
Part V	56		56	2.8%
Buy and Renew	3	3	6	0.3%
Rapid Home Delivery	130		130	6.6%
Voids Restored	876	210	1,086	55.1%
Total	**1,699**	**273**	**1,972**	

SOURCE: DUBLIN CITY COUNCIL HOUSING SUPPLY REPORT APRIL 2018

At the current rate of supply of new units i.e. 823 in 2017 and if demand also remains the same year-on-year, i.e. 444 new persons added to the housing wait list, it would take 51.2 years to bring supply and demand to zero. However, if supply was increased by 10% per annum and new persons added to the list remained stable, supply and demand would be brought to zero in just over 13 years.

FIGURE 9: HOUSING SUPPLY AND DEMAND BALANCE



SOURCE: DCC HOUSING SUPPLY REPORT APRIL 2018, DCC HOUSING ALLOCATIONS REPORT JANUARY 2018

5.1.4. RESIDENTIAL PLANNING REQUIREMENTS

Within the Dublin City Development Plan 2016–2022, the housing strategy for the unit mix, based on estimates of population growth and projected demand is detailed in the table below.

Estimate of distribution of dwelling size per bedroom, 2016–2022[3]					
Number of bedrooms per dwelling unit	One Bed	Two Bed	Three Bed	Four Bed	Five Bed
Estimate of distribution of dwelling size per bedroom	20%	40%	30%	10%	5%

SOURCE: DUBLIN CITY DEVELOPMENT PLAN 2016–2022 HOUSING STRATEGY

[3] Table adds to 105% as detailed in the Dublin City Development Plan 2016-2022 Housing Strategy. No explanation is given for this figure.

DCC's Development Plan 2016–2022 states that the following maximum and minimum requirements apply to schemes of 15 units or more:

- maximum of 25-30% one-bedroom units
- minimum of 15% three or more-bedroom units

Where a build to let scheme is being proposed, which is defined as a scheme with single ownership and must be held in this manner for a term of not less than 20 years and consists of 50 or more units, up to 42-50% of the total units may be in the form of one bed or studio units.

The planning requirements for social housing developments may differ from the above based on the needs within the local authority rather than the set criteria for a standard development or build to let scheme however this is dealt with on a case by case basis by the local authority.

5.1.5. CURRENT PROGRAMMES FOR INVESTING IN SOCIAL HOUSING IN IRELAND

In Ireland, there are various methods employed to provide social housing as follows:

Part V of the Planning and Development Act 2000

Part V of the Planning and Development Act 2000 is a mechanism to provide new build social housing units to a market. Where an application is made to develop a scheme of 10 or more residential units on a plot of land greater than 0.1 hectare, the development must adhere to Part V regulations. These regulations state that 10% of the residential units must be made available for social housing either by way of transfer or long terms

lease to the local authority or housing association. Depending on the location of the site and requirements of the local authority, the developer either provides the residential units on site or on an entirely different site (Department of Housing, Planning and Local Government, 2015).

Leasing

Leasing to a local authority or housing association is another means of providing social housing units. In this case, not dissimilar to leasing as a means of satisfying Part V obligations, a property owner may decide to lease their property/properties to a local authority or housing association. The leasing arrangements are either a ten years or greater, long term arrangement where the local authority or housing association has responsibility for maintaining the property. The owner will receive a guaranteed income, typically 80% of the market rent regardless of vacancy periods. The owner will maintain responsibility for structural insurance, structural maintenance and structural repair (The Housing Agency, 2018).

The other leasing option is a short term one to ten year leasing arrangement where the property owner maintains control of the dwelling and by taking ownership of the maintenance receives approximately 92% of the market rent. In this instance also, the local authority or housing association guarantee the income for the property including vacant periods (The Housing Agency, 2018).

Ireland Strategic Investment Fund

The Ireland Strategic Investment Fund (ISIF) falls under the umbrella of the National Treasury Management Agency (NTMA). The remit of ISIF is to invest in projects which

have an economic benefit to the Irish economy. Two major housing projects which ISIF have invested in, are the Activate Fund and the Cherrywood Strategic Development Zone (SDZ[4]). The Activate Fund provides finance to developers for the construction of residential units while the funding for the Cherrywood SDZ received from ISIF was for the infrastructure in order to allow the development of the new town.

While both projects, the Activate Fund and Cherrywood SDZ, facilitate the creation of new residential units, the investment in these funds and the housing that will result from this investment will be for private use with only 10% of the units being made available for social housing units as per the Part V regulations for housing developments.

5.2. VALUE IMPLICATIONS FOR SOCIAL HOUSING SCHEMES IN DUBLIN

The author has undertaken a residual development appraisal comparing a private housing scheme versus a social housing scheme. The principle being that where a residential zoned site located in Dublin City was brought to the open market, two institutional investors would need to prepare their respective residual development appraisals to determine the value they would be willing to bid in order to secure the purchase of the site.

The two residual development appraisals have been prepared for a hypothetical 100 unit residential development to be completed on a cleared site in Dublin City Centre. The scheme has been valued based on a residential development which will be used for

[4] A 'strategic development zone' is defined as a site or sites for which a planning scheme has been made and is in force. An SDZ has special rules concerning planning applications and appeals. Definition Source: Department of Housing, Planning and Local Government

the build to rent market. The appraisal has been prepared based on a private residential scheme with 10% social housing to satisfy the Part V requirements and on the basis of an entire social housing scheme. Detailed workings are shown in Appendix 1. The inputs for the residual appraisal model are as follows:

Scheme Breakdown – Unit Mix

	Private Scheme	Social Scheme	Capital Value Per Sq. Ft.	Capital Value Per Unit
Unit Type	**No. Units**			
1 Bedroom Apartment	47	-	€650	€315,000
2 Bedroom Apartment	29	-	€625	€491,000
3 Bedroom Apartment	14	-	€600	€581,000
1 Bedroom Apartment (Part V)	3	50	€520	€252,000
2 Bedroom Apartment (Part V)	6	35	€500	€392,800
3 Bedroom Apartment (Part V)	1	15	€480	€464,800
	100	100		

Each scheme has 50% one bedroom apartments, 35% two bedroom apartments and 15% three bedroom apartments. The capital value per sq. ft reduces from €650 per sq. ft. for a one bedroom apartment to €625 per sq. ft for a two bedroom apartment and €600 per sq. ft for a three bedroom apartment. This is to allow for quantum of size i.e. smaller apartments have a larger capital value per sq. ft than larger apartments. The social apartments are discounted from market values at a rate of 20% in this development appraisal. In each scenario, one car parking space per apartment has been applied, equating to 100 car parking spaces.

Scheme Total Development Costs

Costs	Private Scheme	Social Scheme
Base Construction Costs (Incl. Prelims)	€17,476,019	€17,476,019
Enabling Costs (1)	€1,211,561	€1,211,561
Professional Fees (2)	€1,441,772	€1,441,772
Other Fees (3)	€1,564,153	€1,415,441
Finance Costs incl. Fees (4)	€1,971,948	€1,155,000
Total Costs	**€23,665,452**	**€22,699,792**

Construction costs have been applied at €190 per sq. ft for the residential units plus 15% of the net sq. ft area to include common areas such as corridors, lift shafts, stairwells and reception area. A construction rate of €30,000 per car parking space has been included in the overall base construction costs which total €17,476,019 or €174,760 per residential unit. The author believes these costs to be well founded as they are based on the Linesight average construction costs (Linesight, 2018).

Enabling costs and professional fees are calculated from the base construction cost while other fees are based on a mix of base construction costs and gross capital value (before VAT at 13.5%). Finance costs are based on a mix of the net site value which will be the result of the residual appraisal and differ depending on appraisal inputs, base construction cost and professional fees. As the gross development value between the two schemes, private and social, differ due to the market value discount of 20% applied to the social units, the total costs for the two schemes also differ, with the social scheme being €965,660 less expensive when compared to the private scheme, as seen in the table above.

Summary of Residual Development Appraisals

	Private Scheme	Social Scheme	Social as % of Private
NET SITE VALUE (w/o Planning)	**€7,802,360**	**€3,263,650**	**42%**
Site Price Per Unit	€78,024	€32,637	

On a like-for-like basis, the residual site value for the 100 unit residential scheme is greatest for the private scheme due exclusively to the discount of 20% applied to the social units.

Where a development site becomes available for purchase in the open market, the preference will be for a private scheme as the net capital value of the units and the net site value are higher than that of a social scheme, which appears to be uncompetitive.

5.3. IMPACT OF POLICY AND TAX CHANGES

Taking the same private residential scheme and social residential scheme from above, the author has made alterations to the social housing scheme inputs in order to assess the viability of the social housing scheme if policy or tax changes, or both, are applied and determine if these changes improve the competitiveness of the investor wishing to develop a social housing scheme versus a private residential scheme.

Policy Change: Removal of Local Authority Development Contributions

Within the residual development appraisal, the social housing model has been altered to remove the local authority development contributions and planning levies.

	Private Scheme	Social Scheme	Social as % of Private
NET SITE VALUE (w/o Planning)	**€7,802,360**	**€3,909,810**	**50%**
Site Price Per Unit	€78,024	€39,098	

This policy change has a small impact on the net site value of the social housing scheme increasing it by €646,160 or 17% of the original net site value. By contrast, this change has seen the social scheme value increase from 42% of the private scheme net site value in the social housing base case, to 50% of the net site value of the private scheme in this scenario.

Policy Change: Housing Density

An alternative policy change proposed is to allow for a higher density of units for a social housing scheme compared to a private housing scheme. This model used in Seattle, called incentivised zoning allows for greater density in designated areas (Seattle Office of Housing, 2018).

	Social Scheme	
Unit Type	**100 Unit Scheme**	**150 Unit Scheme**
1 Bedroom Apartment (Part V)	50	75
2 Bedroom Apartment (Part V)	35	53
3 Bedroom Apartment (Part V)	15	23
	100	150

Within the social housing model, the density of the social housing scheme has been amended to 1.5 times that of the private scheme amending the number of units to 150.

	Private Scheme	Social Scheme	Social as % of Private
NET SITE VALUE (w/o Planning)	**€7,802,360**	**€5,041,004**	**65%**
Site Price Per Unit	€78,024	€33,607	

The density policy change has a greater impact on the net site value of the social housing scheme increasing it by €1,777,354 or 54.5% of the original net site value. However, the social housing net site value is now 65% of the private housing net site value.

Tax Change

Value Added Tax (VAT) at a rate of 13.5% is applicable on the gross capital value of new residential schemes, paid by the developer on first sale of the unit. Within the social housing residual development model, the VAT at 13.5% has been removed from the 100 units.

	Private Scheme	Social Scheme	Social as % of Private
NET SITE VALUE (w/o Planning)	**€7,802,360**	**€6,080,990**	**78%**
Site Price Per Unit	€78,024	€60,810	

Applying a VAT exemption to the gross capital value of the social housing scheme, the net site value increases by €2,817,340 or 86.3% from the original net site value. The VAT exemption has the greatest single impact to the social housing net site value however there remains a difference of €1,721,370 between the private residential net site value and social residential net site value meaning an investor competing for the site on the basis of a social scheme versus private scheme is still uncompetitive.

Multiple Changes for Viability

The author undertook multiple iterations to find a viable combination of policy changes to balance the residual net site value of the private housing scheme and social housing scheme, one such is as follows:

In the scenario below, the Value Added Tax (VAT) on gross capital value has been reduced to 3.44% and the density of the scheme has been increased to 1.45 times the base scheme of 100 units to 145 units comprising 72 one bedroom units, 51 two bedroom units and 22 three bedroom units.

	Private Scheme	Social Scheme	Social as % of Private
NET SITE VALUE (w/o Planning)	**€7,802,360**	**€7,802,360**	**100%**
Site Price Per Unit	€78,024	€53,809	

When these two amendments to the residual development appraisal are made, the social housing scheme and the private scheme can compete on par for the same hypothetical site.

6. DISCUSSION

To ensure there is a comprehensive discussion on the analysis and findings, the author has again outlined the four research objectives and under each has provided further discussion.

Research Objective One

"*Analyse social housing demand within Dublin City Council's jurisdiction and the current supply of social housing."*

It is recognised that housing supply is a national problem (Department of Housing, Planning and Local Government, 2016), the author has chosen to focus on Dublin as this is the location in which most institutional investors and REITs have acquired residential real estate investments. As detailed in the first objective of this research paper, the author set out to analyse the current supply and demand for social housing units within the Dublin City Council jurisdiction. As shown in Figure 6 above, the number of persons on the social housing wait list in Dublin City has increased in a 12 month period by 444 persons or 2.34%. In the period between January 2018 and April 2018, this figure has increased by another 113 persons with the April 2018 figure standing at 19,503 persons. These figures are excluding those on the transfer list. This trend is in line with that also seen in other European welfare states (Scanlon et al., 2015).

The Dublin City Supply Report for April 2018 shows there have been 1,972 units delivered to the market for 2017 and the first quarter of 2018. Of the units supplied to the market in the 2017/2018 period, 55% were 'voids restored' and therefore formed

part of the social housing provision already within Dublin City Council's ownership. The number of new units supplied into the market is 886.

The current national average household size is 2.75. The housing supply figures compared to demand show there is one dwelling supplied to the Dublin City market for every 9.88 persons on the social housing list. To bring the supply in line with average household size, DCC need to be supplying approximately 7,092 social housing units to cater for current demand.

The latest delivery of units in Dublin City of 1,972 for 2017 and Q1 2018 compared to the number of persons currently on the social housing wait list, clearly demonstrates there is a disparity between the supply of social housing units and demand.

Research Objective Two

"Determine what are the current mechanisms for delivery of social housing units and what is the current role of institutional investors."

The current mechanisms for the delivery of social housing units in Ireland is primarily through Government policy and initiatives. The Social Housing Strategy 2020 prepared by Government outlines the emphasis on funding housing associations to enhance supply of units and leasing schemes such as the Housing Assistance Payment (HAP) Scheme (Department of Housing, Planning and Local Government, 2014). This is echoed in the 'Rebuilding Ireland' report (Department of Housing, Planning and Local Government, 2016).

Supply of social housing schemes through private rather than public means is limited. One such mechanism however is via Part V of the Planning and Development Act 2000.

New private housing developments which fall under the Part V regulations will include a portion of units to be supplied to the social housing market. However, as detailed in the Dublin City Housing Supply Report, in the 15 month period from January 2017, only 2.8% of the new units delivered to the market were by way of Part V regulations.

As shown in Figure 7 above, the demand for one and two bedroom social housing units is greatest, at 55% and 33% of demand respectively. The Government has recently reacted to the disparity between the demand for housing and supply by changing the permissible unit mix to allow 50% one bedroom or studio type units in the Design Standards for New Apartments issued in March 2018 (Department of Housing, Planning and Local Government, 2018).

Similar to other jurisdictions such as the UK, Irish policy for the delivery of social housing seems to be driven by a Government desire to fund housing associations (Haffner et al., 2016). There are limited incentives for institutional investors or REITs to participate in the market other than providing debt.

Research Objective Three

"Examine the asset value implications for investors in the context of current policy and the tax system in relation to the construction of private housing versus social housing".

The third objective of this research paper was to examine the asset value implications for investors in the context of current policy and the tax system in relation to the construction of private housing versus social housing in Dublin City. A residential development appraisal was prepared for a private housing scheme and social housing scheme of 100 units.

The analysis was prepared on the basis of two sets of institutional investors competing in the open market for a site to develop a housing scheme. In each instance, the investor would need to prepare a development appraisal for the site to determine the site value and ultimately, the level to which they can bid in order to purchase the site and develop a housing scheme which is financially viable.

On a like for like basis, the private housing scheme has the greatest net site value and if the two investors were to compete in the open market for the same site, the preferred bidder would be the institutional investor seeking to deliver a private housing scheme. This is in part based on the underlying net value of the housing units with the social housing units having a value 20% lower than the private housing units.

Research Objective Four

"Examine if policy and tax credit changes could be introduced to improve the supply of social housing from institutional investment".

The fourth objective of this research paper was to examine if policy and tax credit changes could be introduced to improve the supply of social housing from institutional investment. In order to give the social housing scheme the same competitiveness in the market place, multiple modifications to the development appraisal were required in the form of planning levies being removed, scheme density varied and VAT on social units reduced.

In each case examined, whether the same criteria applied or if a policy or tax amendment was made to the social housing scheme, the net site value of the social housing scheme never met or exceeded the net site value of the private housing scheme.

In a situation where an institutional investor is competing for a site to deliver housing, the private housing scheme will provide the greatest value and in a bidding situation, will be the preferred bidder to purchase the site.

	Private Scheme	Social Scheme Base Case	Social Scheme Levies Amendment	Social Scheme Density Amendment	Social Scheme VAT Amendment	Social Scheme Multiple Amendments
NET SITE VALUE (w/o Planning)	**€7,802,360**	**€3,263,650**	**€3,909,810**	**€5,041,004**	**€6,080,990**	**€7,802,360**
Price Per Unit	€78,024	€32,637	€39,098	€33,607	€60,810	€53,809

In order to make the social housing scheme competitive, a suite of policy and tax changes requiring government intervention are needed and as demonstrated above one approach includes increasing density for social housing units and reducing the VAT considerably.

The suggestion of increasing density for social housing scheme as put forward by the author has the potential to be politically divisive. The reason being it has become engrained in Irish planning policy to ensure there is a mix of units within an area to include private, affordable and social. This stems from planning practice in the 1960s which saw the creation of Ballymun in North Dublin. This area was heavily developed as a social housing location for Dublin City and the results brought with it a raft of anti-social issues (Somerville-Woodward and Ballymun Regeneration Ltd, 2002).

Secondly, for Government to incentivise social housing development, there is a trade-off between revenue generated via VAT on new housing and the potential supply of new stock that an investor can deliver to the market. A cost-benefit analysis would be required comparing the cost for Government to deliver social housing themselves or

provide a tax incentive for investors to provide the social housing units. For example, the VAT generated in the private housing scheme example is €4,847,582 versus €1,607,994 from the social scheme with a VAT reduction to 3.44%, a difference of €3,239,588.

While the author has suggested an amendment to the VAT and density elements to the residual development appraisals above, these changes are an example of one combination of amendments. Other combinations could be implemented and would be a matter for policy makers.

An alternative is to reduce the gap between the gross capital value of the social scheme versus the private scheme. As mentioned previously, this reduction, 20% in the development appraisals produced, is a discount applied to the gross capital value of unit values in the social housing market versus the private housing market. The premise for this is based on the value which a local authority will pay under a Part V agreement for social units within a scheme. While this is not a fixed 20% discount, this assumption has been applied in the case of the appraisals prepared by the author. In actual cases, the discount is negotiated on a scheme by scheme basis between the developer and the local authority.

An incentive from Government to shore that gap and provide a capital sum to the institutional investor in line with the discount, could bring the net site value of the social housing units in line with the net site value of the private housing units making the investor proposing to develop a social housing scheme competitive with a development proposal for a similar private housing scheme.

Finally, a system not too dissimilar to the US LIHTC or Australian NRAS schemes could be employed whereby a fair deal land trade is negotiated and agreed between the local authority, who are landowners, and the institutional investor seeking to develop social housing (Blessing, 2011). In this scenario the competition with the institutional investor seeking to develop a private housing scheme would be removed as the land would be earmarked for social housing development only.

7. CONCLUSION

The author believes this research paper to be a worthwhile undertaking. Since the emergence of residential real estate investment in Ireland, the sector has started to shift from an alternative real estate asset class to a core real estate asset class. As such, greater research into this area is required. As detailed throughout this proposal, preceding research papers have set out a link between housing stock, changing housing requirements with a shift towards more renters than previously seen and the rise in demand for social housing.

The question posed by the author is *"to investigate the dynamics of the social housing market in Dublin with particular focus on how social housing is delivered into the market, by way of policy and incentives with a focus on mechanisms to potentially encourage institutional investors to deliver social housing developments to alleviate the excess demand for units*".

The Irish population has seen dramatic changes in the past 50 years both in terms of overall population numbers but also in the age profile of the population. Housing is a basic requirement for the entire population and how this requirement is met, either through owner-occupied, private rented or social rented housing, the need for housing stock to meet the requirements of a population is important.

With the housing market becoming financialised, through the emergence of institutional investors and REITs investing in the residential sector in recent years, there is a need to understand the underlying factors which influence the delivery of social housing and

how institutional investors and REITs can potentially be encouraged to enter this area of the market.

Adding the social housing layer to an investment brings a new set of issues for an investor to overcome. To make a scheme viable, with all other population demographics being correct, i.e. sufficient demand for units, the value derived from a social housing scheme will be lower than a comparable scheme available to the private market given the underlying capital values which can be achieved from both.

Apart from making the scheme viable, there are other concerns for investors such as scale of investment in a market i.e. is there sufficient opportunity in a market to make the investment worthwhile and reputational risk such as tenant evictions or anti-social issues arising from a social scheme.

At a time when government spending across Europe has been reducing in the area of social housing, in part due to the GFC and the pressures it placed on government finances, there appears to be little incentive or opportunity for institutional investors to deliver social housing. Investment in social housing to date has been by way of financing developers for private schemes and providing Part V units for social housing or the funding of housing associations. More thought is needed on balancing values to make the initial investment through development viable. This is becoming more apparent in the market as investors are entering forward purchase deals for residential investments rather than investment in standing stock.

The research has shown that some form of intervention is required from the Government in order to balance the competitiveness of social housing schemes in the

market. There is a trade-off between reducing revenue from VAT receipts or providing some form of 'top-up' payment and Government not being required to fully fund development of social housing and have the burden of maintenance of the building once in operation. It is the decision of policy makers to determine what this intervention may be with the suggestion of reducing VAT, and ultimately revenue for Government and the increase of density for social housing being one such combination of policy changes.

The case study in this dissertation is based on a hypothetical scheme and site, in an unidentified location in Dublin. Perhaps further research can be undertaken including a case study of an actual site including verified construction costs, finance costs and gross capital values. Similarly, the author reviewed three variables within the residual development appraisal, namely, VAT, development levies and density. There are multiple variables within a residual development appraisal and perhaps the percentage of profit on cost, finance costs or the discount rate applied to the gross capital value of social units should be reviewed in more depth.

It is apparent the Irish Government have made efforts to encourage delivery of social housing however, the demand, which is growing, far outweighs supply. The author believes this research adds to the discussion on how to potentially encourage the delivery of social housing units to the Dublin City market by introducing incentives to investors and REITs.

Further research on the investment value and potential yield profile for operational social housing investments versus private housing investments is needed. As mentioned, the income generated from social housing is more akin to low risk bond like income due

to its stability and linkages to Government. In an Irish context, there is little evidence of institutional investors or REITs acquiring or seeking to acquire this type of asset.

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APPENDIX 1 | RESIDUAL DEVELOPMENT APPRAISALS

RESIDUAL DEVELOPMENT APPRAISAL - PRIVATE SCHEME										
Units	**Net SQM**	**Net SQ FT**	**PricePSFT**	**No. of Units**	**Price Per Unit**	**Gross Capital Value**	**Net Capital Value**	**Gross SQ FT**	**Costs PSFT**	**Const. Cost**
			80% Of Market Value	**1**	**times increased density**		**VAT @ 13.50%**	**15% Gross Area**		
1 Bedroom Apartment	45	484	€ 650	47	€ 315,000	€ 14,805,000	€ 13,044,053	26,180	€ 190	€ 4,974,294
2 Bedroom Apartment	73	786	€ 625	29	€ 491,000	€ 14,239,000	€ 12,545,374	26,205	€ 190	€ 4,978,998
3 Bedroom Apartment	90	969	€ 600	14	€ 581,000	€ 8,134,000	€ 7,166,520	15,597	€ 190	€ 2,963,409
1 Bedroom Apartment (Part V)	45	484	€ 520	3	€ 252,000	€ 756,000	€ 666,079	1,671	€ 190	€ 317,508
2 Bedroom Apartment (Part V)	73	786	€ 500	6	€ 392,800	€ 2,356,800	€ 2,076,476	5,422	€ 190	€ 1,030,138
3 Bedroom Apartment (Part V)	90	969	€ 480	1	€ 464,800	€ 464,800	€ 409,515	1,114	€ 190	€ 211,672
Basement				100					€ 30,000	€ 3,000,000
Total Nett Development Value		**66,252**		**100**		**€ 40,755,600**	**€ 35,908,018**	**76,190**		**€ 17,476,019**
							€4,847,582			
Costs										
Base Construction Costs (Incl. Prelims)										€ 17,476,019
Enabling Costs (1)										€ 1,211,561
Professional Fees (2)										€ 1,441,772
Other Fees (3)										€ 1,564,153
Finance Costs incl. Fees (4)										€ 1,971,948
Total Costs										**€ 23,665,452**
								% On Cost		
Balance for Site & Profit										€ 12,242,565
PROFIT On costs (excl land)								**12.00%**		€ 2,839,854
GROSS SITE VALUE (w/Planning)										€ 9,402,711
NET SITE VALUE (w/Planning)							**Acquisition Costs**	8.46%		€ 8,669,289
Planning Risk								**10%**		€ 866,929
NET SITE VALUE (w/o Planning)										**€ 7,802,360**
Site Price Per Unit										€ 78,024
Note 1										
Enabling Costs/Demolition									*Assumed*	€ 200,000
Infrastructure costs / Utility (Road, ESB, Bord Gais, Bond)							**Residential per Unit**	**€ 1,000**	*Assumed*	€ 100,000
S48 Levies Planning Levies	*DCC Development Contribution Scheme 2016 - 2020*						**Residential per Sq M**	**€ 86.40**		€ 611,561
S49 Levies (Luas Cross City)	*DCC Development Contribution Scheme 2016 - 2020*						**Residential per Unit**	**€ 2,000**		€ 200,000
Planning Application Costs									*Assumed*	€ 100,000
										€ 1,211,561
Note 2										
Professional Fees										
Architect								assumed	2.00%	€ 349,520
Structural Engineer								assumed	2.00%	€ 349,520
Project Management								assumed	1.00%	€ 349,520
Quantity Surveyor								assumed	0.75%	€ 131,070
Miscellaneous - Fire/Extra Engineering etc								assumed	0.75%	€ 131,070
M & E Consultants								assumed	0.75%	€ 131,070
									7.25%	€ 1,441,772
Note 3										
Contingency									4.00%	€ 699,041
Budgeted Legal Costs									1.00%	€ 407,556
Sale Fees									1.00%	€ 407,556
Insurances / Home Bond							**Residential Per Unit**	**€ 500**	*Assumed*	€ 50,000
										€ 1,564,153
Note 4										
Finance Costs								**Months**	**Interest Rate**	
Site Holding Period								36	6.0%	€ 1,404,414
Construction (for half the building period)								12	6.0%	€ 524,281
Fees (for half the building period)								12	6.0%	€ 43,253
										€ 1,971,948

RESIDUAL DEVELOPMENT APPRAISAL - SOCIAL SCHEME BASE CASE

Units	Net SQM	Net SQ FT	PricePSFT	No. of Units	Price Per Unit	Gross Capital Value	Net Capital Value	Gross SQ FT	Costs PSFT	Const. Cost
			80% Of Market Value	1.00	times increased density		VAT @ 13.500%	15% Gross Area		
1 Bedroom Apartment	45	484	€ 650	0	€ 315,000	€ -	€ -	0	€ 190	€ -
2 Bedroom Apartment	73	786	€ 625	0	€ 491,000	€ -	€ -	0	€ 190	€ -
3 Bedroom Apartment	90	969	€ 600	0	€ 581,000	€ -	€ -	0	€ 190	€ -
1 Bedroom Apartment (Part V)	45	484	€ 520	50	€ 252,000	€ 12,600,000	€ 11,101,322	27,852	€ 190	€ 5,291,802
2 Bedroom Apartment (Part V)	73	786	€ 500	35	€ 392,800	€ 13,748,000	€ 12,112,775	31,627	€ 190	€ 6,009,136
3 Bedroom Apartment (Part V)	90	969	€ 480	15	€ 464,800	€ 6,972,000	€ 6,142,731	16,711	€ 190	€ 3,175,081
Basement				100					€ 30,000	€ 3,000,000
Total Nett Development Value		**66,252**		**100**		**€ 33,320,000**	**€ 29,356,828**	**76,190**		**€ 17,476,019**
Costs										
Base Construction Costs - Incl. Prelims										€ 17,476,019
Enabling Costs (1)										€ 1,211,561
Professional Fees (2)										€ 1,441,772
Other Fees (3)										€ 1,415,441
Finance Costs incl. Fees (4)										€ 1,155,000
Total Costs										**€ 22,699,792**
								% On Cost		
Balance for Site & Profit										€ 6,657,036
PROFIT On costs (Excl Land)								**12.00%**		€ 2,723,975
GROSS SITE VALUE with Planning										€ 3,933,061
NETT SITE VALUE with Planning							**Acquisition Costs**	8.46%		€ 3,626,278
Planning Risk								**10%**		€ 362,628
NETT SITE VALUE (w/o Planning)										**€ 3,263,650**
Site Price Per Unit										€ 32,637
Note 1										
Enabling Costs/Demolition									*Assumed*	€ 200,000
Infrastructure costs / Utility (Road, ESB, Bord Gais, Bond)							**Residential per Unit**	**€ 1,000**	*Assumed*	€ 100,000
S48 Levies Planning Levies	*DCC Development Contribution Scheme 2016 - 2020*						**Residential per Sq M**	**€ 86.40**		€ 611,561
S49 Levies (Luas Cross City)	*DCC Development Contribution Scheme 2016 - 2020*						**Residential per Unit**	**€ 2,000**		€ 200,000
Planning Application Costs									*Assumed*	€ 100,000
										€ 1,211,561
Note 2										
Professional Fees										
Architect								assumed	2.00%	€ 349,520
Structural Engineer								assumed	2.00%	€ 349,520
Project Management								assumed	1.00%	€ 349,520
Quantity Surveyor								assumed	0.75%	€ 131,070
Miscellaneous - Fire/Extra Engineering etc								assumed	0.75%	€ 131,070
M & E Consultants								assumed	0.75%	€ 131,070
									7.25%	€ 1,441,772
Note 3										
Contingency									4.00%	€ 699,041
Budgeted Legal Costs									1.00%	€ 333,200
Sale Fees									1.00%	€ 333,200
Insurances / Home Bond							**Residential per Unit**	**€ 500**	*Assumed*	€ 50,000
										€ 1,415,441
Note 4										
Finance Costs								**Months**	**Interest Rate**	
Site Holding Period								36	6.0%	€ 587,466
Construction (for half the building period)								12	6.0%	€ 524,281
Fees (for half the building period)								12	6.0%	€ 43,253
										€ 1,155,000

RESIDUAL DEVELOPMENT APPRAISAL - SOCIAL SCHEME POLICY CHANGE TO DEVELOPMENT CONTRIBUTIONS

Units	Net SQM	Net SQ FT	PricePSFT	No. of Units	Price Per Unit	Gross Capital Value	Net Capital Value	Gross SQ FT	Costs PSFT	Const. Cost
			80% Of Market Value	1.00	times increased density		VAT @ 13.500%	15% Gross Area		
1 Bedroom Apartment	45	484	€ 650	0	€ 315,000	€ -	€ -	0	€ 190	€ -
2 Bedroom Apartment	73	786	€ 625	0	€ 491,000	€ -	€ -	0	€ 190	€ -
3 Bedroom Apartment	90	969	€ 600	0	€ 581,000	€ -	€ -	0	€ 190	€ -
1 Bedroom Apartment (Part V)	45	484	€ 520	50	€ 252,000	€ 12,600,000	€ 11,101,322	27,852	€ 190	€ 5,291,802
2 Bedroom Apartment (Part V)	73	786	€ 500	35	€ 392,800	€ 13,748,000	€ 12,112,775	31,627	€ 190	€ 6,009,136
3 Bedroom Apartment (Part V)	90	969	€ 480	15	€ 464,800	€ 6,972,000	€ 6,142,731	16,711	€ 190	€ 3,175,081
Basement				100					€ 30,000	€ 3,000,000
Total Nett Development Value		**66,252**		**100**		**€ 33,320,000**	**€ 29,356,828**	**76,190**		**€ 17,476,019**
Costs										
Base Construction Costs - Incl. Prelims										€ 17,476,019
Enabling Costs (1)										€ 400,000
Professional Fees (2)										€ 1,441,772
Other Fees (3)										€ 1,415,441
Finance Costs incl. Fees (4)										€ 1,271,298
Total Costs										**€ 22,004,529**
								% On Cost		
Balance for Site & Profit										€ 7,352,299
PROFIT On costs (Excl Land)								**12.00%**		€ 2,640,544
GROSS SITE VALUE with Planning										€ 4,711,755
NETT SITE VALUE with Planning							**Acquisition Costs**	8.46%		€ 4,344,233
Planning Risk								**10%**		€ 434,423
NETT SITE VALUE (w/o Planning)										**€ 3,909,810**
Site Price Per Unit										€ 39,098
Note 1										
Enabling Costs/Demolition									*Assumed*	€ 200,000
Infrastructure costs / Utility (Road, ESB, Bord Gais, Bond)							**Residential per Unit**	€ 1,000	*Assumed*	€ 100,000
S48 Levies Planning Levies	*DCC Development Contribution Scheme 2016 - 2020*						**Residential per Sq M**	€ -		€ -
S49 Levies (Luas Cross City)	*DCC Development Contribution Scheme 2016 - 2020*						**Residential per Unit**	€ -		€ -
Planning Application Costs									*Assumed*	€ 100,000
										€ 400,000
Note 2										
Professional Fees										
Architect								assumed	2.00%	€ 349,520
Structural Engineer								assumed	2.00%	€ 349,520
Project Management								assumed	1.00%	€ 349,520
Quantity Surveyor								assumed	0.75%	€ 131,070
Miscellaneous - Fire/Extra Engineering etc								assumed	0.75%	€ 131,070
M & E Consultants								assumed	0.75%	€ 131,070
									7.25%	€ 1,441,772
Note 3										
Contingency									4.00%	€ 699,041
Budgeted Legal Costs									1.00%	€ 333,200
Sale Fees									1.00%	€ 333,200
Insurances / Home Bond							**Residential per Unit**	€ 500	*Assumed*	€ 50,000
										€ 1,415,441
Note 4										
Finance Costs								**Months**	**Interest Rate**	
Site Holding Period								36	6.0%	€ 703,764
Construction (for half the building period)								12	6.0%	€ 524,281
Fees (for half the building period)								12	6.0%	€ 43,253
										€ 1,271,298

RESIDUAL DEVELOPMENT APPRAISAL - SOCIAL SCHEME POLICY CHANGE TO DENSITY											
Units	**Net SQM**	**Net SQ FT**	**Price PSFT**	**No. of Units**	**Price Per Unit**	**Gross Capital Value**	**Net Capital Value**	**Gross SQ FT**	**Costs PSFT**	**Const. Cost**
			80% Of Market Value	1.5	times increased density		VAT @ 13.500%	15% Gross Area		
1 Bedroom Apartment	45	484	€ 650	0	€ 315,000	€ -	€ -	0	€ 190	€ -
2 Bedroom Apartment	73	786	€ 625	0	€ 491,000	€ -	€ -	0	€ 190	€ -
3 Bedroom Apartment	90	969	€ 600	0	€ 581,000	€ -	€ -	0	€ 190	€ -
1 Bedroom Apartment (Part V)	45	484	€ 520	74	€ 252,000	€ 18,648,000	€ 16,429,956	41,220	€ 190	€ 7,831,867
2 Bedroom Apartment (Part V)	73	786	€ 500	53	€ 392,800	€ 20,818,400	€ 18,342,203	47,892	€ 190	€ 9,099,548
3 Bedroom Apartment (Part V)	90	969	€ 480	23	€ 464,800	€ 10,690,400	€ 9,418,855	25,623	€ 190	€ 4,868,458
Basement				150					€ 30,000	€ 4,500,000
Total Nett Development Value		**99,771**		**150**		**€ 50,156,800**	**€ 44,191,013**	**114,736**		**€ 26,299,874**
Costs										
Base Construction Costs - Incl. Prelims										€ 26,299,874
Enabling Costs (1)										€ 1,670,968
Professional Fees (2)										€ 2,169,740
Other Fees (3)										€ 2,130,131
Finance Costs incl. Fees (4)										€ 1,761,469
Total Costs										**€ 34,032,181**
								% On Cost		
Balance for Site & Profit										€ 10,158,832
PROFIT On costs (Excl Land)								12.00%		€ 4,083,862
GROSS SITE VALUE with Planning										€ 6,074,970
NETT SITE VALUE with Planning							**Acquisition Costs**	8.46%		€ 5,601,116
Planning Risk								10%		€ 560,112
NETT SITE VALUE (w/o Planning)										**€ 5,041,004**
Site Price Per Unit										€ 33,607
Note 1										
Enabling Costs/Demolition									*Assumed*	€ 200,000
Infrastructure costs / Utility (Road, ESB, Bord Gais, Bond)							**Residential per Unit**	€ 1,000	*Assumed*	€ 150,000
S48 Levies Planning Levies	*DCC Development Contribution Scheme 2016 - 2020*						**Residential per Sq M**	€ 86.40		€ 920,968
S49 Levies (Luas Cross City)	*DCC Development Contribution Scheme 2016 - 2020*						**Residential per Unit**	€ 2,000		€ 300,000
Planning Application Costs									*Assumed*	€ 100,000
										€ 1,670,968
Note 2										
Professional Fees										
Architect								assumed	2.00%	€ 525,997
Structural Engineer								assumed	2.00%	€ 525,997
Project Management								assumed	1.00%	€ 525,997
Quantity Surveyor								assumed	0.75%	€ 197,249
Miscellaneous - Fire/Extra Engineering etc								assumed	0.75%	€ 197,249
M & E Consultants								assumed	0.75%	€ 197,249
									7.25%	€ 2,169,740
Note 3										
Contingency									4.00%	€ 1,051,995
Budgeted Legal Costs									1.00%	€ 501,568
Sale Fees									1.00%	€ 501,568
Insurances / Home Bond							**Residential per Unit**	€ 500	*Assumed*	€ 75,000
										€ 2,130,131
Note 4										
Finance Costs								**Months**	**Interest Rate**	
Site Holding Period								36	6.0%	€ 907,381
Construction (for half the building period)								12	6.0%	€ 788,996
Fees (for half the building period)								12	6.0%	€ 65,092
										€ 1,761,469

RESIDUAL DEVELOPMENT APPRAISAL - SOCIAL SCHEME TAX CHANGE TO VAT

Units	Net SQM	Net SQ FT	PricePSFT	No. of Units	Price Per Unit	Gross Capital Value	Net Capital Value	Gross SQ FT	Costs PSFT	Const. Cost
			80% Of Market Value	1.00	times increased density		VAT @ 0.000%	15% Gross Area		
1 Bedroom Apartment	45	484	€ 650	0	€ 315,000	€ -	€ -	0	€ 190	€ -
2 Bedroom Apartment	73	786	€ 625	0	€ 491,000	€ -	€ -	0	€ 190	€ -
3 Bedroom Apartment	90	969	€ 600	0	€ 581,000	€ -	€ -	0	€ 190	€ -
1 Bedroom Apartment (Part V)	45	484	€ 520	50	€ 252,000	€ 12,600,000	€ 12,600,000	27,852	€ 190	€ 5,291,802
2 Bedroom Apartment (Part V)	73	786	€ 500	35	€ 392,800	€ 13,748,000	€ 13,748,000	31,627	€ 190	€ 6,009,136
3 Bedroom Apartment (Part V)	90	969	€ 480	15	€ 464,800	€ 6,972,000	€ 6,972,000	16,711	€ 190	€ 3,175,081
Basement				100					€ 30,000	€ 3,000,000
Total Nett Development Value		**66,252**		**100**		**€ 33,320,000**	**€ 33,320,000**	**76,190**		**€ 17,476,019**
Costs										
Base Construction Costs - Incl. Prelims										€ 17,476,019
Enabling Costs (1)										€ 1,211,561
Professional Fees (2)										€ 1,441,772
Other Fees (3)										€ 1,415,441
Finance Costs incl. Fees (4)										€ 1,662,110
Total Costs										**€ 23,206,903**
								% On Cost		
Balance for Site & Profit										€ 10,113,097
PROFIT On costs (Excl Land)								**12.00%**		€ 2,784,828
GROSS SITE VALUE with Planning										€ 7,328,269
NETT SITE VALUE with Planning							**Acquisition Costs**	8.46%		€ 6,756,656
Planning Risk								**10%**		€ 675,666
NETT SITE VALUE (w/o Planning)										**€ 6,080,990**
Site Price Per Unit										€ 60,810
Note 1										
Enabling Costs/Demolition									*Assumed*	€ 200,000
Infrastructure costs / Utility (Road, ESB, Bord Gais, Bond)							**Residential per Unit**	**€ 1,000**	*Assumed*	€ 100,000
S48 Levies Planning Levies	*DCC Development Contribution Scheme 2016 - 2020*						**Residential per Sq M**	**€ 86.40**		€ 611,561
S49 Levies (Luas Cross City)	*DCC Development Contribution Scheme 2016 - 2020*						**Residential per Unit**	**€ 2,000**		€ 200,000
Planning Application Costs									*Assumed*	€ 100,000
										€ 1,211,561
Note 2										
Professional Fees										
Architect								assumed	2.00%	€ 349,520
Structural Engineer								assumed	2.00%	€ 349,520
Project Management								assumed	1.00%	€ 349,520
Quantity Surveyor								assumed	0.75%	€ 131,070
Miscellaneous - Fire/Extra Engineering etc								assumed	0.75%	€ 131,070
M & E Consultants								assumed	0.75%	€ 131,070
									7.25%	€ 1,441,772
Note 3										
Contingency									4.00%	€ 699,041
Budgeted Legal Costs									1.00%	€ 333,200
Sale Fees									1.00%	€ 333,200
Insurances / Home Bond							**Residential per Unit**	**€ 500**	*Assumed*	€ 50,000
										€ 1,415,441
Note 4										
Finance Costs								**Months**	**Interest Rate**	
Site Holding Period								36	6.0%	€ 1,094,576
Construction (for half the building period)								12	6.0%	€ 524,281
Fees (for half the building period)								12	6.0%	€ 43,253
										€ 1,662,110

RESIDUAL DEVELOPMENT APPRAISAL - SOCIAL SCHEME MULTIPLE POLICY/TAX CHANGES											
Units	**Net SQM**	**Net SQ FT**	**PricePSFT**	**No. of Units**	**Price Per Unit**	**Gross Capital Value**	**Net Capital Value**	**Gross SQ FT**	**Costs PSFT**	**Const. Cost**
			80% Of Market Value	1.45	times increased density		VAT @ 3.44%	15% Gross Area		
1 Bedroom Apartment	45	484	€ 650	0	€ 315,000	€ -	€ -	0	€ 190	€ -
2 Bedroom Apartment	73	786	€ 625	0	€ 491,000	€ -	€ -	0	€ 190	€ -
3 Bedroom Apartment	90	969	€ 600	0	€ 581,000	€ -	€ -	0	€ 190	€ -
1 Bedroom Apartment (Part V)	45	484	€ 520	72	€ 252,000	€ 18,144,000	€ 17,541,232	40,106	€ 190	€ 7,620,195
2 Bedroom Apartment (Part V)	73	786	€ 500	51	€ 392,800	€ 20,032,800	€ 19,367,283	46,085	€ 190	€ 8,756,169
3 Bedroom Apartment (Part V)	90	969	€ 480	22	€ 464,800	€ 10,225,600	€ 9,885,892	24,509	€ 190	€ 4,656,786
Basement				145					€ 30,000	€ 4,350,000
Total Nett Development Value		**96,262**		**145**		**€ 48,402,400**	**€ 46,794,406**	**110,701**		**€ 25,383,150**
							€1,607,994			
Costs										
Base Construction Costs - Incl. Prelims										€ 25,383,150
Enabling Costs (1)										€ 1,623,576
Professional Fees (2)										€ 2,094,110
Other Fees (3)										€ 2,055,874
Finance Costs incl. Fees (4)										€ 2,228,732
Total Costs										**€ 33,385,443**
								% On Cost		
Balance for Site & Profit										€ 13,408,964
PROFIT On costs (Excl Land)								12.00%		€ 4,006,253
GROSS SITE VALUE with Planning										€ 9,402,711
NETT SITE VALUE with Planning							**Acquisition Costs**	8.46%		€ 8,669,289
Planning Risk								10%		€ 866,929
NETT SITE VALUE (w/o Planning)										**€ 7,802,360**
Site Price Per Unit										€ 53,809
Note 1										
Enabling Costs/Demolition									*Assumed*	€ 200,000
Infrastructure costs / Utility (Road, ESB, Bord Gais, Bond)							**Residential per Unit**	€ 1,000	*Assumed*	€ 145,000
S48 Levies Planning Levies	*DCC Development Contribution Scheme 2016 - 2020*						**Residential per Sq M**	€ 86.40		€ 888,576
S49 Levies (Luas Cross City)	*DCC Development Contribution Scheme 2016 - 2020*						**Residential per Unit**	€ 2,000		€ 290,000
Planning Application Costs									*Assumed*	€ 100,000
										€ 1,623,576
Note 2										
Professional Fees										
Architect								assumed	2.00%	€ 507,663
Structural Engineer								assumed	2.00%	€ 507,663
Project Management								assumed	1.00%	€ 507,663
Quantity Surveyor								assumed	0.75%	€ 190,374
Miscellaneous - Fire/Extra Engineering etc								assumed	0.75%	€ 190,374
M & E Consultants								assumed	0.75%	€ 190,374
									7.25%	€ 2,094,110
Note 3										
Contingency									4.00%	€ 1,015,326
Budgeted Legal Costs									1.00%	€ 484,024
Sale Fees									1.00%	€ 484,024
Insurances / Home Bond							**Residential per Unit**	€ 500	*Assumed*	€ 72,500
										€ 2,055,874
Note 4										
Finance Costs								**Months**	**Interest Rate**	
Site Holding Period								36	6.0%	€ 1,404,414
Construction (for half the building period)								12	6.0%	€ 761,495
Fees (for half the building period)								12	6.0%	€ 62,823
										€ 2,228,732

APPENDIX 2 | SUBMISSION FORM FOR THESES FOR NCI

Submission of Thesis to Norma Smurfit Library, National College of Ireland

Student name: Emma Courtney Student number: x15036332

School: School of Business Course: Masters in Finance

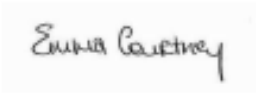
Degree to be awarded: Masters in Finance

Title of Thesis:

Institutional Investment in Social Housing in Dublin City: Potential Solutions to Encourage Institutional Investors to Deliver Social Housing to the Dublin City Market

One hard bound copy of your thesis will be lodged in the Norma Smurfit Library and will be available for consultation. The electronic copy will be accessible in TRAP (http://trap.ncirl.ie/), the National College of Ireland's Institutional Repository. In accordance with normal academic library practice all theses lodged in the National College of Ireland Institutional Repository (TRAP) are made available on open access.

I agree to a hard bound copy of my thesis being available for consultation in the library. I also agree to an electronic copy of my thesis being made publicly available on the National College of Ireland's Institutional Repository TRAP.

Signature of Candidate: 

For completion by the School:
The aforementioned thesis was received by_____ Date:_____

This signed form must be appended to all hard bound and electronic copies of your thesis submitted to your school

APPENDIX 3 | DECLARATION FORM FOR THESES SUBMITTED TO NCI

Submission of Thesis and Dissertation

National College of Ireland

Research Students Declaration Form

(Thesis/Author Declaration Form)

Name:	Emma Courtney
Student Number:	x15036332
Degree for which thesis is submitted:	MSc. in Finance

Material submitted for award

(a) I declare that the work has been composed by myself.

(b) I declare that all verbatim extracts contained in the thesis have been distinguished by quotation marks and the sources of information specifically acknowledged.

(c) My thesis will be included in electronic format in the College Institutional Repository TRAP (thesis reports and projects)

(d) I declare that the following material contained in the thesis formed part of a submission for the award of

Masters in Finance, National College of Ireland

(State the award and the awarding body and list the material below) : MSCFINE2-EmmaCourtney-2018-Dissertation Proposal - Are institutionally held multi-family residential investment assets serving Dublin's population demographics

Signature of research student: Emma Courtney

Date: 29th August 2018