



# **Future Growth of Housing Needs in Dublin**

**Background Analysis and Information on Affordable Housing Strategy  
2000-2005 for the Four Dublin Local Authorities**

**Dublin Institute of Technology  
In association with The Society of Chartered Surveyors  
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# **1 STUDY BACKGROUND AND KEY FINDINGS**

## **1.1 The Study Brief**

The Faculty of the Built Environment, DIT was requested to prepare an analysis of information on affordable housing requirements for Dublin over the period 2000-2005 with a breakdown into individual authority areas. The following inputs were to form the basis of such analysis:

- Population forecasts
- Income forecasts
- Housing construction forecasts
- House price levels
- Strategic planning guidelines for the greater Dublin area
- Patterns of planning permissions and developments in the greater Dublin area
- Forecasts and housing construction programmes for each of the 4 Dublin Local Authorities.

The initial research was carried out during Autumn 2000 with progress reviews on a weekly basis. Following consultations with the local authority group, clarifications and refinements were completed for submission on 18/09/2000. Sections 1,2,3 and 4, with relevant appendices, were submitted in September 2000 and the clarifications on the demographic analysis in Section 4 were sought. Further analysis on demographic trends was completed and submitted in January 2001. This report contains a series of working papers prepared for the housing study.

## **1.2 Study Team**

For the purposes of the study it was considered appropriate that the research team had the capability of combining specific urban property market knowledge and skills with analysis of regional economic and geographic trends. The team members and areas of responsibility are indicated on the contents page.

## **1.3 Background to the Study**

The rapid level of economic growth over the past six years has been characterised by significant levels of inward investment, a 34% growth in employment in Dublin with 127,000 new jobs and unemployment falling below 5% (Dublin Chamber of Commerce, 2000). The level of continued growth expected in the Dublin area places particular demands on the infrastructure capacities of the region to facilitate such development. In particular rapid growth in household numbers rising from 450,000 in 1996 to a projected 705,8000 in

2011 place a particular strain on the housing markets as this scale of growth is beyond all previous estimated needs. The continued buoyant economy, migration to Dublin and the age structure of the population will necessitate upward reviews of the Strategic Planning Guidelines, indicating that 20,000 housing units per year may be needed to meet demand in the region to 2006. The increased level of urban growth combined with the reversal of the inner cities previous decline require considerable long term infrastructure support, investment and an integrated regional strategy within which they can be accommodated. While this level of growth was not foreseen or expected, it is evident that the response to date in terms of coping with the resultant rise on demand for housing has not been adequate.

The potential problems of such growth in the absence of adequate infrastructure and housing provision are evident. Supply constraints in the Dublin area have deflected a considerable portion of the housing required by the market to outlying areas in the Mid-East Region and increasingly to an emerging "Outer Leinster" commuter zone. This pattern of urban sprawl has negative impacts on environmental quality and the future economic potential of the Dublin Region. The Strategic Planning Guidelines provide one alternative to such sprawl with their central thrust of concentrating development on transportation corridors. However as these guidelines lack statutory backing, development decisions conflicting with its major strategic thrust are already evident.

#### **1.4 Housing Affordability**

In particular these supply constraints have caused major problems to develop in terms of housing affordability with house prices increasing at a multiple of general price inflation and income growth. It is against this background that policy concerns have focused on the need to address the provision of affordable housing in Dublin and nationally. It is recognised that the supply assessment required has two elements, firstly to estimate the accumulated present need resulting from recent supply constraints and secondly to project future demand over the period to 2005. It is also clear that any assessment of affordable housing is critically impacted upon by ever changing factors particularly policy decisions on regional development patterns, migration levels, changing household formation rates and the interaction of changes in the supply pattern with suppressed demand. To account for such potential volatility, a number of scenarios have been constructed which combine inputs to produce high, medium and lower forecasts. The analysis contained in this study is intended to provide factual analysis upon which a point in time best estimate can be assessed of affordable housing requirements in the study area. As this estimate is critically dependant on a number of key variables such as interest rates etc. which are subject to frequent change the models upon which the scenarios have been created will require ongoing revision as necessary

A critical additional factor involved in the provision of affordable housing will be trends in construction costs. While past experience of price inflation has been correctly attributed to development land price increases linked to scarcity of suitable development sites with proper infrastructure. This situation is now changing with above inflation construction costs increases evident across the construction industry. The DoELG August report - *Construction Industry Outlook and Review* estimated that in 1999 a 12% rise in construction costs occurred while in 2000 an increase of approximately 14% has occurred. As the industry is now estimated to have an unemployment rate of 4%, full employment is now regarded as having been reached. Achieving a major increase in construction capacity to fulfil expectations of further supply increases is a major policy challenge and may involve the use of international construction resources.

## **1.5 Data Availability and Deficiencies**

In all cases within this study data from official sources including CSO, the DoELG and other Public Agencies' have been used. Additional information has been obtained from Financial Institutional sources, which was considered essential for the purposes of establishing levels of affordability within the Dublin Region. The information provided by the Educational Building Society was used for this portion of the study. Research in the housing area is hampered by a number of gaps in data availability. These deficiencies include:

- Problems with the accuracy of housing completion and planning statistics
- The aggregation of official house price data making analysis by county or by market segment unreliable
- The limitations on Census yearly estimates of population changes
- The absence of Census data on commuting patterns
- Limited regional incomes and earnings data.

## **1.6 Policy Background to the Study**

The principal legislative basis for the development of a housing strategy are the provisions of part V of the Planning and Development Act 2000 which defines both housing strategy and affordable housing. The main requirement of Housing Strategies are "*ensuring the proper planning and sustainable development of the area of the development plan provides for the housing of the existing and future population of the area*". This report is based upon the legal interpretation of planning and development legislation as conveyed to the report team by the local authorities involved in the study. Under Section 94, housing strategies shall take into account:

- The existing and likely future need or housing

- The need to ensure availability of housing for persons who have different levels of income
- The need for a mixture of house types and styles
- The need to counteract segregation.

In estimating the need for housing in the affordable category Section 4 gives guidance as to the principal inputs to be considered:

- The supply and demand for housing
- The prices of houses
- Income levels
- Interest rates
- Relationship of house prices to incomes and interest rates
- Other matters.

Both sets of inputs have been the main basis of the projections and estimates produced in this study. Where assessments have been made with limited data available this will be stated underneath the tables concerned. The sources of data are referenced with each table or figure.

The linkage between housing strategies and the Development plan is outlined in Section 95 of the Act which states that "*sufficient and suitable land is zoned for residential use ... to ensure that a scarcity of such land does not occur at any time during the period of the development plan*". This provision would indicate that the intention of the legislation is that a minimalist approach to the provision of suitable land is not intended. The procedures by which a specified percentage of land zoned for residential development is to be made available for social and affordable housing is provided for in Section 96.

The combined effect of these provisions is to enhance the role of local authorities in the provision of social and affordable housing. In their role as Development, Road, Sanitary Housing and Planning authorities the local authorities are uniquely placed to respond to the housing supply needs of the Dublin area. The strategic review by the Dublin Local authorities "Housing in Dublin" (1999) identified the available supply of development land for housing and means of translating available land into housing. Of particular importance will be the results of the inter-authority response teams established to fast-track priority infrastructure schemes. This area is also prioritised in the Planning Act and in the government's *Action on Housing* (2000). The use of Strategic Development Zones for housing with land retention taxes as a quid-pro-quo for fast tracking planning and infrastructure provision is a central feature of this policy response along with the use of increased residential densities.

The potential enhanced role of local authorities to strategically plan and assist in the development of housing rather than simply regularly development activity can provide a valuable stimulus to the supply of affordable housing. This study is

intended to provide factual information and analysis, which will be useful in development of strategies to fulfil these responsibilities.

## **1.7 Key Findings**

- Recent policy changes have prioritised supply problems in relation to housing and have given increased powers to local authorities to address the issue of affordable housing.
- The problems of housing affordability in the Dublin Region are particularly severe and are causing a deflection of housing demand to the Outer Leinster Region.
- This transfer is causing major long-term problems in terms of sustainability of the development pattern emerging with particular problems associated with transportation, congestion and urban sprawl.
- The production of an increased level of supply to meet effective demand in the Dublin area is now moving outside the resource capability of the Irish construction industry.
- Policy implementation required for a more sustainable development pattern requires increased commitment of resources and the political will to ensure that progress is achieved within the medium-term.
- Analysis of the demographic dynamics and legislative guidance indicates that the highest of the three population growth scenarios is to be used in the assessment of future housing needs.
- An evaluation of population and housing trends based upon the highest scenario indicates that an accumulated shortfall of 35,000-45,000 housing units developed over the period 1996-2000 for the four Dublin local authority areas.
- In addition to this accumulated shortfall, a natural rate of demand for additional housing units is assessed at c.15,000 units per annum.
- An estimate of the proportion of the housing supply required in the affordable categories is 40%-45%.
- These estimates are based upon natural growth rates considered to be consistent over the project period and migration rates, associated with labour force requirements, which can be expected to oscillate over the period.

- House production levels in the study area have stagnated at 9,000-10,000 units per annum over the period 1994-1999.
- Recent figures for planning permissions between the first half of 1999 and 2000 show a decline in planning permissions granted which indicates no foreseeable increase in supply.
- Demand for social housing has risen to an estimated 13,000 units while completions have continued declining over the period 1994-1999.
- An analysis of the shared ownership scheme operated by the local authorities shows that while average house price levels under the scheme have risen by 135%, income levels of participants have increased by only 58%.
- An annual housing supply of up to 20,000 units per annum over the period 2001-2006 would be required to stabilise house price inflation in the Dublin area and increase the affordability of housing supply.
- Continuing demand pressure means that alleviation of the existing under-supply would not be possible until the end of a sustained period of supply increases.
- The affordability models analysed indicate that for typical family income groups (e.g. income range of £25,000-£30,000 per annum), house prices in the range £110,000 to £ 125,000 could be deemed affordable.
- Changes in key economic variables (e.g. house prices, interest rates and incomes) have significant impacts on affordability measures.
- Analysis of current and likely economic trends indicates that the problems of affordability are likely to continue over the period 2001-2006.

## 2 Economic influences and housing affordability

### 2.1 Key economic variables

The key economic variables relevant to the issue of housing affordability are:

- earnings
- employment and unemployment
- house prices
- mortgage interest rates
- taxation levels

The last of these is a policy variable under the control of the Government. The other variables are subject to variation based on national and international economic trends. The analysis undertaken here is based on income tax rates and mortgage interest relief as they applied following Budget 2000. The spreadsheet results for the various affordability measures could be re-calculated based on different tax rates. This is not undertaken for the purposes of this project but may be inputted into the model provided to the local authorities. It is noted that, in the short term at least, taxation policy is likely to be favourable to net income growth, while recognising the possible danger of overheating the economy through further tax reductions and accelerating inflation which will ultimately slow down economic growth.

### 2.2 Factors affecting future income growth and housing affordability

The prospects for the key economic driving forces can be summarised as follows;

#### CHART 2.1 ECONOMIC DRIVING FORCES

Factor	Likely Impact
• Expansionary budgets	+
• e.g. Income tax rate down to 20% ?	
• Continued employment growth	+
• Programme for Prosperity and Fairness	+
• Three year programme	
• (15.75% wage increase over 3 years)	
• 10% tax reduction	
• Re-negotiation of PPF ?	-
• Potentially inflationary	-
• Possible industrial relations problems	-
• Rising interest rates	-
• Danger of inflation in euro area	-

- Weak performance of euro -
- Rising house prices -
- Demographic pressures -
  - Continued demand pressure -

On balance the counteracting influences would suggest deterioration in affordability based principally on rising house prices and possibly rising interest rates, mitigated somewhat by rising incomes.

### 2.3 Economic Forecasts

The economic forecasts below are based on the *Medium-Term Review 1999-2005* (ESRI, 1999) but have been amended somewhat to reflect more recent conditions.

**TABLE 2.1 ECONOMIC FORECASTS 2000-2005**

	1999	2000-2005 p.a. (annual average)
<u>Employment</u>		
Growth p.a. %	6.3%	3%
Growth p.a. (000)	95.6	50
<u>Unemployment</u>		
% rate	5.6%	4%
<u>Average non-agricultural earnings</u>		
% growth p.a.	7%	6%

Source: DIT estimates based on ESRI.

Employment nationally is forecast to grow over the next five years at about half the rate for 1999. This translates into approximately 50,000 new jobs per annum. Many of these new jobs may need to be filled by immigrants as unemployment has declined to effectively the full employment level. Stability of employment increases the desire of workers to purchase houses and clearly reduces the credit risk attached to lending for house purchase. The stabilising of the level of unemployment at close to the level regarded as representing full employment has a similar effect. This will lead to increased demand for housing.

Earning growth is largely driven by national wage agreements for those industries and occupations covered by these. The current agreement *The Programme for Prosperity and Fairness* (PPF) allows for a cumulative pay increase of 15.75%

over three years with a further 10% boost to take-home pay through tax reductions. However for many other categories of workers, labour supply shortages have bid up wage levels and earnings growth for these workers may be significantly above the rate for workers governed by the PPF.

Earnings growth is forecast to grow at an average of 6% p.a. over the next 5 years, with take-home pay higher at about 8% p.a. on average, with somewhat higher rates in the earlier years balanced by lower rates in the later years. The rise in interest rates announced by the European Central Bank at the end of August 2000 will impact on mortgage interest rates in the immediate future. There is no guarantee that this is the last of the succession of interest rate rises over the past year or so. The medium and longer-term prospects for interest rates will depend on the performance of the euro and the need to control incipient inflation in the euro area.

#### 2.4 A comparative analysis of Dublin and national indicators

The growth in average earnings will mask regional variations, with Dublin likely to benefit more than other parts of the country due to the nature of the labour supply-demand imbalance. Average earnings in Dublin are significantly higher than the State as a whole (10% in 1998). Table 3.2 below shows some selected indicators for Dublin and the State.

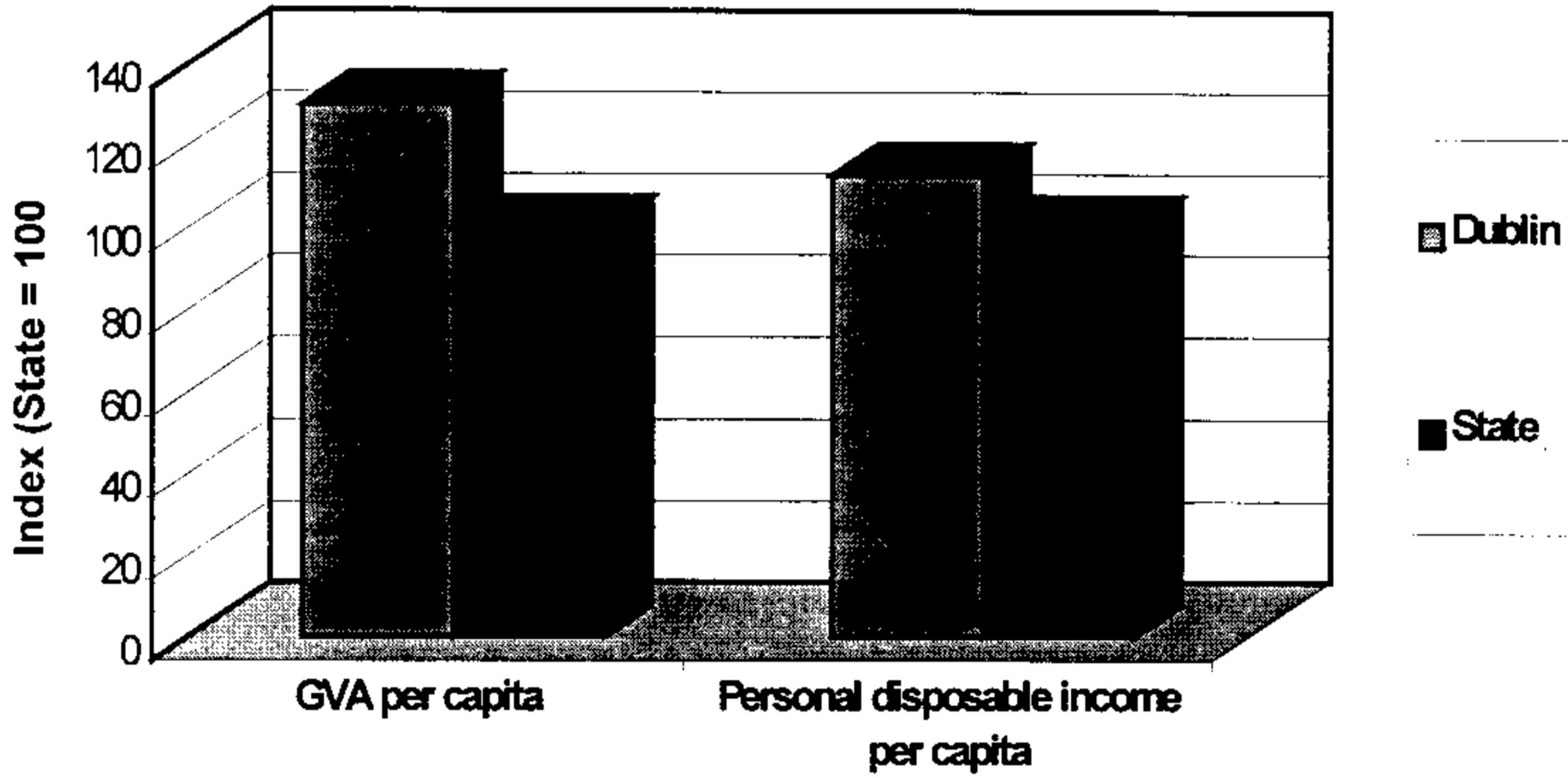
**TABLE 2.2 DUBLIN RELATIVE TO THE STATE- SELECTED INDICATIVE INDICATORS 1998**

	<b>Dublin</b>	<b>State</b>
GVA per capita	130.5	100
Personal disposable Income per capita	113	100
Services as % GVA	66.3	53.7
Industry as % GVA	33.4	41.4
Average industrial Wage (£)	17,046	15,510
Average non-industrial wage in industry (£)	25,109	24,452

Sources: Central Statistics Office, various publications.

The data contained in the above table is represented in a series of graphs on the following pages.

### Gross Value Added - Comparison between Dublin and State



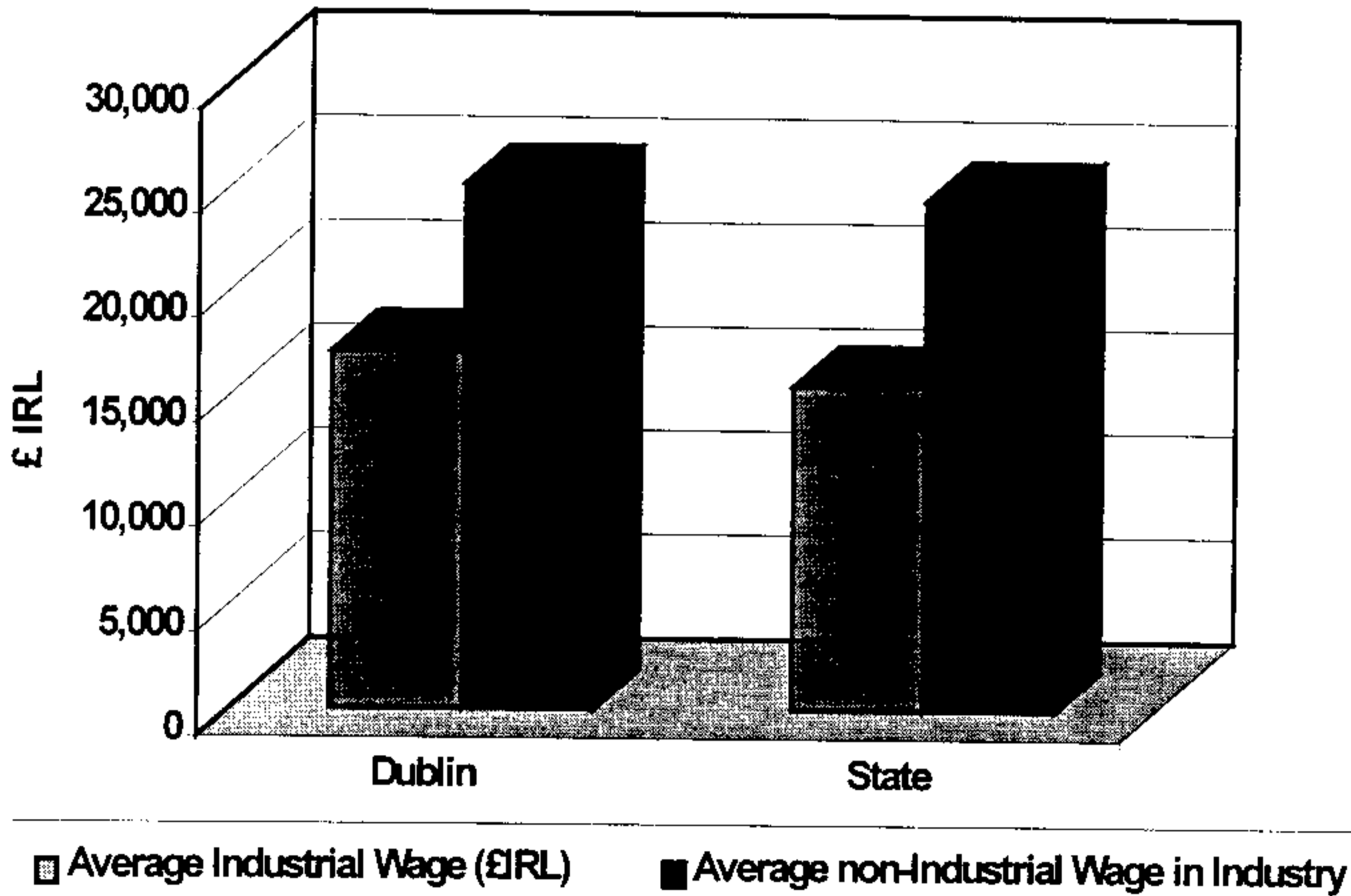
Source: DIT analysis of CSO data.

### Economic Structure - Comparison between Dublin and State



Source: DIT analysis of CSO data.

## Average Wage Levels - Comparison between Dublin and State



Source: DIT analysis of various publications.

A number of important issues emerge for the above table and graphs. Earnings are on average higher in Dublin. This however is less marked for non-industrial workers in industry. Note that the above does not include the service sector, where earnings are likely to be significantly higher in some sectors (e.g. banking and finance, I.T.) than for industry, but lower for certain occupations and sectors such as leisure, catering etc. Dublin has a heavy concentration of economic activity in the services sector (two-thirds of gross value added). The implication for affordability is that it may be of greater significance in the Dublin for inhabitants employed in low-income positions.

### 2.5 Economic activity within Dublin

Place of work and place of residence are not necessarily the same, especially in a city as small as Dublin in physical terms and therefore using intra-regional data may be of limited value in the present context. It is however presented here to show the differential in earnings between the different local authority areas, with the highest - Fingal - some 15% above the level for South Dublin.

**TABLE 2.3 AVERAGE INDUSTRIAL WAGE**

	1998	
	£	Index
County Borough	17,139	110.5
Dun Laoghaire/ Rathdown	18,001	116.1
Fingal	18,065	116.5
South Dublin	15,704	101.3
Total Dublin	17,046	109.9
State	15,510	100.0

Source: Central Statistics Office, Census of Industrial Production 1998.

## 2.6 Affordability measures

A wide variety of measures of housing affordability have been suggested and devised by economic commentators. This report discusses four approaches. These are:

- Maximum loan value with net mortgage servicing cost capped at maximum 30%/35% of net income
- Net mortgage servicing cost as % of net income
- House price to earnings ratio
- EBS Building Society model.

The deterioration in affordability over the recent past is well established and is discussed here in relation to the EBS model only. The discussion focuses on analysing the sensitivity of the results of the models to changes in the key inputs rather than taking a historical look at the change in the affordability measure.

An important issue to be borne in mind is that of the difference between *capital* affordability and *current* affordability. A continuing rise in house prices does not affect those who have already bought unless they are considering trading up. A rise in the mortgage rate of interest affects both those already in housing but also those attempting to purchase.

## 2.7 Method 1:

### **Maximum loan value with mortgage servicing cost at maximum 30/35% of net income**

This method is as recommended in the Guidelines for Implementation of Part V of the Planning and Development Act as issued by the Department of the Environment and Local Government

The output from this model is a house price which is affordable at:

- a given mortgage rate of interest
- a loan-to-value (LTV) ratio of 90%, 95% and 98%
- a capping of the net mortgage repayment at 30/35% of net income
- repayment over 20/25 years.

The analysis is undertaken for three groups of borrowers:

- single
- married with one income
- married with two incomes.

Income levels in the analysis range from £15,000 to £45,000 for single and married borrowers with one income and up to £50,000 for married borrowers with two incomes. The lower income limit is about 75% of the average industrial in

Dublin and little over half of the average non-industrial in industry in Dublin. The upper limit of £45,000 represents an income which is capable of servicing a loan for a starter home with a reasonable degree of comfort at present, but which could be squeezed if house prices were to rise as forecast.

The procedure is to:

- calculate net income
- calculate 30%/35% of net income
- determine maximum loan value sustainable at a given mortgage interest rate
- determine the house price based on an LTV of 90%, 95% and 98%.

All mortgages are assumed to have a term of 20 or 25 years. The benchmark calculations are

Single borrower:

- £20,000 income
  - mortgage payment capped at 35% of net income
  - 90% LTV
  - 5.5% APR
  - 20 year term
- => maximum house price = £79,546

Maximum house price falls to £73,664 (7.4%) if APR rises to 6.5%

Married borrower - one income:

- £20,000 income
  - mortgage payment capped at 35% of net income
  - 90% LTV
  - 5.5% APR
  - 20 year term
- => maximum house price = £93,469

Maximum house price falls to £87,892 (6.0%) if APR rises to 6.5%

Married borrower - two incomes:

- £30,000 income
  - mortgage payment capped at 35% of net income
  - 90% LTV
  - 5.5% APR
  - 20 year term
- => maximum house price = £133,176

Maximum house price falls to £123,329 (7.4%) if APR rises to 6.5%

## **2.8 Method 2:**

### **Mortgage servicing cost as % of net income**

Method 2 is based on the same approach as Method 1. The output from the model is the percentage of net income required to meet the net cost of servicing the mortgage for:

- a given mortgage rate of interest
- a loan-to-value (LTV) ratio of 90%, 95% and 98%
- a house price of £100,000 in year 2000 and rising year by year to 2005
- income range similar to method 1
- repayment over 20/25 years.

A key difference between methods 1 and 2 is that the latter specifically builds in house price inflation up to the year 2005 and allows an analysis of likely changes in affordability over time.

The procedure is to:

- calculate net income (not shown on tables included in appendix)
- calculate net cost of servicing mortgage loan at LTV of 90%, 95% and 98% on house prices starting at £100,000 in year 2000 and inflating by a total of over 70% up to 2005
- determine the % of net income required to service these loans.

The benchmark calculations are as follows:

Single borrower:

- £20,000 income
- 90% LTV
- Year 2000
- House price = £100,000
- 5.5% APR
- repayment over 20 years      => % of net income required = 44.9%

% of net income required rises to 48.8% if APR rises to 6.5%

Married borrower – one income:

- £20,000 income
- 90% LTV
- Year 2000
- House price = £100,000
- 5.5% APR
- repayment over 20 years      => % of net income required = 37.4%

% of net income required rises to 40.6% if APR rises to 6.5%

Married borrower – two incomes:

- £30,000 income
- 90% LTV
- Year 2000
- House price = £100,000
- 5.5% APR
- repayment over 20 years      => % of net income required = 25.4%

% of net income required rises to 27.5% if APR rises to 6.5%

## **2.9 Method 3:**

### **House price to earnings ratio**

The house price chosen for this method is the average price of a new house for which loans were approved by Local Authorities. Note that this is only 60% of the value of new houses for which loans were approved by banks and building societies.

The analysis is undertaken for Dublin and the country as a whole. The base year is 1999. The earnings figure used is 75% of the average industrial wage.

House price and average earnings are projected to 2005. House price inflation is broadly based on the forecasts by Peter Bacon and Associates. Wage increases are broadly consistent with the ESRI forecasts.

The results show:

#### Dublin:

⇒ 1999 multiple = 6.67

⇒ 2005 multiple = 9.67

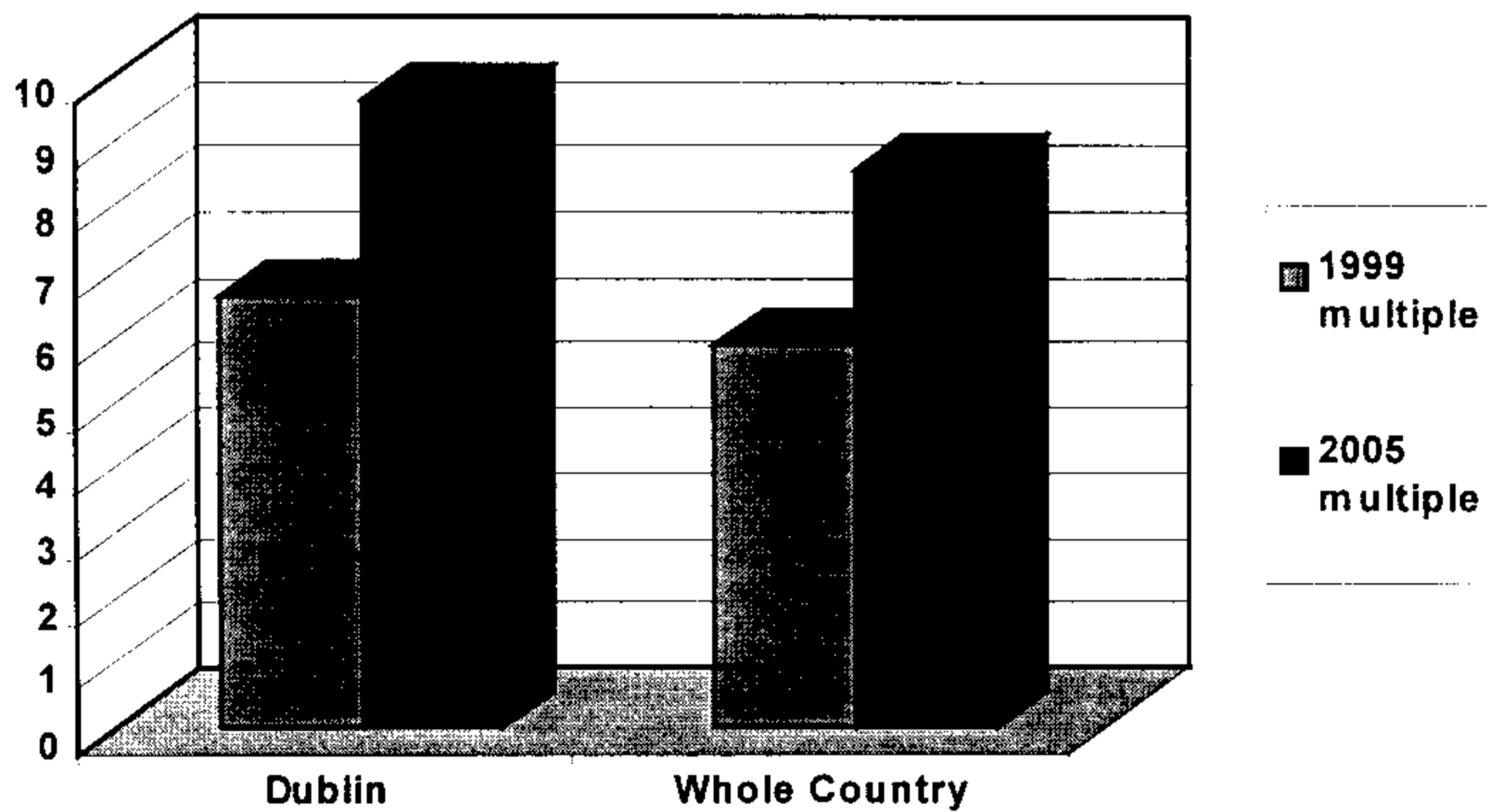
#### Whole country:

⇒ 1999 multiple = 5.93

⇒ 2005 multiple = 8.6

This data is represented as a graph on the following page.

### House Price to Earnings Ratio - Comparison between Dublin and the Whole Country



Source: DIT analysis of DoELG data and various publications.

Clearly these results are sensitive to the projections made in relation to future earnings growth and house price inflation. If earnings growth lags behind house price inflation then the ratio will deteriorate. If recent trends are not altered, it suggests that the earnings multiple required to purchase a new house will increase by 45% over the next 5 years

## **2.10 Method 4:**

### **EBS Model**

This method has been developed by the EBS Building Society. It is presented here in some detail because of its novelty and practicality. The other methods described above look to the future rather than the past since the evidence of declining affordability is already well shown in many other publications (see bibliography).

In the case of the EBS model, however, there is significant additional insights and information to be gleaned from a historical examination of the data.

#### **Methodology:**

The model picks 6 prototype couples, 3 first time buyers and 3 traders-up and matches each with particular property. Each of the buyers is assumed to be 25 years of age. The notional buyers are:

#### **First time buyer - low income**

- Postman
- Supermarket checkout operator - part-time

#### **First time buyer - average income**

- Garda
- Primary teacher

#### **First time buyer - affluent**

- Money dealer
- Chartered accountant

#### **Trading up - low income**

- Assistant principal - Civil Service
- Doctor's receptionist

#### **Trading up - average income**

- Senior manager
- Job-sharing professional

#### **Trading up - affluent**

- Consultant obstetrician
- Job-sharing doctor

The model traces the experiences of these prototype borrowers over the period 1987-2000 in relation to housing affordability.

Six properties, originally valued in 1987, are re-valued each year and the affordability of each of these to the relevant couple is tracked using a number of measures:

- % after tax income to service loan of 2.5 times income
- % after tax income to service loan of 90% of house value
- remaining income after servicing loan of 2.5 times income
- remaining income after servicing loan of 90% of house value
- remaining inflation adjusted income after servicing loan of 2.5 times income
- remaining inflation adjusted income after servicing loan of 90% of house value

The model also uses the concept of a minimum living income. This is based on the second quartile income level taken from the 1994/95 Household Budget Survey and undated annually. It estimates that, excluding housing costs. Approximately £1,300 is required monthly, including an allowance for occasional expenditure items such as motor repairs household durables etc. Clearly this 'minimum living wage' is not rigid and lifestyle choices may alter it in either direction. However, it assists a lender in determining the amount available from net income each month to service a mortgage. It therefore differs from method 1 above, which simply uses a rule of thumb % allocation to mortgage servicing.

The model indicates the very different experience of the different prototype borrowers in relation to affordability. The analysis presented here is for the two extremes i.e. first time buyer on low incomes (FTB-low) and trader-up on high incomes (TU-high).

*% of after tax income required to service loan of 2.5 times income*

Both groups have experienced improved affordability on this measure with FTB-low falling from 27% to 17.6%, a drop of 35% whereas the TU-high has seen a fall from 50.8% to 27.5%, a drop of (46%). This result is due to two factors - falling interest rates benefited both groups but also reduced taxes on income which disproportionately benefited the TU- high group. It is important to realise that this measure takes no account of house values.

*% of after tax income to service loan of 90% of house value*

Here the experience is the opposite of the above with the FTB-low group seeing a rise in the percentage of after-tax income rising from 19% to 48.3%, representing growth of over one and a half times with the TU-high group seeing a rise from 25.2% to 39.9% a rise of 58% or less than 40% of the rise for the other group.

*Remaining inflation adjusted income after servicing loan of 2.5 times income*

In the case of the FTB-low the remaining income has risen from £876 in 1987 to £1339 in 2000, an increase of 53%, while for TU-high it has risen from £2,273 to £7,590 a rise of over 230%.

### *Remaining inflation adjusted income after servicing loan of 90% of house value*

When the remaining income is calculated after servicing a 90% loan, a different picture emerges. In the case of FTB-low the remaining income falls from £973 in 1987 to £841 in 2000 a drop of over 13.6% while for TU-high it rises from £3,456 to £6,292, an increase of 80%.

## **2.11 Conclusions**

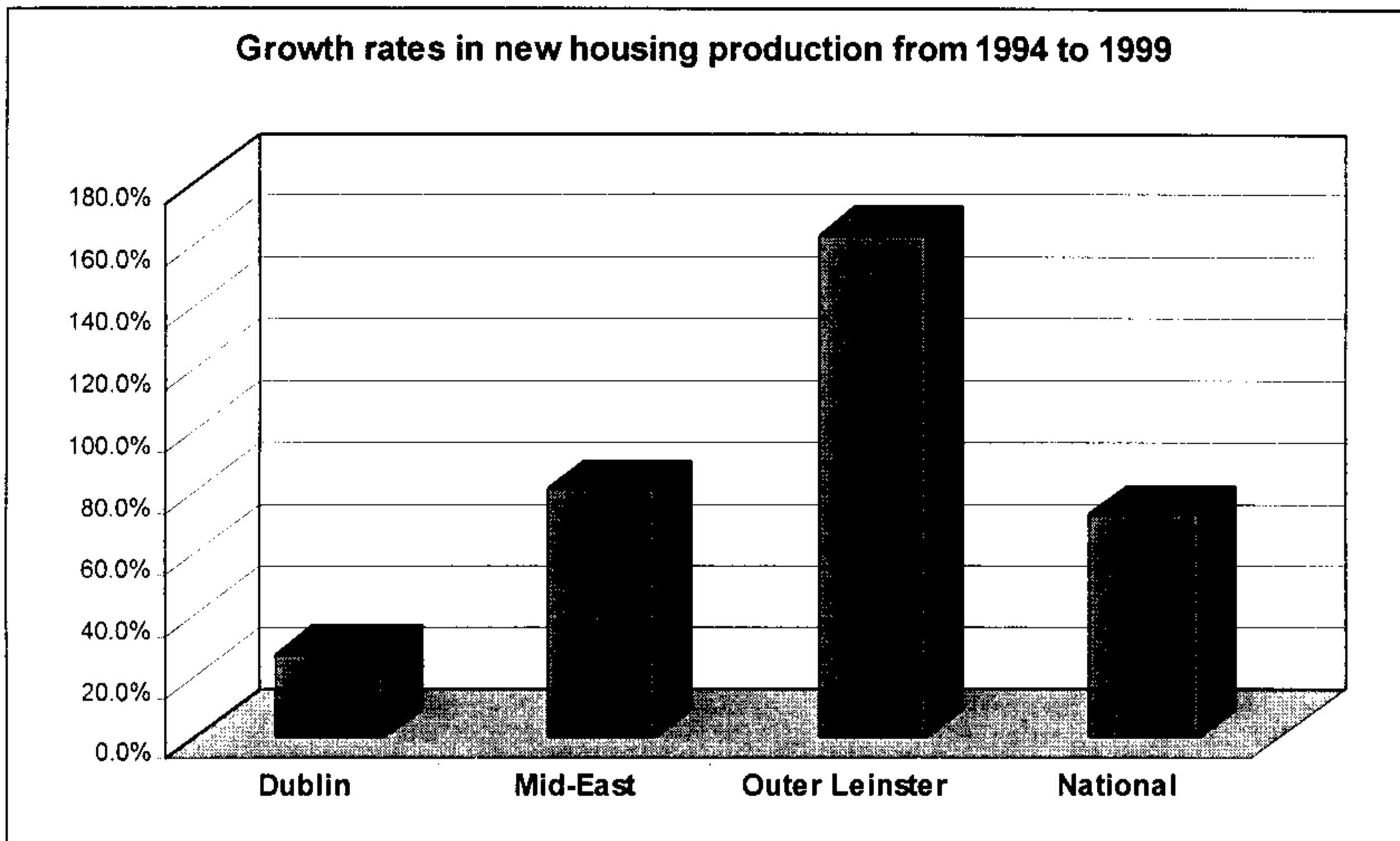
The EBS model above shows clearly the deterioration in affordability over the period 1987 to 2000, particularly for those on lower incomes, with the proportion of income required to service the mortgage rising by one and a half times from 19% to over 48%.

- This is less clear-cut for the affluent trading-up group with the proportion of income required to service a 90% loan rising by 14 percentage points but the real after tax income after servicing the mortgage rising by 80%.
- The other models presented here suggest a continuing decline in affordability over the coming 5 years.
- The house price to earnings ratio could deteriorate by as much as 45% over the next 5 years even on reasonable assumptions about earnings growth and house price inflation.
- The model showing the percentage of income required to service a 90% mortgage at an APR of 5.5% shows that in the year 2000 a single person needs to be earning about £30,000 to comfortably afford a £100,000 house in Dublin (where *comfortable* is defined requiring less than 35% of net income to as servicing a 90% mortgage). Within two years the same single person would need to earn about £45,000 to enter the market at the same point, with no change in interest rates.
- A married couple with one income earning £20,000 in the year 2000 wishing to buy the same house are outside the affordability range (37.2% of income) and even with an increase in income to £30,000 would be just outside the affordability range if wishing to enter the market at the same point in the year 2002 (35.6%).
- Model 1 confirms the findings of Model 2 suggesting that with a 35% cap placed on the % of net income required to service a 90% loan, the single person earning £30,000 could afford a house of just over £100,000.
- More detailed analysis of the data indicates the sensitivity of the results on affordability to changes in the underlying assumptions e.g. the mortgage interest rate and house prices.

### 3 New Housing Production and House Price Trends in the Dublin Region

#### 3.1 House Production Trends

There has been a marked decline in housing production in the Dublin Region in proportion to overall housing output for Ireland as a whole. On an annual basis, new housing output in Dublin in proportion to the nation as a whole declined from 29.4% in 1994 to 21.6% in 1999. Substantial evidence exists for faster rates of population growth, investment and economic development in the Dublin Region in comparison to the rest of the State. New housing production in Dublin, however, has clearly lagged behind the rest of the country in terms of both the rate of increase and its ability to satisfy demand, resulting in a sharp increase in prices and a consequent decline in affordability. New housing provision in Dublin has essentially stagnated at the 9,000-10,000 annual unit provision rate against the background of dramatic increases in output for the rest of the country.



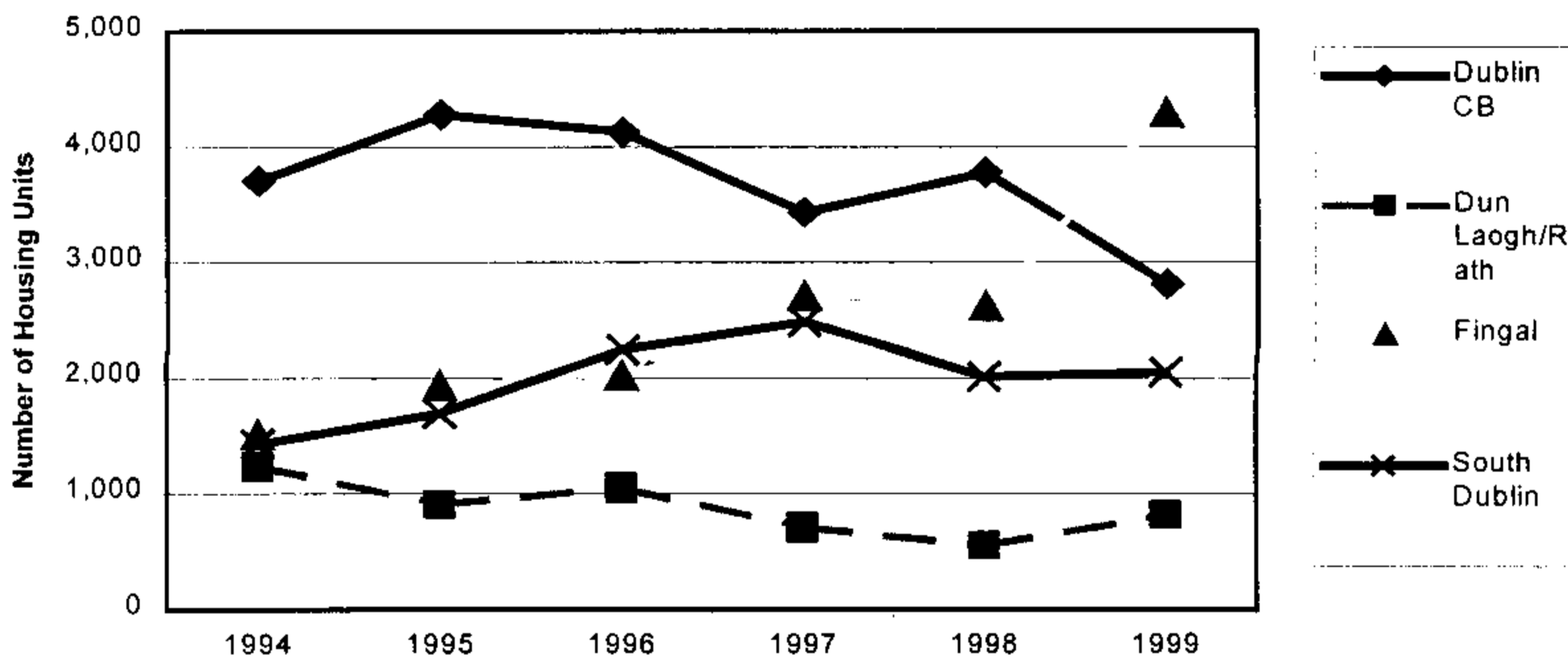
Source: DIT analysis of DoELG housing data. Annual data is based on calendar year (Jan.-Dec.)

New housing output in Dublin increased from 7,891 units in 1994 to 10,035 in 1999, representing a rate of increase of 27.2%. For Ireland as a whole, new housing production increased by 73.1% between 1994 and 1999, from 26,863 to 46,512 units (DoELG, 2000). Therefore, the rate of increase in new housing output in Dublin has failed to match increases in provision on a national level. The decline in house price affordability in Dublin has translated itself into an increased

demand for more affordable accommodation within an expanded hinterland of the city. New house production increased by 80% in the Mid-east Region (Meath, Kildare and Wicklow) between 1994 and 1999 and by 163% in the emerging "Outer Leinster" Region (Counties Louth, Westmeath, Offaly, Laois, Carlow and Wexford). The rapid growth of new housing provision in these locations indicates the lack of sufficient housing availability in Dublin, as house purchasers seek affordable housing at increasing distances from the capital.

Within the Dublin Region the level and rate of annual new housing output varies between the four local authorities. Housing output has declined in the Dublin County Borough by 32.4% from 3,713 units in 1994 to 2,804 in 1999. A decline in housing output is also evident for Dun Laoghaire/Rathdown where new housing provision fell from 1,240 in 1994 to 886 in 1999, a decline of 40% during this period. Housing output in South Dublin and Fingal has experienced substantial growth between 1994 and 1999, reflecting the greater availability of serviced development land available for housing. New housing production growth of 43.5% took place in South Dublin, from 1,428 units to 2,049 and Fingal experienced the largest rate of output growth in Dublin, from 1,510 units in 1994 to 4,296 in 1999. Indeed, by 1999, over 50% more new dwellings were completed in Fingal than in Dublin County Borough. Between the first half of 1999 and the first half of 2000, however, it appears that this trend has been reversed, with Dublin Corporation and Dun Laoghaire/Rathdown experiencing 36.5% and 19.9% increases in output, respectively.<sup>1</sup>

**New Housing Output in Dublin 1994 to 1999**



Source: DIT analysis of DoELG housing statistics. Data is based on calendar year (Jan.-Dec.)

<sup>1</sup> The data for the first half of 2000 was taken from Planning Levy data provided directly by the local authorities, whereas the data for the corresponding period of 1999 was sourced from the DoELG Housing Statistics Bulletin. Therefore, any direct comparison between the half-years must be treated with a degree of caution.

### **3.2 Trends in Planning Permission**

Planning permission data, supplementary to house construction statistics, provides another means of tracking house production on a year to year basis. This form of data tends to be less accurate than production information, as time lapses often occur between the time when permission is granted and actual construction commences and in addition, for a variety of reasons, not all dwellings granted permission would be realised. Between 1994 and 1999, the number of dwellings granted planning permission in Dublin increased by 2.9%, from 8,212 units to 8,453 units (CSO, 2000). This rate of increase contrasts with a national rate of 86.9% between 1994 and 1999, from 25,735 units to 48,086. The percentage share of all dwellings granted permission in Ireland by the Dublin Region declined from 31.9% in 1994 to 17.6% in 1999, effectively mirroring the decline in its housing production share. Within the Dublin Region, the number of dwelling units granted planning permission between 1994 and 1999 declined in both Dublin County Borough and Dun Laoghaire/Rathdown by 42.8% and 69.9% respectively, whereas the number of units granted planning permission during this period increased by 107% in Fingal and 50.6% for South County Dublin. In terms of the type of dwelling granted permission, apartments accounted for 73.5% of units in Dublin County Borough during 1999, compared with 63.8% in Dun Laoghaire/Rathdown, 32.2% in South Dublin and 17.3% in Fingal. The greater proportion of apartments granted planning permission in Dublin County Borough and Dun Laoghaire/Rathdown reflects the greater shortage of land in these areas and consequent higher development site costs. Between 1994 and 1999, however, the proportion of apartments granted planning permission increased from 15.2% to 63.8% in Dun Laoghaire/Rathdown, from 17.9% to 32.3% in South Dublin and 8.5% to 17.3% in Fingal. This trend indicates an overall switch by developers from houses to apartments in order to maximise the housing unit yield from development sites.

Data taken from the four Dublin local authorities indicates a decline in the number of housing units granted planning permission between the first halves of 1999 and 2000. Dublin County Borough experienced a decline of 7.1% during this period, a decline of 11.0% took place in Dun Laoghaire/Rathdown and Fingal and South Dublin experienced a decline of 9.3% and 28.8% respectively.

### **3.3 Trends in Social Housing**

Since the turn of the 20<sup>th</sup> Century, social housing has played an important role in providing persons unable to enter the private housing market with accommodation. Therefore, this sector of housing experiences greater demand pressures during periods of declining affordability in conventional private housing. It is widely accepted that the 1990s have been characterised by a sharp upturn in demand for social housing provision, with an estimated 30,650 households requiring social housing provision from the local authorities in Ireland in 1999. In

Dublin, 11,510 households were estimated to be in need of social housing in 1999, accounting for 37.6% of the total figure for Ireland, and this figure has increased to 13,809 for 2000 (Estimate by Dublin Local Authorities, 2000).

Against the background of growing waiting lists for local authority housing, the annual output of social housing in Ireland has remained grossly inadequate in terms of meeting demand. According to Department of Environment and Local Government data, local authority housing production in Dublin declined by 11.6% between 1994 and 1999, from 489 units to 438. This trend is in contrast to an overall increase of 22.5% in local authority housing output for Ireland as a whole over the corresponding period. Within the Dublin Region, the annual provision of local authority housing declined by 43.1% in Dublin County Borough, 68.4% for Dun Laoghaire/Rathdown and 47.1% in Fingal. Only South Dublin experienced an increase in output, by 140.0% between 1994 and 1999. Despite accounting for almost 38% of the share of households requiring local authority housing in 1999, the Dublin Region produced only 15% of the overall housing output in this sector. On a national basis, local authority housing accounted for 6.3% of the total housing output during 1999, compared to 9% in 1994 and in Dublin the proportion of local authority housing in relation to total housing output declined from 6.2% in 1994 to 4.4% in 1999.

### **3.4 House Price Trends in Dublin 1995 to 1999**

An examination of the trend in house prices for the Dublin Region indicates a very sharp increase in the average price of both new and second-hand housing in recent years. Between 1995 and 1999, the average price for new housing in Dublin increased by 123.3%, from £68,259 in 1995 to £152,414 in 1999 (DoELG, 2000). The rate of new house price increase in Dublin compares to a national increase of 90.4%, and by 1999 new house prices in Dublin were on average 30.3% higher than the national level. The trend in rapid rates of price increases is continuing, with the average cost of a new house in Dublin at £162,044 for the first quarter of 2000, 28% higher than the national average of £126,550. Second-hand house prices in Dublin have increased at an even faster rate than new houses, by 137% between 1995 and 1999, in excess of the national rate of increase of 119.8% for the corresponding period.

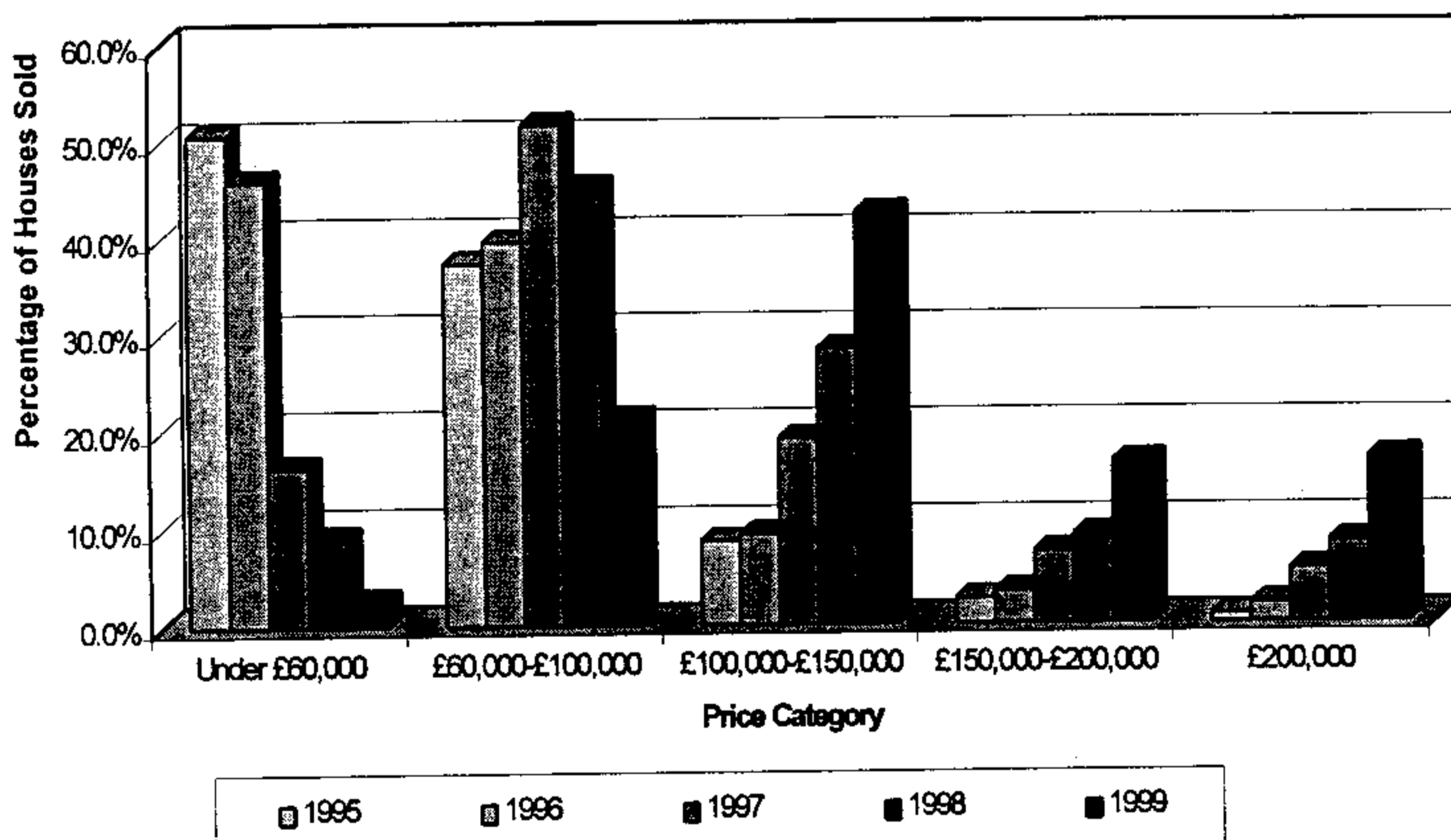
It is apparent, that house price inflation has reduced the affordability of housing, both new and second-hand, both on a national level and to a greater extent in Dublin. Based on data collected by the DoELG on mortgage transactions (the "yellow form" system which accounts for approximately 30% of all mortgage transactions), the proportion of all houses sold in the under £60,000 category has sharply declined from 50.7% in 1995 to 2.6% in 1999.<sup>2</sup> Coincident with the decline in the most affordable price category of housing is a rapid increase in the

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<sup>2</sup> The under £60,000 price category has become largely irrelevant in Dublin, as a negligible proportion of houses sold in Dublin in 1999 were in this range.

proportion of houses sold in the £100,000 to £150,000 price range, from 8.6% in 1995 to 42.5% in 1999. In addition, the proportion of housing sold in the most expensive category (over £200,000) has increased from 0.8% in 1995 to 16.9% in 1999. The data is disaggregated for both new and second-hand house sales, and both of these markets appear to display very similar patterns in terms of the strongly upward movement in the proportion of house sales from the lower price spectra to the upper categories. Between 1995 and 1999, the proportion of new houses sold for under £60,000 declined from 45.6% to 1.5%, with corresponding figures for second-hand house sales being 53.8% and 2.6%. Based on these trends, it is very likely that virtually no housing in Dublin is being sold for under £60,000 in 2000, and the proportion of house sales in the highest price categories are continuing to increase at a rapid rate.

House Price Change in Dublin 1995 to 1999



Source: DIT analysis of DoELG mortgage transaction data.

### 3.5 Shared Ownership Housing Price Trends

In addition to rapid increases in private house prices, data supplied from the Dublin local authorities indicates that the price housing under the shared-ownership scheme, devised to provide affordable housing, has increased at a marked rate between 1996 and 1999. In Dublin County Borough, the average price of houses sold under the shared ownership scheme increased by 135% between 1996 and 1999, from £42,388 to £99,631. The average income level of participants in the scheme, however, increased by only 58% during this period, indicating a faster rate of house price increase in relation to income. The trend of

greater increases in house prices in comparison to incomes is evident for the other three local authorities in Dublin. In Dun Laoghaire/Rathdown, shared ownership house prices increased by 132% between 1996 and 1999 and incomes of participants by 54% between 1996 and 1999, in Fingal the corresponding increases were 57% and 32% respectively. In South Dublin incomes appeared to increase at a greater rate than for housing, by 146% compared to house price increase of 110% during the 1996 to 1999 period.<sup>3</sup>

As average house prices under the shared ownership housing scheme have risen in relation to the incomes of purchasers, the house price to income ratio has steadily increased between 1996 and 1999. In Dublin County Borough, the income to price ratio increased from 4.3 for single incomes and 2.9 for joint incomes in 1996 to 6.8 and 3.8 respectively in 1999. The income to price ratio increased in Dun Laoghaire/Rathdown from 3.4 in 1996 to 5.2 in 1999, from 3.5 to 4.1 in Fingal and from 2.3 to 3.4 in South Dublin.

### **3.6 Affordability of Housing in Dublin**

Rapid house price increases usually result in declining affordability, as increases in incomes have not matched the rate of house price growth. The reality of decreasing affordability in Dublin, of both new and second-hand housing, has been apparent for a number of years, and current trends indicate that it will continue in the short to medium-term future. The trend towards declining housing affordability has been examined in detail in *New Realities in Irish Housing* by Downey (1998).

Rounding up the average non-industrial wage for the Dublin Region to £30,000 for 2000, and using an APR of 5.5%, capping the percentage of income available to service the mortgage at 35%;

- A single person earning £30,000 per annum would be able to afford a house of £103,125 based on a loan to value ratio of 90%.
- A married couple with one income of £30,000 per annum would be able to afford a house of £126,921 based on a loan to value ratio of 90%.
- A married couple on dual incomes of £20,000 and £10,000 per annum would be able to afford a mortgage of £133,176 based on a loan to value ratio of 90%.

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<sup>3</sup> Data for house prices and incomes under the Shared Ownership Housing Scheme were compiled separately by the local authorities in Dublin. Dublin Corporation provided average figures for the programme in their area, whereas Dun Laoghaire/Rathdown, Fingal and South Dublin provided three examples for each year of incomes and prices, which were subsequently recalculated into average figures by DIT.

- The latest house price figures, for the June Quarter of 2000, suggest that new house prices increased in Dublin by 20.7% in the 12 months to June 2000, and second-hand house prices increased by 22.7% in the year to June 2000 (DoELG, 2000). This compares with national price increases for new and second-hand houses of 17.2% and 20.9% respectively, indicating the continuation of greater rates of house price inflation in Dublin compared to Ireland as a whole. Average new and second-hand house prices in Dublin are estimated to be £177,500 and £197,000 respectively for June 2000.
- Taking into account the house price inflation rate of c.20% between 1999 and 2000 would suggest that married couples on an annual wage of £30,000 are now on the margin of affordability. Single individuals, however, on incomes of £30,000, have been priced out of the Dublin housing market (discussed in greater detail in Section 3 and Appendix C).
- Based on these criteria and the current trend in house price increases in Dublin, it is apparent that these income groups would be unable to afford a mortgage for the *average* house price in 2000, for both new and second-hand, in Dublin.
- If trends in relation to house price category changes continue, no properties will be sold under the £60,000 price category in 2000, virtually none in the £60,000 - £100,000 range, and the majority of both new and second-hand dwellings sold in 2000 will be in the £150,000-£200,000 and the over £200,000 categories.

### 3.7 Summary

The predominant trend in housing in Dublin has been one characterised by an inadequate supply to meet demand, thereby forcing house prices strongly upward. The supply deficiency has been compounded by a failure of new housing provision in Dublin to match national rates of increase, thereby adding to regional price inflationary pressures. The resulting decline in housing affordability has manifest itself in a growing demand for social housing and shared-ownership schemes, which in turn have not attained levels of supply to match demand. The supply of affordable housing has become perhaps the most pressing and emotive issue facing Dublin, a problem which is set to worsen further unless radical action in terms of housing provision across both private and social sectors takes place.

### **3.8 Addendum**

Since the data was collected and analysed for the first phase of the Housing Study, additional information has been made available, most notably the 2000 housing statistics by the Department of the Environment and Local Government. These data have confirmed the trends discussed earlier in this section – the effective stagnation of housing construction in Dublin since the mid-1990s. According to the latest data, the number of new houses completed in the Dublin Region experienced a decline of 6.7% between 1999 and 2000, from 10,035 to 9,405 dwellings (DoELG, 2001). The proportion of total national housing output accounted for by the Dublin Region has declined from 29.4% in 1994 to 18.9% in 2000, providing evidence of the continuing deterioration of housing supply in Dublin.

## 4 POPULATION FORECASTS – 2000 to 2005

### 4.1 Demographic Background - Introduction

Central to the assessment of affordable housing is the medium-term demographic outlook for Dublin, the April 2000 population estimate being 1,109,600. The three Population Projection developed are based on Natural Growth and Migration patterns for the four years since the April 1996 Census. These are projected forward from a base of April 2000 out to April 2005 and are based on Central Statistics Office (CSO) estimates of individual birth rates for the four local authorities, recorded since Census 1996. The CSO stress that all Vital Statistics for Births and Deaths “are provisional and are by year of registration” (Tables 7 and 10, respectively).

These Scenarios, based on an arbitrary scale of relativity, show:

**Scenario 1:** with low inward migration and low natural growth. Five-year growth = increase of 63,600, with an April 2005 Dublin total population of 1,173,200.

**Scenario 2:** Five year of low growth in-migration combined with medium natural growth = increase of 72,200 and a 2005 Dublin population of 1,181,800.

**Scenario 3:** with pre-1999 in-migration and higher natural growth. Additional 5-year Population = increase of 80,900 bringing the 2005 population to 1,190,500.

The population analysis since the 1996 Census is one of continuing steady growth of Dublin's birth rate, coupled with much lower than State-average death rate. For Dublin, natural growth (Births less Deaths) has tended to vary within quite narrow and predictable parameters. By contrast, significant oscillations of inward migration have occurred in recent years exemplified by a marked slow down that took place in the year to April 1999.

The CSO Population and Migration figures for the year to April 2000 were recently released (12th September 2000), the analysis of which has been incorporated in the content and conclusions herein. These data confirm that strong inward migration resumed for this latest year. Varying assumptions are made for migration levels out to April 2005, driven mainly by economic and labour force considerations including the ESRI *Medium Term Outlook* (1999-2005) and the CSO *Population and Labour Force Projections 2001-2031*.

Despite observed differences within the four Dublin Authorities, CSO data confirm that Dublin's rate of marginal population growth continues to be considerably ahead of its current share of the State's population. Since Census '96, Dublin's share of the State's natural growth has been 38.76% compared with its (then) 29.18% share of State population. From the low-point Census of 1961 of 2,818,341, the Republic's population has now increased by almost one million. Dublin has accounted for 40% of that growth with a further 20% in the adjoining Mid-East counties.

Such disproportionate share of State growth is further accentuated by the Mid East counties of Kildare, Meath and Wicklow. With just 10.23% of State population, this Region's share of natural growth is a further 16.14%. Migration also is disproportionately significant. Accordingly the Greater Dublin Area, with some 10% of the surface area of the Republic and containing 39.42% of its population, in the four-year period to April 2000 has accounted for 54.90% of the State's total natural growth as well as having absorbed 58.53% of State net in-migration.

In summary, Dublin's population has grown significantly in the last four years. It has increased by 4.85%, from 1,058,264 in 1996 to the CSO-estimated 1,109,600 in April 2000. This represents an annual compound rate of 1.19%. That additional 51,336 population comprises 32,610 of natural growth (63.52%) and 18,726 (36.48%) comprising in-migration. The Natural Growth for each year (to April) was: 1997 = + 7,883; 1998 = + 8,212; 1999 = + 8,361 and 2000 = + 8,154. In-migration: 1997 = +7,553; 1998 = + 5,888; 1999 = + 539 and 2000 = + 4,746.

Driven by these demographic dynamics and in particular by natural growth trends, it is evident that for Dublin, housing demand will continue to be fundamentally different to the Rest of the State (i.e. State less GDA), at least for the five-year period of this Study. Table 4.1 shows the Natural Growth Increase for the four years to April 2000, contrasting the differences between the respective relevant Regions, thus:

**Table 4.1 NATURAL GROWTH INCREASE, APRIL 1996-2000**

Area	Births	% of State Births	Deaths	% of State Deaths	Natural Growth	% of State Natural Growth
Dublin	64,216	30.46	31,606	24.94	32,610	38.76
Mid East	23,224	11.01	9,643	7.61	13,581	16.14
GDA	87,440	41.47	41,249	32.55	46,191	54.90
Rest	123,406	58.53	85,461	67.45	37,945	45.10
State	210,846	100.00	126,710	100.00	84,136	100.00

Source: CSO Vital Statistics 1996-2000, Tables 7 and 10, analysed by the Research Unit of the Faculty of the Built Environment, Dublin Institute of Technology.

Further pressure on accommodation is generated by propensities to form households. This in turn is significantly influenced by age profiles. An analysis of age composition by way of cohort survival technique will be possible when the results of Census 2001 are to hand. Unfortunately this up-to-date information will not be available for the next 12-15 months. A clear picture of a significant contrast in regional population age composition is obtained by comparing natural growth differences between Dublin and the Rest of the State, as follows:

**TABLE 4.2 BIRTH, DEATH AND NATURAL GROWTH RATES PER 1,000 OF POPULATION, 1996-2000**

Year	BIRTH RATE		DEATH RATE		NATURAL GROWTH RATE		NATURAL GROWTH DUBLIN v REST
	Dublin	Rest	Dublin	Rest	Dublin	Rest	
1996/97	14.7	13.8	7.3	9.6	7.4	4.2	3.2
1997/98	15.1	13.8	7.4	9.4	7.7	4.4	3.3
1998/99	15.5	13.7	7.6	9.6	7.9	4.1	3.8
1999/00	15.3	13.7	7.7	9.2	7.6	4.5	3.1

Source: CSO Vital Statistics 1996-2000, Tables 7 and 10, and annual Population and Migration data (1996-1999), analysed by the Research Unit of the Faculty of the Built Environment, Dublin Institute of Technology.

NOTE: The basis used to calculate the figures of Table 4.2 is by extracting the annual Birth and Death rates over this four-year period and then to express these rates per thousand of the respective 1996 populations. (When this Table was compiled, the Year to April 2000 Population and Migration Estimates were not yet to hand). For the purposes of comparison, the Rest *excludes* the Mid-East counties of Kildare, Meath and Wicklow.

Regardless of the method of computation, this Table confirms a noticeable difference between Dublin and Rest of State Birth Rates. However, the more important contributor to the contrasting Natural Growth difference results from the marked divergence in respective Death Rates. This clearly points to a significantly younger age-profile for Dublin compared with the remainder of Ireland. Individual County comparisons at the extremities would point to the contrast, as between say South Dublin and Roscommon. Accordingly Dublin's headship rates and propensity to form households is considered to be an unsuitable basis on which to construct a Single State Housing Demand model; insofar as it should then be expected to apply to Dublin.

## 4.2 Population and Housing

In the above Introduction, deliberate emphasis is placed on the dynamics of demographic *contrasts* within the State, so as to set the scene for the assessment of Housing Demand for Dublin. Other Reports on Housing have tended to concentrate on Supply Side initiatives. However this Study places emphasis on the fact that *Housing Demand* in Dublin (and likewise the Mid East)

is much more acute than in most other areas of the State, because of the contrasting and divergent population age characteristics. To date, relevant research literature appears not to have placed sufficient emphasis on the unique demand aspect for Dublin housing. World-wide, major cities are now recognised to be engines of economic growth through the process of Urban Agglomeration and resultant economies of scale. In this respect Dublin as a Primate city, is particularly important having regard to a range of strategic economic indicators confirming its dominant share and as the principal impetus of Ireland's economic growth.

Taken together, Tables 4.1 and 4.2 provide evidence for Dublin, of demographic differentiation and composition, since the last Census. For this reason alone, the highest of the three Scenarios for Population Projections is highlighted in the assessment of future housing needs for Dublin to 2005. In measuring such demand, an estimate has been made of the current shortfall in the supply of housing. The first Bacon Report showed the evidence of under-supply that had emerged as at April 1998, a trend that has significantly deteriorated since then (Bacon et al., 1998:15).

Table 4.3 shows the rate of new dwelling units completed for the four years since 1996. It will be noted that in the year to April 2000, Dublin accounted for only 20.8% of new housing units constructed in the Republic, a rate of less than 71% of its population share and only 53% of its natural growth share. This Table also confirms a picture of deterioration, in the decline in Dublin's share of home building, for each year since the 1996 census. This is in sharp contrast with Dublin's record of household formation.

**TABLE 4.3 DUBLIN REGION NEW DWELLING PRODUCTION 1996-2000**

(April to March)	1996-97	1997-98	1998-99	1999-00	% Change
Co. Borough	3,830	3,448	3,696	2,584	-48.2%
DL.-Rathdown	1,070	570	809	733	-46.0%
Fingal	2,062	2,815	2,844	4,434	115.0%
South Dublin	2,418	2,317	2,191	1,965	-23.1%
Total Dublin	9,830	9,150	9,540	9,716	-1.2%
State	34,590	39,333	44,371	46,625	34.8%
Dublin % share	28.4%	23.3%	21.5%	20.8%	

Source: DoELG Housing Section analysed by the Faculty of the Built Environment, DIT.

**Note:** Annual housing data in this table is presented on a April to March basis, in order to track annual population estimates and the census year.

Conversely in the rest of the State, housing production has grown disproportionate to Dublin. When account is taken of the fact that the population

rate of annual natural growth outside the Greater Dublin Area is only 4.27 per thousand, this further reinforces the judgment as to the extent of Dublin's under-supply of dwellings. Here the assumption is made that the rate of residential construction outside Dublin and Mid-East, is not excessive. Apart from the ongoing debate regarding 'holiday homes', there is no market evidence of oversupply in the Rest of State area.

This Brief requires an evaluation to be made of deflected demand away from Dublin. This describes the circumstances whereby due to unaffordable housing in Dublin, purchasers are obliged to trade higher commuting distances for lower-priced housing elsewhere. The Study first examines the position in the Mid East Counties and then that of Outer Leinster. In summary, the extent of total deflection is believed to be up to 12%.

Table 4.4 supports strong anecdotal evidence from the Construction and Property Industries, that people indeed are moving further away from Dublin in their quest to find affordable housing. This analysis then attempts to disaggregate new dwelling production rates, for the Mid East and Rest of State areas, in order to estimate the extent of deflection. The results would form the basis for further research, such as in the area of developing a quantitative model for testing price elasticity against housing production levels and unit density levels.

**TABLE 4.4 DISAGGREGATION OF NEW HOUSING UNIT PRODUCTION: DUBLIN, GDA, MID EAST AND REST OF STATE**

(April to March)	1996-97	1997-98	1998-99	1999-00	TOTAL
GDA new units	13,589	13,946	14,809	14,964	57,308
Dublin new units	9,830	9,150	9,540	9,716	38,236
Dublin as a % of GDA	72.34%	65.61%	64.42%	64.93%	66.72%
Mid East units	3,759	4,796	5,269	5,248	19,072
Mid East units as a % of GDA	27.66%	34.39%	35.58%	35.07%	33.28%
Rest of State	21,001	25,387	29,562	31,661	107,611
Rest of State as a % of State	60.71%	64.54%	66.62%	67.91%	65.25%

Source: DoELG data with DIT analysis.

As the following Table 4.5 illustrates, in the four years to April 2000, total State housing production of 164,919 is just 2.49% ahead of the State's population increase of 160,913 (i.e. 1.0249 people for every one new house). Yet for Dublin, accelerating demand increasingly outstripped supply as per the evidence of surging open market valuation movements compared with CPI Inflation in that period. This one-for-one comparison of house production of itself is an 'insufficient measure' of the extent of total demand in Dublin.

**TABLE 4.5 HOUSING UNIT PRODUCTION, APRIL 1996 – 1999**

(April to March)	STATE PRODUCTION	DUBLIN PRODUCTION	DUBLIN HOUSING as a % of STATE
1996-97	34,590	9,830	28.41%
1997-98	39,333	9,150	23.26%
1998-99	44,371	9,540	21.50%
1999-00	46,625	9,716	20.84%
TOTAL	164,919	38,236	Average = 23.18%

Source: DoELG Annual and Quarterly Housing Statistics Bulletins.

It is instructive to compare new dwelling completions with population growth – see Table 4.1 for the four years since Census 1996. Table 4.5 confirms that Dublin's percentage share deteriorates further up to April 2000.

Applying this one-for-one comparison for the past four years, Dublin's 38,236 new housing units compares unfavourably with its additional 51,336 population, resulting in a one-for-one shortfall of 25.52% or 13,100 units. On this criterion, the Dublin four-year 1996-2000 production shortfall represented a rate of only 3,357 units per annum. However the problem is considered to be a deeper one. The corollary to this shortfall in Dublin Housing on this one-for-one comparative basis is that for the remainder of Ireland, production therefore has been some 54.43% above its population increase. It is noted that for this comparative analysis the Mid East is treated as neutral for the moment. In the rest of State area 107,611 completed housing units (see Table 4.4) compared most favourably with an addition of only 69,684 people, thus creating a one-to-one surplus of 37,927 units or an increase of 54.42%.

Thus combining the Dublin 'underproduction' with the Rest of the State 'overproduction,' there is a double-divergent factor at work. This is where the sum of this double divergence is the  $13,100+37,900=51,000$  units. Expressed another way, 30.92% of the 164,919 units built in the April 1996 to April 2000 period were not constructed in locations commensurate with location of population or of job growth. The result has been a land-use and transportation infrastructure mismatch, with unsustainable planning and development in turn generating longer commuting times and distances for a growing section of the overall population. More pressingly, it has contributed significantly to this disproportionate scarcity leading to unaffordable housing for the capital.

Next, this analysis contrasts the 'flat' production rate of new housing in Dublin with that of the Mid East (see Table 4.6). It is evident that over time, the Mid East continues to grow its national share of house production ahead of its population share. This points to the under-supply problem being focused mainly on Dublin, albeit having regard to the Mid East's high rate of natural growth. If this logic is

accepted, the conclusion must be that a very significant portion of the *double-divergence* four-year production shortfall of 51,000 housing units in the State is focused on Dublin. To amplify this thinking it is instructive to test the Mid East population movement with its new dwelling construction rate since Census 1996. First the populations of Dublin, Mid East and GDA (combined) are shown in the next Table 4.6, together with the increasing Mid East percentage population share.

**TABLE 4.6 DUBLIN, MID EAST AND GDA POPULATIONS - 1996 TO 2000**

YEAR	DUBLIN POPULATION	MID-EAST POPULATION	GDA (DUBLIN + MID EAST)	MID-EAST % of GDA
1996 April	1,058,264	347,407	1,405,671	24.71%
1997	1,073,700	360,400	1,434,100	25.13%
1998	1,087,800	369,100	1,456,900	25.33%
1999	1,096,700	378,300	1,475,000	25.65%
2000	1,109,600	387,200	1,496,800	25.87%

Source: CSO annual Population and Migration estimates.

Next the analysis seeks to assess the extent of deflection of Dublin housing demand into the Mid East. The task is to quantify the surplus of Mid East new dwelling production over and above the one-for-one growing Mid East share of GDA Population. The next Table 4.7 shows this surplus translated into housing units as follows:

**TABLE 4.7 COMPARING POPULATION AND NEW HOUSING UNIT PRODUCTION IN THE MID-EAST REGION**

YEAR	At April 1997	At April 1998	At April 1999	At April 2000
Mid East House production as % share of GDA	27.66%	34.39%	35.58%	35.07%
Mid-East share of GDA population	25.13%	25.33%	25.65%	25.87%
Mid-East House production surplus	10.07%	35.77%	38.71%	35.56%
Mid-East Housing production in units	3,759	4,796	5,269	5,248
Housing Unit Deflection from Dublin to Mid-East	379	1,716	2,040	1,866

Source: DIT analysis of CSO and DoELG data.

Table 4.7 postulates that over this four-year period, a total of some 6,001 units (average 1,500 per annum), built in the Mid-East Region were 'surplus' to that region's population movement in applying the one-for-one comparison basis. Clearly with the Mid-East's employment growth dynamic, inward migration may not all have been represented as a deflection from Dublin. However on an Urban Economic asset value to distance trade-off, with higher prevailing open market values in the Mid-East compared with the rest of the State, it is reasonable to make the assumption that most of this 'one-to-one' comparison represent a deflection of demand originating in Dublin.

### 4.3 Issues Requiring Further Detailed Research

Likewise it seems reasonable to assume, both from anecdotal property market and building industry evidence together with data sources of increased traffic movements, that unaffordable housing *also* has resulted in migration *deflection* to Outer Leinster counties. In particular, growth is most noticeable for towns that have frequent rail services and /or those on major radial routes. Similar one-for-one comparative analysis should be undertaken, subject to data availability and research resourcing, for these additional areas. There are six counties together with their respective regions that require such analysis to be made for demographic and housing trends. They are Louth, Westmeath, Offaly, Laois, Carlow and Wexford.

In the absence of completed research, but on the basis of the observed accelerating growth now taking place in many of the major Outer Leinster towns, it is reasonable to assume that Dublin's deflected demand to this wider geographical area is not dissimilar to the quantum of Mid-East deflection (6,001 units).

Historically of course, there is significant demographic evidence to support the view that towns in the Greater Dublin Area have been growing at over five times the rate of towns in the Rest of the State. In the 10-years to April 1996, Table 4.8 confirms the growth influence that Dublin is having on GDA towns. This was before the momentum to Outer Leinster had commenced. No doubt the 2002 Census will confirm the strong, albeit anecdotal evidence, that Dublin commuting patterns is responsible for growth in Outer Leinster towns such as Dundalk, Mullingar, Tullamore, Portlaoise, and Gorey. In the case of Carlow for example, one new housing estate is said to have half its sales resulting from people working in the Dublin M50 Belt. Furthermore this historic analysis, for the ten-year period to April 1996, confirms that in general the larger the town, the greater is the rate of population increase.

**TABLE 4.8 CENSUS OF TOWNS OF LESS THAN 1,500 POPULATION;  
1986-1996**

Area	1986 aggregate population	1996 aggregate population	Population Increase	% growth over 10 years
39 Towns within GDA	237,757	282,955	+45,198	19.01%
88 Towns outside GDA	493,382	511,735	+18,353	3.72%
<b>TOTALS</b>	<b>731,139</b>	<b>794,690</b>	<b>+63,551</b>	<b>8.69%</b>

Source: CSO Census of Towns Data; prepared by Brian Hughes.

**Note:** All of Drogheda is included in the GDA figures.

Another area for research will be the comparison of population natural growth rates with housing stock. A cursory examination of data updates to Tables 9.2 and 9.3 of the original *Strategic Planning Guidelines for the Greater Dublin Area* indicates that there is a slowdown in the intended downward trend, if not an actual modest increase, in household to dwelling stock ratios in Dublin. The revised household estimates based on average household size, as predicted in the April 2000 update of the *Strategic Planning Guidelines for the Greater Dublin Area (SPG Review and Update, 2000)*, which projected a 2.94 in 2001, 2.72 in 2006 and 2.5 in 2011, cannot be achieved at current rates of construction activity.

So as to maintain some flexibility and neutrality, it was considered that the prudent approach to the appropriate sharing of future migration as between the four Dublin Authorities is to follow the allocation proportionality as set out on Tables 9.2 and 9.3 of the main SPG Report, 1999. These percentage allocations form the basis for the second of these tables.

Table 4.9 illustrates the individual Local Authority allocation which is based on Population Scenario 3, requiring the building of 22,000 units per annum so as to achieve a 2.7 person per household unit density by 2005. Such level of construction addresses the accumulated under-supply since Census 1996, estimated at 37,800 to 42,800 units; increasing by the rate of 8,000 per annum on the basis of a 10,000 per annum current production rate.

**TABLE 4.9: ALLOCATION OF 110,000 NEW HOUSING UNITS AS BETWEEN THE FOUR DUBLIN LOCAL AUTHORITIES 2000-2005 – BASED ON RECOMMENDED SCENARIO 3.**

AUTHORITY	SPG% ALLOCATION	ALLOCATION OF 70,000 UNITS	ACCUMULATIVE UNDER-SUPPLY= 40,000 UNITS	OVERALL TOTAL UNITS 2000-2005	ANNUAL PRODUCTION REQUIREMENT
Dublin County Borough	25.70%	17,990	10,280	28,270	5,654
South Dublin	25.89%	18,123	10,356	28,479	5,696
Fingal	34.49%	24,143	13,796	37,939	7,588
Dun Laoghaire-Rathdown	13.92%	9,744	5,568	15,312	3,062
<b>TOTAL</b>	<b>100.00%</b>	<b>70,000</b>	<b>40,000</b>	<b>110,000</b>	<b>22,000</b>

SOURCE: SPG Guidelines for the GDA, Tables 9.2 and 9.3 and DIT Housing Research analysis.

On the basis of the current 10,000 per annum production of new units in Dublin, some housing demand *is* indeed being satisfied. This however is viciously competitive in nature, fuelling competition for scarcer housing stock. It is based on the deeper pocket principle. With the deteriorating supply position, rising house price inflation is the inevitable outcome that in turn is further raising the affordability barrier.

**Should this 10,000 level of house unit production not be increased or decline it is considered that:**

- Existing property market and high asset values will persist
- Affordability problem affects larger segment of the market
- Overcrowding of existing stock
- Deflection pressure is high and sustained
- Economic pressures promoting higher wage claims
- Unattractive to in-migrant workers
- Labour force shortages
- Social instability
- Higher Housing Lists.

**At an intermediate level of production of say 14/15,000 units per annum:**

- Some price stability is likely as supply increases over the five-year period
- Household sizes remain greater than SPG Guidelines
- Some deflection of demand out of the Dublin area continues
- Affordability of housing is improved but the problems persist.

**At the 22,000 level of annual house production:**

- Production matches accumulated demand by end of 5 years and stabilises asset prices in the Dublin market
- Could lead to falling prices as panic purchasing ceases in response to sustained supply initiatives with a corresponding increase in affordability
- Would likely result in SPG Guidelines on household size projections being achieved
- Would prevent or reduce deflection of demand to Mid-East and Outer Leinster Regions
- Return of Open Market Values towards affordable salary to borrowing multiples of pre-1995/6.

#### **4.4 Addendum**

The purpose of the second phase of the study was to undertake further tests for robustness so as to confirm or modify the conclusions of the first phase of the study; to review and comment on the SPG Reports; to consider the relationships between population and housing stock and to examine recent labour force trends. Further demographic analyses were augmented by examination of the *Quarterly National Household Survey* data for the full four years to April 2000.

1. Natural Growth (both for Dublin and the Mid-East) is nearly double the rate that of the Rest of State, confirming a 'two-speed' demographic pattern. This is a combination of higher Birth Rates and much lower Death rates). Accordingly, in terms of Age-Cohort profile, Dublin's is a much younger and economically more vibrant population than that of the Rest of State.
2. Dublin's long-term marginal growth rate (MGR) is driven by the urban agglomeration effect of city growth with economies of scale not available to the Rest of State. Over the 40-year period since April 1961, MGR has been almost 2.75 times that of the Rest of State. Recently it has however been subject to a short-term downturn as a result of Dublin's housing shortage and the consequent affordability barrier.
3. An analysis of *Quarterly National Household Survey* data confirms that in the five years to April 2000, employment growth at 39.3% in Dublin contrasted with the rest of State growth at only 24%. These data further emphasise the mismatch between labour and housing performance as between Dublin and the Rest of State.
4. Although the *Strategic Planning Guidelines* had statutory effect from January 1<sup>st</sup> 2001, the SPG Review of April 2000 does not clarify how the additional population and housing growth estimates are proposed to be allocated as between the seven GDA Local Authorities, including those of Dublin. Contact

with the SPG Office confirms that they do not expect such a Review to take place until after publication of the National Spatial Strategy, due in late 2001.

5. In evaluating the SPG Report, the DIT Study Team is critical of the 'Metropolitan' / 'Hinterland' divide, specifically in respect of South-East Meath. Likewise the Team has particular difficulty with SPG's indicative housing allocations, for the two periods to 2006 and 2011, in the case of Dun Laoghaire-Rathdown. It is recognised that progressively, sustainable planning will seek to reduce home-to-work journeys whilst curbing long-distant commuting, as emphasised in the SPG 2000 Review.
6. As confirmed by the Economic and Social Research Institute, future labour force growth will increasingly depend on inward migration. Because of its primate status, Dublin's housing supply becomes a critical (internal) issue, if the current economic momentum is to be maintained. An adequate supply of affordable accommodation is a prerequisite. In this regard the Report notes that both employment and population figures are already ahead of the initial figures set out in the 2001-2031 population projections by the Central Statistics Office.
7. Accordingly, in accepting the probability of a higher rate of deflection, the DIT Study Team concludes that Dublin's current housing shortfall is of the order of 30,000 units, plus or minus 5,000 units. This higher limit range is selected pending clarification in time, of the issues and data requests that were submitted by the Steering Group to DoELG.
8. Therefore, DIT Study Team's central recommendation is for a production level of up to 20,000 new housing units per annum for Dublin. This comprises the 14,000 per annum figure of the April 2000 SPG Review together with a five-year strategy to eliminate Dublin's 30,000 pent-up Demand. It is accepted that this cannot be achieved over a shorter time-frame.

## 5 Conclusions

The primary purpose of the working papers was to provide background analysis and information that would assist the Dublin local authorities in their development of an affordable housing strategy. It became clear during the research that major critical deficiencies exist in the official data available which we have noted for future investigation. Using the most recent and reliable data sets available, the study team has provided projections of housing need and related issues. It is evident that a critical under-supply of housing has occurred over recent years in the Dublin area with negative social and economic implications. Apart from the problem of not addressing local housing needs this has resulted in a major diversion of Dublin's housing demand into the Mid-East region and beyond which has contributed to urban sprawl and reduced urban economic competitiveness. Policy aspirations towards a more sustainable compact urban form has been compromised as have the feasibility of the intended future transportation systems due to the dispersed form of settlement resulting.

The study included four areas of research i.e. policy, demographics, economics and the planning/property market context. It involved the development of model spreadsheets for analysis upon which the various projections of demographic and affordability trends could be based. Included also were responses and clarifications on specific issues as raised by the steering group with whom the study team collaborated. Based on such research the work has indicated a process by which working models can be developed to track evidence of affordability trends and supply/demand imbalances. The papers included in this publication are a selection of the working papers developed over the course of the study.

Is particular, a critical issue of the Dublin local authorities was the attempt to estimate the level of under-supply and pent-up demand. Analysis of the demographic model developed for the study indicate that if supply capacity existed up to 40,000 additional housing units would have been absorbed by the Dublin housing market over the period 1996 to 2000. Alternative figures were generated on such under-supply. Accepting a deflection of demand out of Dublin based upon the emergency of the Edge City employment pattern and other factors resulted in reduced estimates of 22,000 and 14,000 housing units. These reduced figures were related to estimates provided by members of the Steering Group which assessed the shortfall at between 9,000 and 28,000 units (mid-point at 18,700 units).

The importance of dealing with the issue of pent-up demand is that such excess demand is viewed as the principal cause of declining affordability linked to high levels of house price inflation. The potential impacts upon the housing markets of addressing pent-up demand at various levels was explored. It is clear that achieving higher levels of supply will have an increasing impact in terms of price

stabilisation initially and achieving housing affordability improvements over the medium-term. The necessity for interim review measures to monitor market activity following policy initiatives was recognised and a full review after a two year period is advised. The significance of a major response within a realistic time period was clear in that market expectations and actions would be affected by enhanced supply measures.

The study team suggested that housing policy over the recent period had tended to focus on house prices rather than related issues of residential location and urban sustainability. Measures to increase supply have for a variety of reasons been unsuccessful in the Dublin Region with production levels static at c.10, 000 housing units per annum. Providing additional dwelling units for the housing needs of the Dublin area in centres well removed from the Dublin Region goes against the broad policy thrust of sustainable development and fails to meet the needs of the existing population. A firm commitment to enhance supply in a phased manner in the Dublin Region was therefore advised and it was suggested that further data analysis of the housing supply/demand imbalance of the region be undertaken to assist this policy direction.

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