

**AN ECONOMIC ANALYSIS OF THE PROPERTY
SERVICES INDUSTRY IN THE REPUBLIC OF
IRELAND**

**SUBMITTED BY
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ABSTRACT

TITLE: AN ECONOMIC ANALYSIS OF THE PROPERTY SERVICES INDUSTRY IN THE REPUBLIC OF IRELAND

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This study is an economic analysis of the Property Services Industry (PSI) in the Republic of Ireland. It defines the PSI and examines the structure of the industry and its constituent firms. The principal components of PSI output and the key variables which determine the level of output are identified.

Data was obtained by means of structured interviews, various published sources and an extensive questionnaire survey circulated to all industry firms. The questionnaire survey was deemed necessary to supplement existing data and provide new additional data not available from published sources. Evaluation was based on statistical analysis, empirical observation and structured interviews.

The study confirms the cyclical nature of the industry which broadly applies to both areas of output; agency and professional services. Agency services account for the largest proportion of industry output with residential agency being the most important property sector. The vast majority of the firms in the industry are small in size with less than ten staff and turnover of £100,000 or less. Research undertaken by the private and public sector on the PSI is negligible resulting in a paucity of basic data on output and employment.

The primary determinants in output changes are the number of persons employed in the commerce, insurance and finance sector and movements in GNP. The occupation demand for property can be explained by movements in macro-economic variables while investment demand is driven principally by 'market sentiment' and 'instinct' and as a result is more volatile and unpredictable.

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Master of Business Studies Degree is entirely my own work and has not been taken from the work of others save to the extent that such work has been cited and acknowledged within the text of my work.

Signed: David Mc U

Candidate

Date: 14/1/94

This thesis is dedicated to my parents for their patience, encouragement and general support which all combined to help me through academic life. Thank you both for everything.

Lets hope it was worth it!

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LIST OF ABBREVIATIONS

N.I.E.C.	=	National Industrial and Economic Council
P.S.I.	=	Property Services Industry
I.A.V.I.	=	Irish Auctioneers and Valuers Institute
S.C.S.	=	Society of Chartered Surveyors
I.P.A.V.	=	Institute of Professional Auctioneers and Valuers
U.K.	=	United Kingdom
C.P.O.	=	Compulsory Purchase Order
C.S.O.	=	Central Statistics Office
I.P.D.	=	Investment Property Databank
J.L.W.	=	Jones Lang Wootton
D.T.C.	=	Debenham Tewson Chinnocks
N.C.B.	=	National City Brokers
I.D.A.	=	Industrial Development Authority
E.R.V.	=	Estimated Rental Value
p.s.f.	=	per square foot
sq.ft.	=	square feet
G.N.P.	=	Gross National Product
C.S.W.	=	Chartered Surveyor Weekly

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PREFACE

Internationally, experience has shown that the construction and property industries are subject to variations in output related to but frequently more intensive than those associated with the business cycle. In the Irish context this problem and the difficulties occasioned by it were first alluded to by the then National Industrial and Economic Council (N.I.E.C.) in 1968 and on many subsequent occasions in reports and conferences on these industries. A research project of which the present study forms part originated from discussions held by the Department of Surveying and Building Technology with Professor Noel McDonagh of the Society of Chartered Surveyors. It was concluded from these discussions that a major obstacle to the orderly development of the construction and property industries in Ireland is the lack of a predictive model of the industries and their relationship to the macro economic forecasting process. This study consists of an economic specification and analysis of the Property Services Industry (P.S.I.) and forms part of the building blocks of specifying an econometric model of the property and construction industries.

The scale of the construction industry in Ireland, which accounts for on average between 10% to 15% of G.N.P. annually, has tended to overshadow the P.S.I.. In common with many other service industries there are problems of definition and measurement associated with the P.S.I. caused principally by a deficiency of quality research and data.

However the P.S.I. is an important industry in its own right which generates output, creates jobs and has an important role to play within the economy.

This study is an economic analysis of the P.S.I.. Its objectives are:

- To produce a definition of the Property Services Industry and establish the size and status of the industry in terms of output and employment.
- To select proxy variables (called property indicators) that will represent the main areas of P.S.I. output primarily for the purposes of statistical analysis.
- To identify the key variables that determine the level of P.S.I. output.
- To assist in the development of a framework of analysis to enable improved planning and decision making in respect of the P.S.I. to be undertaken by property advisors and by development interests and policy makers generally.

Chapter One sets out to define what constitutes the P.S.I.. The output of the industry is outlined and its role and significance within the Irish economy is examined.

Chapter Two examines different aspects of output and employment in the P.S.I.. The actual level of employment and output is estimated using new data obtained from the questionnaire survey to supplement existing data. The important relationship between P.S.I. output and employment is also examined.

Chapter Three concentrates on P.S.I. output. The practices regarding fee rates or professional charges adopted by the firms of the industry and the importance of each specific property service to firms and overall output are examined.

Chapter Four sets out to select proxy variables called property indicators to represent the different areas of agency output. The role and qualities of indicators are outlined. The nature of the two sources of agency output; the investment market and the occupation market, are examined to enable the selection of property indicators.

Chapter Five attempts to establish the nature of the relationship between agency and professional services output. Each property service within the professional service classification is examined to identify indicators which can be used in statistical analysis.

Chapter Six sets out to identify the variables which determine the level of P.S.I. output. The link between the general economy and the property indicators is analysed using current research and by carrying out statistical analysis to identify the key variables which can explain the movement of P.S.I. output.

Chapter Seven outlines the main conclusions and recommendations from the thesis.

**CHAPTER ONE:
THE NATURE OF THE PROPERTY SERVICES INDUSTRY**

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1.1 INTRODUCTION

This chapter sets out to establish a number of important factors regarding the Property Services Industry (P.S.I.). The P.S.I. is firstly defined outlining the criteria, scope and nature of the definition employed. The rationale behind the emergence of a P.S.I. is considered in the context of the general economy and the function the P.S.I. serves within this framework is examined.

1.2 DEFINING THE PROPERTY SERVICES INDUSTRY

For the purposes of this study the P.S.I. consists of the member firms^(a) of the Irish Auctioneers and Valuers Institute (I.A.V.I.) and the General Practice Division of the Society of Chartered Surveyors (S.C.S.)^(b) practising in the Republic of Ireland where the business is wholly or partly providing property services to clients.

1.2.1 In-House Surveyors

Excluded from this definition of the industry are in-house surveying and property departments of financial institutions (life assurance companies, pension funds, banks, building societies), private companies, local authorities, government departments and state sponsored bodies. Individual members of the I.A.V.I. and S.C.S. employed by any of the above mentioned organisations or parties are not included in the definition of the P.S.I.

(a) The term "firm" is used in this study to describe various types of P.S.I. ownership and not solely partnerships.

(b) For the purposes of this study S.C.S. member firms also defined as those which comprise only S.C.S. members.

Such property professionals solely undertake property services for their employers and do not have external clients. However, in-house surveying personnel will not undertake all property services required by their employers thus providing further potential sources of income to P.S.I. firms.

1.2.2 The Basis of a Definition

The member firms of the P.S.I. principally describe themselves as being estate agents, auctioneers, valuers, surveyors, chartered (valuation) surveyors, property consultants or a combination of these titles.

The I.A.V.I. and S.C.S. firms which constitute the P.S.I. do not account for all firms which could be described by some of the previously outlined descriptions. However these two bodies were chosen for several reasons in order to provide the basis for a definition of the industry. The I.A.V.I. and S.C.S. are the two oldest and largest, in individual membership terms, property services organisations in this country. The S.C.S. had 205 members in 1992 and the I.A.V.I. had 788 members in the Republic of Ireland in the same year. In addition to full members there were approximately 200 persons in 1992 working within the industry who were studying to achieve membership of either organisation¹. The figures for the I.A.V.I. and S.C.S., however, include some members practising outside of the P.S.I. and those who no longer practise in this country.

Both organisations are, in terms of their membership qualifications, recognised outside of Ireland and approved college courses are recognised by both institutions. In many P.S.I. firms there is a mix of

I.A.V.I. and S.C.S. members and indeed many people employed in the industry hold membership of both organisations.

The other major property services organisation in this country is the Institute of Professional Auctioneers and Valuers (I.P.A.V.). This is a less prominent organisation which has no affiliated college courses or qualifications recognised outside of this country. There is no membership list or register available from this organisation which would make important facts about it available such as, the number of firms or members and their distribution throughout Ireland. Estimation of other statistics such as the output of firms and total employment is therefore impossible. Unless the exact number of firms in the P.S.I. was known the statistical analysis of the questionnaire survey (conducted as part of this study, see Appendix A) data would have been fundamentally flawed. Given this fact alone the I.P.A.V. could not have been considered part of the P.S.I.

Apart from the S.C.S., I.A.V.I. and the I.P.A.V., there is an unknown number of persons who hold auctioneering licences and who are not affiliated to any professional property services organisation. Figures are available from the C.S.O Statistical Abstracts on the number of auctioneers licences granted annually but no other information or further analysis of these figures, such as the spatial distribution of licences throughout the country or names of licence holders is provided.² As a result these figures, i.e. the number of holders of auctioneers licences, cannot be used as a basis for a definition of the P.S.I.

There is some basis for including the I.P.A.V. and holders of auctioneers licences who are not affiliated to any property services

organisation within the definition of the P.S.I. However practical reasons i.e. lack of data, completely rule out the inclusion of these groupings in the definition for the purposes of this thesis.

1.3 THE OWNERSHIP STRUCTURE OF THE P.S.I.

There are currently 469 P.S.I. firms in the Republic of Ireland. In ownership terms the industry is a mix of partnerships, limited companies and sole traders. Of these firms less than two percent originated or were set up outside of the Republic of Ireland³.

None of the firms in the industry has a quotation on the Irish Stock Exchange and no financial institutions have acquired interests in any firm in the industry.

In the United Kingdom (UK) six estate agents have public quotations on the London Stock Exchange⁴. The larger banks and former building societies have acquired major networks of estate agents since the mid-1980's. In Ireland 27 firms or 5.8% of P.S.I. firms have expanded their operations by establishing more than one outlet^(c). These firms account for 73 outlets in total throughout the country⁵.

1.4 P.S.I. - THE RATIONALE

Property plays a key role in the Irish economy as it is involved in some way in every type of economic activity carried on. It may be considered as a form of investment, an essential input in the process of production and a place for people to live. Placing property in the context of the

^(c) A firm can have more than one outlet.

economy and underlining its role does not fully explain, however, the reasons for the emergence of a service industry providing property services to clients.

1.4.1 The Nature of Property and Property Investments

The nature of property transactions and the impact of legislation on property has created a need for the P.S.I.

The high individual unit value of property has led to the emergence of specialists who advise and act for clients in property transactions. Property transactions are difficult to assess primarily because property by its nature is heterogeneous and of high unit value. For most people buying and selling a house is probably the most important financial decision undertaken in their lifetime and even at the lowest level property investment can only be undertaken with relatively large sums of money.

Market knowledge is an aspect of any business which is crucially important and this is the case with property also. However, knowledge of the property market is hampered by the heterogeneity of property, confidentiality, the absence of general information and the lack of a central marketplace such as the Stock Exchange for equities and gilts. The main strength or attribute of the P.S.I. is its ability in interpreting the market to apply to particular properties.

In Ireland, as in other countries, property is subject to numerous kinds of legislation which imposes obligations on those involved in property and makes property transactions more complex in nature. The more important legislation directly affecting property is the Landlord and

Tenant Acts, Local Government (Planning and Development) Acts, Rating and Compulsory Purchase legislation. The value of property is obviously affected by such legislation and how this is reflected in the valuation of property and property transactions is a skill the industry provides.

1.5 PROPERTY SERVICES

Property services may be divided into two main classifications: agency and professional services.

1.5.1 Agency Services

Agency is the legal relationship which arises when one person called the agent acts on behalf of another person called the principal⁶. Agency services arise where the P.S.I. firm acts as an agent for the client (the principal) to sell, let or acquire property on his behalf. Agency demands property marketing expertise, negotiation skills and the knowledge and understanding required for valuation which is included as part of an agents duties. One element of the agent's expertise is to recommend the most appropriate means of disposal for the subject property, whether by private treaty, tender or auction⁷.

1.5.2 Professional Services

The professional services classification consists of five categories of property services.

(i) Valuations is a property service which encompasses a wide and diverse range of services. Unlike the other professional services where the property service is required for at most one or two specific purposes valuations are needed for a multitude of varying purposes.

The principal types of valuations are those required arising from loans from financial institutions, property insurance, balance sheets, company accounts, investment portfolios and taxation requirements.

- (ii) Compulsory purchase work may be carried out by firms on behalf either of the acquiring authority or claimant. P.S.I. firms submit claims in respect of land being acquired as a result of a compulsory purchase order (C.P.O.). Other firms advise the acquiring authority on the amount of the claim they should pay. If settlement of the claim is not reached by agreement the amount of the claim will be decided at arbitration when firms represent both parties to a claim.
- (iii) Rating work arises where the (P.S.I.) firm submits to the Valuation Office an appeal against the rateable valuation for a property on behalf of a client in order to achieve a reduction in the overall rates amount.
- (iv) A firm may act for either the landlord or tenant in rent review negotiations which arise because of the periodic revision of rent stipulated in the lease. The role of the firm is essentially to advise the client on the amount of the revised rent by compiling a proof of evidence⁸. If the amount of the new rent is not reached by agreement, firms also act for both parties when the revised rent has to be settled by arbitration or expert adjudication.
- (v) Property management is a service undertaken by firms to maximise the return on property investments or to reduce the costs of occupation to property owners. Property management work can vary in scope and nature principally because the management contract or brief can differ from client to client imposing varying levels of duties

required from the P.S.I. firm⁹. Briefs can entail firms undertaking a range of tasks such as collection of rents and service charges, supervising repairs, cleaning and maintenance plus other professional services including rent reviews. Firms can also be employed under "consultative briefs" where their involvement is not on a day to day basis but rather in giving longer term advice on matters such as redevelopment, refurbishment and expansion of existing properties¹⁰.

1.6 NON-PROPERTY SERVICES INCOME

A significant finding from the questionnaire survey was that 85% of P.S.I. firms earn income from activities that are not defined as property services. Non-property services income consists principally of: (i) Sale and valuation of fine art, antiques, plant, machinery and livestock. (ii) Acting as financial brokers and advisers for mortgages, pensions and insurance. (iii) Structural and building surveying. Table 1.1 shows the relative importance of non-property services income to firms in each output category.

TABLE 1.1 P.S.I. Firms - Non Property Services Income

% total output from non-property sources	Output of Firms					
	less than £100k	£100k - £250k	£250k - £500k	£500k - £1M.	£1M. - £2M.	£3M. - £5M.
0	7(4)	3(3)	1(1)	3(3)	0(0)	2(2)
0-10	22(6)	11(3)	3(2)	0(0)	1(1)	0(0)
10-20	16(6)	2(0)	1(0)	0(0)	0(0)	1(1)
20-30	7(2)	2(1)	0(0)	0(0)	0(0)	0(0)
30-40	7(3)	2(0)	0(0)	0(0)	0(0)	0(0)
40-50	4(0)	1(1)	0(0)	1(1)	0(0)	0(0)
>50	4(1)	1(0)	0(0)	1(0)	0(0)	0(0)

Source: P.S.I. Questionnaire Survey, 1992.

This high percentage (85%) underlines the fact that persons with a variety of skills, other than property services skills, operate within the industry. In the smaller firms the probability is that staff will have to undertake both property and non-property services. Where a firm consists of just one person this is certainly the case. The questionnaire (survey) revealed that 87.5% of "one-man" firms had non-property services income. The larger the firm the more likely it is that specific persons, separate departments or subsidiaries will be assigned solely for undertaking non-property services. This has occurred in some of the largest firms such as Hamilton Osborne King and Gunnes.

1.6.1 An Important Source of income

Many firms do not generate sufficient income from property services and must seek business in other areas of related (or complementary) work. In the case of non-Dublin based firms this is particularly true with 95% earning income from non-property services. The corresponding figure for Dublin firms is 70.3%. These figures also illustrate the different business environments in which Dublin and non-Dublin based firms operate.

Property, both in volume and value terms, is disproportionately concentrated in the Dublin region. Small practices outside Dublin would find it virtually impossible to compete for instructions for property services within Dublin. Many of the larger Dublin based firms are appointed sole or joint agents for many of the larger property developments and transactions outside Dublin, making inroads into the local firms potential market. Many P.S.I. firms have to undertake related work such as insurance and mortgage brokerage thus acting as general

financial services advisers. Agriculture is a more important economic activity outside Dublin and consequently some P.S.I. firms act as livestock auctioneers.

1.7 SUMMARY

The P.S.I. is an important service industry which undertakes specific tasks in relation to the complex product, property, which forms an integral part of the Irish economy.

The P.S.I. consists of 469 firms which are members of the I.A.V.I. and S.C.S. These two organisations are the longest established and most reputable property services organisations qualified to constitute the basis of a definition of the industry.

The firms which make up the P.S.I. are a mixture of indigenous partnerships, sole traders and private companies. P.S.I. firms undertake property services which may be listed under two main classifications; agency and professional services. In broad terms non-property services income also represents a relatively significant source of income to the P.S.I. firms.

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**CHAPTER TWO:
OUTPUT AND EMPLOYMENT**

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2.1 INTRODUCTION

Within any industry or sector of the economy, and more particularly the service sector, labour is an essential input in generating output. There are negligible data currently published relating to total employment and output in the P.S.I. in Ireland.

This chapter sets out to review and improve current employment and output data principally by means of the questionnaire survey. This will provide the basis for estimating output and total employment in the industry whilst investigating the relationship between output and employment trends.

2.2 EMPLOYMENT IN THE P.S.I.

The individual firm is the basic unit of the P.S.I. In the 1988 Census of Services there were 720 outlets listed under the House and Estate Agents classification. This classification includes all outlets owned by persons holding auctioneers licenses and practising as house and estate agents. The P.S.I. as defined previously, had an estimated 469 firms and 516 outlets in 1992.

2.2.1 Current Employment Statistics

According to 1992 figures there were 788 fellows and members of the I.A.V.I. and 205 fellows and associates of the S.C.S. in the Republic of Ireland. These figures are an approximate guide to the number of qualified property professionals in the country, but they do not offer a precise indication of employment levels in the P.S.I. as they include qualified persons working for non-property services companies or

organisations in the public or private sector and persons who do not practise as estate agents or auctioneers.

Apart from I.A.V.I. and S.C.S members employed in P.S.I. firms there are also persons of various occupations or "support" staff. In addition, there are unqualified staff and persons seeking full membership of either the I.A.V.I. or the S.C.S. who broadly perform similar jobs to fully qualified colleagues.

The 1988 Census of Services showed that 2,601 persons were engaged in outlets under the house and estate agents classification.

2.2.2 Questionnaire Survey - New Employment Data

The questionnaire survey results are based on October 1992 figures for 106 firms which responded with a total of 673 persons engaged in these firms. Within this sample of respondent firms employment levels had increased by 27.5% between 1987 and 1992 and by 42% from 1982 to 1992. Employment trends for the C.S.O. House and Estate Agents classification could not be established due to lack of data for the same time period.

There are difficulties associated in applying these results from the sample to estimate the level of total employment in the P.S.I. In percentage terms, 106 firms (sample size) represent 23% of the number of firms as defined in 1.2. However, it is not possible to deduce that the 673 persons engaged in these 106 firms represents 23% of total employment due to variations in firm size and consequently in numbers employed.

2.2.3 Estimation of Total Level of Employment.

The estimation of the level of employment is difficult due to the distributive pattern of P.S.I. firms and P.S.I. outlets as well as house and estate agents outlets (as defined in 1988 Census of Services).

TABLE 2.1 Distribution of Firms and Outlets

Area	Number of P.S.I. Firms	Number of P.S.I. Outlets	Number of C.S.O. Outlets
STATE	469	516	720
LEINSTER	282	315	431
MUNSTER	100	110	173
CONNAUGHT	53	57	80
ULSTER	34	36	36

Source : I.A.V.I. / S.C.S. / C.S.O. Note: C.S.O. figures are for 1988 and P.S.I. figures are for 1992.

Table 2.1 shows that there is a very similar pattern of distribution for both the P.S.I. and Census of Services defined outlets. However the distribution of staff numbers engaged in house and estate agents differs from the pattern for the location of outlets.

Approximately one third (32.2%) of outlets are located in Dublin while 42.5% of staff are situated there. The Census of Services figures show that Dublin outlets have an average of 4.8 persons per outlet, higher than any provincial or city figure except Limerick. The figure for Limerick was obtained on the basis of 15 outlets compared with 232 for Dublin. There are approximately 75% of firms that have between two and five staff and only 11.3% (twelve firms) have ten or more staff. However these twelve firms accounted for 57.4% of total staff numbers. Although

the vast majority of firms have less than ten staff, these firms have a disproportionate impact on overall employment levels and on average firm size.

The questionnaire survey showed that employment growth in the industry seems to be concentrated in a small proportion of firms. Of the net additional staff taken on by the 106 firms in the sample over the last five years, five firms account for over 71% of new staff. This trend is even more pronounced over the last ten years with the figure increasing to 72.3%. (See Appendix C)

The average firm size in the sample is 6.34 persons per firm. Table 2.2 shows the effect of removing the five largest firms in staff terms, when calculating the average.

TABLE 2.2 Average Firm Size

	No. of Persons
Average firm size - (sample)	6.34
Without top firm	5.41
Without top 2 firms	4.84
Without top 3 firms	4.28
Without top 4 firms	4.03
Without top 5 firms	3.81

Source : P.S.I. Questionnaire Survey, 1992

Clearly, the five largest firms have a major impact on the average firm size. This is not surprising considering that the questionnaire survey responses contain three of the five largest firms in staff terms.¹

Applying the overall average of 6.3 would give a total industry employment level of 2,955 persons. Given the nature of the sample this

figure would over-estimate total employment levels in the industry. An alternative figure could be obtained by removing the top five firms and applying the 4.3 average to the remaining 464 firms (Total Number of P.S.I. firms, 469, less top five firms). Adding this figure of 1985 to the estimated combined staff levels of the top five firms (450 persons) gives an employment level of 2,445. (See Appendix D)

The methodology used for the second estimate is more appropriate and therefore total employment is estimated at approximately 2,500 persons.

2.3 P.S.I. OUTPUT

2.3.1 Overview of Output Research

Annual figures for the P.S.I. are not produced. With the possible exception of the housing market, most research is confined to the Dublin area with the rest of the country being virtually ignored. The volume of property research in Ireland is relatively small and it tends to be of a general rather than a specific nature. The narrow focus and subjectivity of research published in this country is apparent particularly when compared with research in the United Kingdom.

Two firms in Ireland have separate research departments and in total only two people are employed in the P.S.I. for strictly property research purposes. There are no private property research companies or databases in Ireland. In the United Kingdom there are several private property research companies and independently produced databases such as the Investment Property Databank (I.P.D.) which generate considerable information on the property market and its performance. The larger P.S.I. firms in the United Kingdom produce detailed property market statistics on a national, regional and urban area basis as well as

for districts within towns and cities. The Valuation Office in the United Kingdom also produces a similar range of statistics.

2.3.2 Obstacles to P.S.I. Output Estimation

The lack of output figures for the P.S.I. is due to the fact that figures for individual firms are not available.

Firms are not obliged to publicly disclose information on fee income received if they are not quoted companies. In the United Kingdom several P.S.I. firms are publicly quoted companies but where member firms are partnerships, output is considered impossible to gauge.² There is no independent body currently collecting information on P.S.I. output in Ireland. The principal reasons outlined for the lack of property research in Ireland are the small size and scale of the property market in this country and its minor international significance in comparison with, for example, the property market in the United Kingdom.³

There is, in contrast, an annual review of the Construction Industry in Ireland produced by the Department of the Environment in which the value of Construction Industry output is estimated.

While the larger agency deals and transactions may be reported in the media, it is not yet established what percentage these transactions represent of total P.S.I. output. The absence of an independent collecting body, confidentiality and the lack of compulsion on disclosure of details on transactions ensures that estimates of output value lack a firm foundation.

2.3.3 Estimating P.S.I. Output - Possible Approaches

(i) Value Added Tax (V.A.T.) is chargeable on the supply of goods and services within the State by a taxable person in the course or furtherance of any business carried on by him, and on goods imported into the State. Persons supplying taxable goods or services within the State in the course or furtherance of business are required to register and account for tax if their turnover is in excess of certain limits⁴.

V.A.T. receipts would be an ideal way of estimating P.S.I. output. The total V.A.T. charged by a firm would represent a percentage of the value of services provided to clients. If total V.A.T. receipts for P.S.I. firms were available, output could be estimated on this basis.

The Revenue Commissioners publish various statistics regarding V.A.T. but the P.S.I. is not treated by them as a separate category. It (the P.S.I.) is included in the Services category which is the largest category. In 1990 Services represented 37,921 of the 117,969 registrations for V.A.T. purposes⁵. V.A.T. statistics are not produced on an industry wide or sectoral basis with the Revenue Commissioners only publishing overall national figures. P.S.I. output cannot be estimated from current V.A.T. receipts' statistics.

(ii) Stamp duties are charged mainly on legal and commercial instruments and in respect of certain transactions. With regard to property, stamp duty is generally payable on the conveyance of land, houses and other property, leases, mortgages and settlements⁶. Table 2.3 shows that stamp duty payable on the sale of land and property generates the largest amount of stamp duty receipts relating to property.

TABLE 2.3 Stamp Duty Receipts - Sale of Land and Property

Year	Stamp duty receipts - sale of land and property (£M.)	% of total stamp duty attributable to the sale of land and property
1985	48.8	93.8
1986	52.5	93.2
1987	53.2	89.4
1988	66.2	89.6
1989	103.9	90.8
1990	101.2	89.1

Source: Statistical Report of the Revenue Commissioners 1990.

Annual changes in the level of stamp duty receipts can be used as a broad indicator of the level of property transactions. However it is not possible to use stamp duty receipts as a way of estimating total P.S.I. output. Firstly there are two different areas of P.S.I. output; agency and professional services, and stamp duty receipts gives absolutely no indication of the level of professional services output. Secondly, receipts do not take into account property transactions that are exempt from stamp duty.

2.3.4 Questionnaire Survey - Profile of Firm's Output

Several questions in the questionnaire were designed to improve knowledge of the level of output of firms of the P.S.I.

The questionnaire survey data showed that the vast majority of firms (87.2%) earned less than £250,000 in fee income (output). Only four firms earned in excess of £1 million per annum (see table 2.4). The output data demonstrates that a small number of firms have a higher

average output. No firms based exclusively outside Dublin had output greater than £1 million.

Table 2.4 Output Profile of Sample Firms

Output Category (IR£)	Number of firms in each category	Percentage of firms in each category
less than 100,000	67	65(52.5)
100,000-250,000	22	21.4(20)
250,000-500,000	5	4.8(7.5)
500,000-1,000,000	5	4.8(10)
1,000,000-2,000,000	1	1(2.5)
2,000,000-3,000,000	0	0(0)
3,000,000-5,000,000	3	3(7.5)

Source: P.S.I. Questionnaire Survey, 1992. Figures in brackets are for Dublin firms.

2.3.5 Estimation of P.S.I. Output

Total P.S.I. output can be estimated using both data from the questionnaire and various published sources with the questionnaire providing the basis of output estimation.

There are several difficulties associated with using the sample data to estimate total industry output. Firms only stated their gross fee income (output) within given categories, for example, £250,000 to £500,000 as opposed to a precise figure of data obtained is obviously more difficult than if actual output figures were known.

Business and Finance ⁷ magazine estimated the gross fee income of Irish estate agents in 1991 to be £60m. The five largest estate agents in gross fee income terms were; J.L.W. (£5m), Lisney (£4.3m), Hamilton Osborne King (£3.5m), Gunnes (£3.25 m) and Sherry Fitzgerald (£3m).

These firms account for £19.05m in fee income. However no methodology is outlined for estimating total industry output and the term "Irish estate agents" to which the total output estimate refers is not defined.

Three of the top five firms identified in Business and Finance article are included in the sample of firms from the questionnaire survey. It would be misleading if this sample which accounts for 23% of firms was used as a basis for estimating industry output without making significant adjustments.

Applying the results of the sample, without analysis or reference to published sources, directly to the entire industry would overestimate the size of P.S.I. output (see table 2.5). This is mainly because such an estimation would overstate the number of firms in the £3M. - 5M. category.

Table 2.5 Estimation of Output - With Distorting Factor

Class Mark IR.£	No. of firms	Contribution to output IRM.
50,000	305	15.25
175,000	100	17.5
375,000	23	8.625
750,000	23	17.25
1,500,000	4	6
2,500,000	0	0
4,000,000	14	56
	Total ---->	121

Source: P.S.I. Questionnaire Survey, 1992.

2.3.6 Overview of Estimation Procedure

There are 469 firms in the P.S.I. with 157 classed as Dublin firms and 312 firms classed as non-Dublin. In total 103 firms (40 Dublin/63 non-Dublin) responded to the questionnaire survey. This means that 117 Dublin firms and 249 non-Dublin firms did not respond to the survey.

Output is estimated based on:

(i) Figures available for firms with output greater than £3M.

(ii) Analysis of the questionnaire data excluding firms with output greater than £3M. which account for £19.05M. in gross fee income. The results obtained from the respondent firms are then applied to the rest of the industry.

2.3.7 Estimation of Output - Procedure

The actual step by step procedure used to arrive at a figure for P.S.I. output is outlined in this section from (a) to (f).

(a) The top five Dublin firms account for £19.05M.

Three of the top five Dublin firms responded to the questionnaire survey. The range of output stated by each firm i.e. £3M.-5M., in the questionnaire survey corresponded with the output figures quoted in the Business and Finance article.

(b) Table 2.6 shows the output profile of the 103 firms in the questionnaire survey sample, categorised as either Dublin or non-Dublin firms.

TABLE 2.6 Sample Firms - Dublin/Non Dublin

Output Category (IR£M.)	Dublin firms % in each category	Non-Dublin firms % in each category
less than £100,000	52.5	73.02
£100,000-£250,000	20	22.22
£250,000-£500,000	7.5	3.17
£500,000-£1M.	10	1.59
£1M.-£2M.	2.5	0
£2M.-£3M.	0	0
£3M.-£5M.	7.5	0

Source: P.S.I. Questionnaire Survey, 1992.

(c) The next stage in estimation is to apply the sample data, shown in table 2.6, to the other firms in the industry that did not respond to the questionnaire survey. Applying the sample data to Dublin firms:

52.5% of 117 = 61.425 61 firms (less than £100,000)

20% of 117 = 23.4 23 firms (£100,000-250,000)

7.5% of 117 = 8.775 9 firms (£250,000-500,000)

10% of 117 = 11.7 12 firms (£500,000-£1M.)

2.5% of 117 = 2.925 3 firms (£1M.-£2M.)

Using the sample data the profile of the remaining firms has been estimated. Adding the sample results, which are already known (see 2.4), the number of Dublin firms in the various output categories is as follows:

TABLE 2.7 Output Profile - Dublin firms

Output Category (IRM.)	No. of firms (sample)	No. of firms (non-respondents)	Total no. of firms
less than 100,000	21	61	82
100,000-250,000	8	23	31
250,000-500,000	3	9	12
500,000-1M.	4	12	16
1M.-2M.	1	3	4

Source: P.S.I. Questionnaire Survey, 1992.

Repeating the same process described above for non-Dublin firms:

73.02% of 249 = 181.82 182 firms(less than £100,000)

22.22% of 249 = 55.35 55 firms(£100,000-250,000)

3.17% of 249 = 7.89 8 firms(£250,000-500,000)

1.59% of 249 = 3.96 4 firms(£500,000-£1M.)

TABLE 2.8 Output Profile - Non Dublin firms

Output Category (IR£M.)	No. of firms (sample)	No. of firms (non-respondents)	Total no. of firms
less than 100,000	46	182	228
100,000-250,000	14	55	69
250,000-500,000	2	8	10
500,000-1M.	1	4	5

Source: P.S.I. Questionnaire Survey, 1992.

(d) In order to estimate the total value of firms' output, class marks are used. A class mark is the average of the stated lower and upper limits of a class⁸. So for example, the class mark of the £250,000- £500,000 output category is £375,000. Tables 2.9 and 2.10 show that using the class mark, the value of each output category is obtained. From this the total value of output of Dublin and non-Dublin firms is estimated.

Table 2.9 Estimation of Output (Value) - Dublin firms

Output Category (IR£)	Class Mark (IR£)	No. of firms	Class Mark x No. of firms
less than 100,000	50,000	82	£4.1M.
100,000-250,000	175,000	31	£5.425M.
250,000-500,000	375,000	12	£4.5M.
500,000-1M.	750,000	16	£12M.
1M.-2M.	1.5M.	4	£6M.
		TOTAL -->	32.025M.

Source: P.S.I. Questionnaire Survey, 1992.

TABLE 2.10 Estimation of Output (Value) - Non Dublin Firms

Output Category (IR£)	Class Mark (IR£)	No. of firms	Class Mark x No. of firms
less than 100,000	50,000	228	£11.4M.
100,000-250,000	175,000	69	£12.075M.
250,000-500,000	375,000	10	£3.75M.
500,000-1M.	750,000	5	£3.75M.
		.TOTAL-->	30.975M.

Source: P.S.I. Questionnaire Survey, 1992.

(e) The questionnaire survey data showed that 7.5% of Dublin firms are in the £3m.-£5m. output category. However there are only five firms in this output category so the size of this category is overestimated by 7 firms. In terms of the overall estimation of P.S.I. output, an extra 7 firms in this category equates to an additional £28m. in output. These extra 7 firms will be valued at the average output of the other 150 firms, which is £340,500.

(f) The next step is to subtract non-property services income from the totals for Dublin and non-Dublin firms. This involves using the data on non-property services income in table 1.1 to obtain an average percentage figure to deduct from both totals. It is difficult to arrive at an exact percentage deduction for Dublin and non-Dublin firms because exact percentages were not available.

Clearly though as table 2.11 shows, the vast majority of firms earn 20% or less of their income from non-property services. The average deduction will be higher for non-Dublin firms, as non-property services income is more important to non-Dublin firms (see 1.6.1).

TABLE 2.11 Non-Property Services Income - Dublin/Non Dublin

Non-property services income - as a % of total firm output	% of Firms	
	Dublin	Non-Dublin
0 - 10%	61	45.2
0 - 20%	78	66.1

Source: P.S.I. Questionnaire Survey, 1992.

The percentage deductions chosen therefore to represent the average amount attributable to non-property services is 10% for Dublin firms and 15% for non-Dublin firms:

Dublin firms - £32.025M. [refer to (d)]

£19.05M. [refer to (a)]

£2.3835M. [refer to (e)]

£53.4585M.

Subtract 10% from total - £53.4585M. less £5.34585M.= £48.11M.

Non-Dublin firms - £30.975M.[refer to (d)]

Subtract 15% from total - £30.975M. less £4.65M.= £26.3M.

(g) Calculate total P.S.I. output:

Dublin firms £48.11M.

Non-Dublin firms £26.3M.

£74.41M.

2.4 THE RELATIONSHIP BETWEEN OUTPUT AND EMPLOYMENT

Automation and the application of information technology in manufacturing industry have meant that increases in output no longer guarantee proportionate or indeed any increases in employment levels, a trend that is also occurring in some service industries.⁹

An increase in fee income (output) was identified as the single most important factor in deciding to take on property staff by approximately 50% of P.S.I firms (in the sample from the questionnaire survey) indicating a link between output and employment. (See table 2.12)

TABLE 2.12 Reasons for taking on new staff

Reason	Ranking			
	1st.	2nd.	3rd	4th
Increase in fee income	48	13	23	-
Extending range of services	28	28	23	-
Existing staff fully occupied	21	33	22	-
Other	1	5	2	1

Source : P.S.I. Questionnaire Survey, 1992

Total employment increased by 27.5% between 1987 and 1992 and by 42% between 1982 and 1992 in the 106 firms included in the sample. Between 1987 and 1992, 75% of the increase in staff was attributed to just five firms with a similar trend over the 1982 and 1992 period. (See appendix D). Output figures from the questionnaire for firms showed that between 1987 and 1992, 95% of firms increased their output, with 80% of firms increasing output by greater than the rate of inflation. (See Table 2.13). An analysis of the output figures shows that firms which took on net additional property staff between 1987 and 1992 experienced an average increase in output of 60.5% over that period. Firms which did not take on net additional staff (71% of all firms) had an average increase in output of 45.8% over the 1987 to 1992 period.

TABLE 2.13 Output of Firms - Overall Change 1987 to 1992

Overall Change	No. of Firms
Decrease	3
No Change	1
Increase by:	
0 - 20%	19
20 - 40%	18
40 - 60%	13
60 - 80%	4
80 - 100%	8
over 100%	11

Source: P.S.I. Questionnaire Survey, 1992.

Note: Re. Table 2.13, the cumulative increase in the rate of inflation over this period was 13.9%.

The three firms in the sample with output greater than £3 million experienced the greatest average increase in output (100%), between 1987 and 1992 of all output categories. These particular firms also accounted for c. 65% of all net additional staff. The questionnaire data indicates that the firms which experience the greatest output growth also show the largest increases in staff numbers.

2.5 SUMMARY

Current available data on employment and output in the P.S.I. is relatively poor and the questionnaire survey undertaken as part of this study has provided important additional data.

The P.S.I. is an indigenously owned industry with the majority of firms having only one outlet, less than ten staff and output of less than £100,000 p.a. Total employment in the P.S.I. is estimated at 2,500 and output estimated at £74m. Output and employment are

disproportionately concentrated in a small number of firms. Increases in (P.S.I.) output has historically generated significant employment growth in the industry.

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CHAPTER THREE:

P.S.I. OUTPUT - PROFESSIONAL CHARGES AND THE RELATIVE IMPORTANCE OF AGENCY AND PROFESSIONAL SERVICES

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3.1 INTRODUCTION

P.S.I. output consists of fee income earned by firms undertaking property services for clients. The value of output depends on the interaction of two factors; the volume of work undertaken by firms and what they charge for providing the services.

This chapter sets out to examine what industry firms charge for providing property services and the relative importance (in output terms) of agency and professional services income to the industry.

3.2 PROFESSIONAL SERVICES

Changes in either the volume of work undertaken or professional charges (fee rates) can affect the overall level of output. However most market commentary is directed towards the volume of work and not fee rates. The implicit assumption here seems to be that fee rates will remain static and firms will adopt similar rates while the volume of work only has the ability to vary considerably.

3.2.1 The 1991 Competition Act and Fee Rates

In principle a firm can quote whatever fee rates it wishes for property services. Prior to 1991 the two constituent bodies of the P.S.I., the I.A.V.I. and S.C.S., both issued recommended scales of professional charges for property services. These fee rates, although not mandatory for firms to adopt, were recommended by both organisations.

However the 1991 Competition Act changed this situation. Section four of the 1991 Act specifically prohibits all anti-competitive agreements, decisions or concerted parties including all attempts to fix prices or

other trading conditions, sharing markets, controlling markets, etc. (See Appendix E). The application of the 1991 Act deems such guidelines on fee rates as illegal. Sections Three and Four of the 1991 Act effectively means that professional associations, such as the I.A.V.I. and S.C.S., can no longer issue recommended guidelines on fee rates to their members (See Appendix F).

3.2.2 Agency Fee Rates

All firms which responded to the questionnaire survey based their agency fee rates on a percentage of either capital value for sale and acquisition or rental value for letting. For each of the property sectors the most common fee rate for sale of property was 2.5% of capital value with 3.5% being the second most commonly quoted fee rates. The range for all sectors went from as low as 1% to 3.5%. In the new residential sector though 2.5% was adopted by just 26.6% of firms (which was the lowest for all sectors) with 19% using 1.5%.

The range of fee rates adopted for acquisition work was from 0.2% up to 3%. The most commonly quoted rate in all sectors was 1% of capital value with 35% of firms quoting this rate, with almost as many firms (30%) quoting 1.5%.

Letting fee rates ranged from 2% up to 15% of rental value with two firms quoting £100 set fees for the residential sector. There was a more definite industry preference in respect to letting fees with 60.1% of firms quoting 10% of rental values. In all sectors, with the exception of agriculture, 10% was the most commonly quoted rate with 5% being the second most used rate. (See Appendix G for agency fee rate data).

3.2.3 Agency Fee rates - Changes From Quoted Rates

Although fee rates are quoted by firms for agency work they are by no means rigid or fixed. A certain amount of negotiation on fees is common. Question 13 in the questionnaire survey was devised to assess the circumstances when fee rates vary from those normally quoted by firms. Firms were asked to rank selected (or unnamed) factors in order of importance.

The dominant reason for varying fee rates is clearly the firms business relationship with the client, 53.9% of firms ranked this the most important factor. Increased competition between firms was ranked the most important by 23.5% of firms. It is significant that 96.2% of firms which responded to the questionnaire answered this particular question, indicating broadly the level of flexibility on fee rates throughout the industry (See Table 3.1).

TABLE 3.1 P.S.I. Fees - Variation from Quoted Rates

REASON	RANKINGS				
	NO.1	NO.2	NO.3	NO.4	NO.5
Increased Competition	24	26	15	11	14
Expected Value for sale/let	11	20	27	18	13
Urban/Rural Property	2	5	8	31	31
Relationship with Client	55	23	15	4	3
Difficulty of Transaction	10	21	22	23	14

Source: P.S.I. Questionnaire Survey, 1992

3.2.4 Professional Services Fee Rates

In terms of the nature of the actual work involved, professional services are more varied than agency services. Where fee rates for agency work are based on percentages of capital and rental values, there is more diversity in the way in which professional services fees are calculated.

The majority of firms (87.5%) quote a percentage of the revised rent as their fee for acting for their client in a rent review. The remaining firms quote hourly rates, negotiated fees or a percentage of the revised rent subject to a minimum fee.

Fees for rating work are based on the firm achieving a reduction in the rates bill on appealing the rateable valuation for their clients. The majority of firms (93.8%) base their fee on this premise, so if no reduction is obtained, then no fee is earned. The most commonly quoted rate (by 81.2% of firms) is that fees will be 50% of the reduction in the rates bill in the first year.

Fees quoted for property management vary considerably for several reasons. Firstly the brief or management contract stipulates the level of work involved and this differs from client to client. The questionnaire survey highlighted two other important reasons; type of property and whether it is a multi-tenanted property.

Some firms (60%) simply quoted a percentage of rent collected without referring specifically to any property sectors or type of letting. These percentages ranged from 3% to 15%, with 10% accounting for

approximately half this number. The wide variation in fee rates becomes apparent by looking at the rates quoted by firms for specific types of property and lettings.

Acquiring authorities set down fee rates up to a maximum of 2.5% of total claim value for compulsory purchase work. The questionnaire results showed that the majority of firms in the industry are paid on a different basis to this. Only 48.7% of firms calculate fees on a straight percentage of total claim value with 23.1% basing their fees on a hourly rate. This property service showed the greatest variation in methods of calculating fees.

The majority of firms (81.1%) which responded to the questionnaire quoted fees for residential mortgage valuations. The results for this question showed quite a range of fee rates charged.

The principal methods of calculating fees were (i) as a percentage of the value of the house, (ii) a set fixed fee, (iii) a percentage of the value of the house subject to a minimum fee. Percentages quoted ranged from 0.2% to 2% of value and set fees ranged from £25 to £150. Where the fee was based on a percentage subject to a minimum, the minimum fee ranged from £50 to £100.

The majority of firms (90.3%) base fees for insurance valuations on a percentage of the reinstatement value of a property. The remaining firms quote fees on a hourly rate or at a fixed fee. The range of fees quoted on a percentage of reinstatement value is from 0.15% to 1.5%. The most commonly quoted rate was 0.133% quoted by 43.6% of firms. The vast majority of firms (91.1%) quote fees for asset and investment valuations

as a percentage of capital value. The range of percentages is from 0.15% to 2% with the latter being quoted by 56.9% of firms. (See Appendix H for professional services fee rates).

3.2.5 Average Fee Rates

The recommended professional charges previously issued by both the I.A.V.I. and S.C.S. still have a relatively significant influence on fees charged by industry firms. Clearly the fee rates and methods of fee calculation (quoted) which were the most evident for each property corresponded with the former recommended scales. However there was considerable variation and diversity in most property services regarding professional charges which renders it difficult to specify average industry wide fee rates.

3.3 P.S.I. OUTPUT - CONTRIBUTION OF AGENCY AND PROFESSIONAL SERVICES

The findings of the questionnaire suggest that agency work represents the more important source of income to the P.S.I.. Agency services earned the largest proportion of income for 79% of firms compared to a figure of 12% for professional services. The questionnaire data also showed that agency was ranked as the largest source of income by more firms in each range of total output (See Table 3.2).

TABLE 3.2

P.S.I. Output - Contribution of Agency and Professional Services

Output Category	Greater Share of Output From Agency Services % of Firms	Greater Share of Output From Professional Services % of Firms	Equal Share of Output % of Firms
< £100,000	83.3	12.7	4.6
£100k - £250k	76.2	14.3	9.5
£250k - £500k	80	20	0
£500k - £1m	40	20	40
£1m - £2m	100	0	0
£2m - £3m	-	-	-
£3m - £5m	50	0	50
Overall	79	12	9

Source: P.S.I. Questionnaire Survey, 1992.

Table 3.3 shows that firms with large percentages of their output attributable to agency services were not concentrated in the low output categories.

TABLE 3.3 Agency Services Fee Income - % of Total Output

Total firm output from agency	less than £100k	£100k-£250k	£250k-£500k	£500k-£1M	£1M-£2M	£2M-£3M	£3M-£5M
0 - 20%	4.5	4.8	20	0	0	-----	0
20 - 40%	7.5	9.5	0	20	0	-----	0
40 - 60%	8.9	19	0	40	0	-----	33.3
60 - 80%	37.3	28.6	40	0	100	-----	0
80 - 100%	41.8	38.1	40	40	0	-----	66.7
TOTAL	100	100	100	100	100	-----	100

Source: P.S.I. Questionnaire Survey, 1992.

Note: k =£1000

3.3.1 Agency Income - Questionnaire Data

Questions 10 and 11 in the questionnaire asked the respondents to rank (from 1 to 6) in order of importance the various property sectors and professional services which provide their firm with the most agency and professional services income. The data from these questions provide importance rankings as shown in Table 3.4.

TABLE 3.4 Agency Output - Participation Rates

Ranking of Sector	Agric.	Retail	Office	Industrial	Residential	Leisure
No. 1	14	13	3	2	70	2
No. 2	26	28	16	4	19	1
No. 3	5	37	9	21	0	9
No. 4	6	8	14	22	1	20
No. 5	8	0	9	16	2	15
No. 6	7	0	11	4	2	13
Total	66	86	62	69	94	60
No. Which Replied	103	103	103	103	103	103

Source: P.S.I. Questionnaire Survey, 1992.

Table 3.5 shows the participation rates by P.S.I. firms in a particular agency service. The participation rate states the percentage of firms that undertake a particular service, for example, the participation rate for the residential sector is 91.3% of firms sampled providing this service to clients. Table 3.5 also states importance rankings for each property sector excluding rankings from 4 to 6. So for example, the 68% figure for the residential sector means 68% of firms which responded rated the residential sector as their most important source of agency income.

TABLE 3.5 Agency Output - Importance Rankings

Property Sector	Participation Rate By P.S.I. Firms	Importance Rankings No. 1	Importance Rankings No. 2	Importance Rankings No.3
Residential	91.36	68	86.4	86.4
Retail	83.5	12.6	39.8	75.7
Office	60.2	2.9	18.4	27.2
Industrial	66	1.9	5.8	25.2
Agriculture	64.1	13.6	38.8	43.7
Leisure	58.2	1.9	2.9	11.6

Source: P.S.I. Questionnaire Survey, 1992.

Appendix I shows the importance rankings analysed by the output of firms and contains the importance rankings analysed by agency content. Agency content refers to the percentage of total output which agency represents. Analysis by firms' output is necessary because for example, a No. 1 ranking in a firm of output less than £100,000 is unlikely to be as significant as a No. 1, 2 or 3 ranking in a firm of output greater than £1 million. Likewise, the significance of rankings may differ in firms depending on the agency content.

3.3.2 Contribution of Agency Services

The questionnaire data clearly indicates that the residential property sector is the most important source of agency income for the P.S.I..

The residential sector contributed income to 91.3% of firms with 68% of firms ranking it the most important source of income and 86.4% either first or second most important. All of these figures are higher than those for the other property sectors. Analysing these rankings by the total output of firms shows that residential agency income is significant throughout all categories of output and it is not only important to low output firms (See Appendix I).

An analysis of the questionnaire data suggests that retail agency is second in importance, behind the residential sector, in terms of agency output. The importance rankings and participation rates for retail were higher than the other non-residential sectors.

The significance of the importance rankings was not diminished when the output of firms was taken into account. The figures for retail agency did not show an over concentration in the lower output firms significantly worse in comparison to the other sectors.

The office sector is the third most important source of agency income to the P.S.I.. While Table 3.5 shows participation rates and importance rankings figures considerably lower than agriculture, these figures do not take into account the output of firms. Appendix I shows the large concentration of importance rankings for agriculture in the less than £100,000 category. The importance of office agency rankings is not as concentrated in the lower output firms. Perhaps most significantly office agency is ranked No. 1 agency income source by two firms with output of £500,000 to £1 million and £3 million to £5 million respectively (See Appendix I).

The fourth, fifth and sixth most significant sectors of agency output are industrial, agriculture and leisure respectively. These ratings have been determined principally on the basis of importance rankings and the proportion of these rankings in high output firms, i.e. firms with output greater than £250,000.

3.3.3 Contribution of Professional Services

Based on the questionnaire data, valuations is the most important source of professional services income for the P.S.I.. There is no published data available which could be used to compare (or contrast) valuations output and output from the other professional services.

The importance rankings and participation rate for valuations output are the highest of all professional services (See Table 3.6). Valuations is important throughout all categories of output and the importance rankings and participation rates suggest its position within professional services is as similarly dominant as the residential sector within agency services.

TABLE 3.6
Professional Services - Contribution of Each Service

Professional Service	Participation Rate By P.S.I. Firms	Importance Ranking No. 1	Importance Ranking No. 2	Importance Ranking No. 3
Valuations	95.1 (%)	71.8 (%)	87.4 (%)	94.2 (%)
Rent Reviews	73.8	9.7	43.7	73.8
Prop. Mgt.	67	11.6	32	48.5
Comp. Purch.	48.5	1	8.7	15.5
Rating	42.7	1.9	4.8	17.5

Source: P.S.I. Questionnaire Survey, 1992.

Using the same methods of analysis of importance rankings and participation rates, rent reviews and property management are the second and third most important source of professional services income. The questionnaire data show that compulsory purchase and rating are of similar but minor importance to the P.S.I. particularly in comparison with the other professional services. These two services are mainly of

importance to firms in the lower output (less than £250,000) categories (See Appendix J).

3.4 PROPERTY SERVICES UNDERTAKEN - UNDERLYING FACTORS

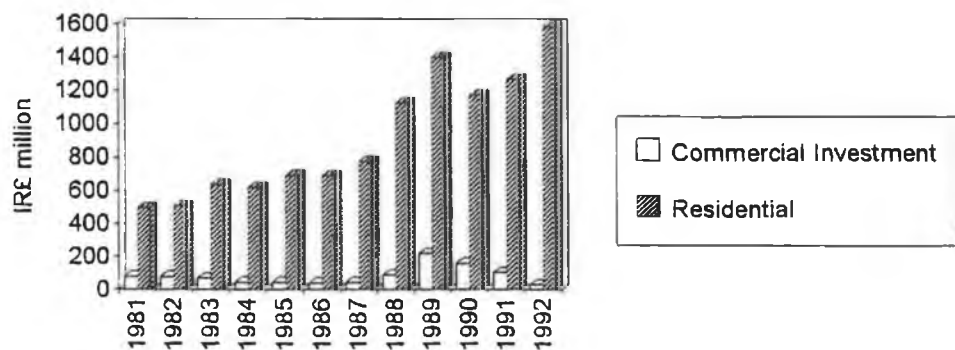
The figures generated from the questionnaire on the importance in output terms (importance rankings) of the different agency and professional services reflect a combination of different factors at work.

3.4.1 Market Size

The size and value of the market is obviously the most crucial factor. Residential agency represents the largest source of output to the industry and individually to the majority of firms which responded to the questionnaire.

FIGURE 3.1

Turnover of the Commercial Property Investment Market and the Value of Residential Loan Approvals



Source: Various P.S.I. firms, *Bulletin of Housing Statistics*.

Figures published on the residential and commercial property sectors support the findings of the questionnaire. Figure 3.1 compares the

turnover of the commercial property investment market to the value of house loan approvals. For example, in 1989 when commercial property investment market reached a record high of £220 million, loan approvals by all lending agencies for houses amounted to £1400 million.

3.4.2 Income Base of Firms

The tendency or deliberate strategy of the majority of firms is to provide more rather than less property services.

Although only 23.3% of firms in the questionnaire survey obtained income from all categories of property services, approximately 77% of firms undertake at least half of the listed property services. Most firms (92%) draw income from both agency and professional services. Only two out of 106 firms concentrate solely on one property service, in both cases residential agency. Similarly, a very small proportion of firms (4.72%) concentrate exclusively on either agency or professional services (See Table 3.7).

TABLE 3.7 Provision of Property Services

No. of Property Services Undertaken by firm	No. of Firms	% of Firms
1	2	2
2	5	4.8
3	4	3.9
4	7	6.8
5	6	5.8
6	15	14.6
7	13	12.6
8	7	6.8
9	13	12.6
10	7	6.8
11	24	23.3

Source: P.S.I. Questionnaire Survey, 1992.

3.4.3 Variation Between Property Sectors

In agency work the range of technical and professional skill required does vary considerably between the different property sectors. This reflects the range, variety and nature of properties within each sector. So while agency services consist of only three actual functions, i.e. sales, letting and acquisition, the contrast in the characteristics of each sector means that all agency services (for all six property sectors) are undertaken by just 35.8% of firms.

3.4.4 Firms Perceptions of Property Services

The participation rates for rating (42.7%) and compulsory purchase (48.5%) were the lowest of all property services. In the ten largest firms (in staff terms) six did not undertake rating and five did not undertake compulsory purchase work.

Firms' perceptions of potential sources of income may explain the figures above. The complex and dated nature of the rating system made it a technically difficult and specialised area of work in the past. Although the majority of rating appeals are straightforward Net Annual Value calculations past perceptions by firms of rating have remained to a large extent and most firms have not sought to undertake rating work¹. Just over 60% of firms which undertake rating work rank it only fourth or fifth in the professional services importance rankings. According to Valuation Office figures 85% to 90% of rating appeals on average are submitted on behalf of clients by just 15 firms².

Compulsory purchase work suffers from what could be described as an "image problem". It is generally perceived by P.S.I. firms as an area of work where the level of remuneration is often inadequate³. Fees for firms acting on behalf of claimants are provided for by set fee scales in the claim. Acquiring authorities will normally pay firms on the basis of a retainer, depending on the business relationship and the project requiring the C.P.O.

However most firms as shown by the questionnaire results will not undertake work at the set rates. One argument put forward is that a claim for £20,000 can be as time consuming for a firm to undertake as one for £500,000 but set fees would not recognise this fact⁴.

3.4.5 Property Management and Firms Capacity

While a large percentage of firms undertake property management work and 11.3% rank it their most important source of professional services income, these figures do not fully take account of the situation regarding this particular property service.

The level of work involved in property management increases dramatically between a single-let and a multi-let property. Property management in general requires large initial investment in terms of staff and computer technology. The cost of computer systems capable of handling large numbers of properties and tenants is prohibitive to most firms especially with maintenance and additional software required periodically⁵.

Where firms invest a great deal of capital into a department or service such as this, sufficient business must be generated to justify such

expenditure. However the majority of firms (61.3%) have annual output levels of less than £100,000 which originates from more than one source. It is highly unlikely that many firms have invested heavily into management services to remain in the lowest output range.

Available data on property management work suggests that only a small percentage of P.S.I. firms have the capacity to manage multi-lettings. There are 55 shopping centres in Dublin yet just eight firms have management briefs where no other firm is involved in the management work⁶.

3.4.6 Complementary Property Services

The ability to undertake a greater range of property services is improved due to "complementary" property services. This occurs where information, research and market knowledge obtained by firms can be used for more than one property service.

In terms of fitting this description, rent reviews and valuations are the closest of all professional services⁷. Both property services (valuations and rent reviews) are undertaken by 45 firms in the sample where both are ranked either first, second or third most important source of income. The nearest corresponding figure for two other professional services is 33 for valuations and property management.

3.4.7 Firm Size and Provision of Property Services

The questionnaire results did show that the size of a firm is not necessarily a restriction on or indicator of the number of property services it can provide. No direct relationship between a firms size in

output or staff terms and the number of property services undertaken was observed (See Table 3.8).

TABLE 3.8 Firm Size and Property Services Undertaken

Output Category of Firm	Average Number of Property Services Undertaken
less than £100,000	7.7
£100,000-£250,000	7.1
£250,000-£500,000	6.2
£500,000-£1M.	8
£1M.-£2M.	7
£2M.-£3M.	----
£3M.-£5M.	9.3

Source: P.S.I. Questionnaire Survey, 1992.

3.5 SUMMARY

The influence of the former I.A.V.I. and S.C.S. recommended professional charges is still evident in the fees quoted by firms yet fee rates can vary considerably between firms for the same property services. The business relationship between P.S.I. firms and their clients is the most important reason for a firm to change its normal fee rates.

Agency output represents the largest proportion of total P.S.I. output. Residential agency is the most important source of agency output by a considerable margin with valuations dominating professional services output in a similar manner. Very few firms in the industry chose to specialise or concentrate on only one or two property services opting instead to have a wide and diverse income base.

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CHAPTER FOUR :

AGENCY OUTPUT : OCCUPATION AND INVESTMENT MARKETS

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4.1 INTRODUCTION

This chapter sets out to examine how statistical analysis, using proxy variables, of agency output can be undertaken, given the lack of appropriate output data.

Several proxy variables representing agency output are identified. These variables take into account the different characteristics of each sector of the occupation and investment markets.

4.2 PROPERTY INDICATORS AND OUTPUT

4.2.1 Proxy Variables

The questionnaire data allowed an estimate of P.S.I. output to be attempted for one specific year. (1991). There is however a margin of error associated with this estimate given that the data is based on a sample of firms and output categories, rather than using precise figures.

The questionnaire data placed a figure on P.S.I. output. Attempting to calculate total output of the P.S.I. on a continuous yearly basis is unfeasible at present without a proper structure and system for collecting and analysing information on all transactions.

The ability to explain and predict movements, directional changes and trends in P.S.I. is a more realistic aim. This can be attempted by the use of proxy variables. Proxy variables are those used in place of some other unknown variable. In this case P.S.I. output is unknown

and a proxy variable chosen to represent it would have to be used for analysing movements and changes in output. Proxy variables that represent P.S.I. output are termed property indicators.

4.2.2 Qualities of a Property Indicator.

The quality of any good indicator, and not just a property indicator is that as a measure of output movement it should be able to reflect the nature of the variable, which it purports to represent. The main problem in utilising property indicators is that they are attempting to represent the output of an industry which has considerable diversity and scope. While P.S.I. output is represented by just one figure for e.g. £74m. in 1991, one property indicator would not suffice as it could not take into account the range of different sources of income that constitute total output.

4.3 THE INVESTMENT MARKET

Agency output consists of three activities; sales, letting and acquisition.¹ These property services are undertaken on behalf of clients where the purpose of the transaction is occupation or investment. Indicators of agency output must reflect these intentions across the various property sectors.

Indicators for investment agency output must firstly take into account the basic characteristics of the property investment market in Ireland. The modern property investment market consists essentially of property investments from three sectors; retail, office and industrial with the vast majority of transactions involving Dublin properties.

4.3.1 Property Yields and Turnover

There are two traditional variables which are quoted in reference to the property investment market; property yields and turnover of the market.

The yield on property investments is the percentage relationship between current rental income and market value. Property yield movements result principally from changes in market prices thus ultimately yields are determined by the demand for and supply of property investments.²

The turnover of the property investment market represents the actual total value of sales of property investments annually. Turnover is measured in money terms in contrast with yields which are stated in percentages. Figures for property yields and turnover are generally deemed sufficient measures by P.S.I. firms when analysing the investment market.

4.3.2 Current Market Indicators

Commercial property research in Ireland concentrates almost exclusively on prime property and this fact is reflected in the statistics and data produced on yields which are almost solely concerned with prime property.

Previous analysis of yield movements relates only to prime yields. Lisney³ quote prime property yields and show graphically trends between 1974 and 1988 for all sectors. However, non-prime or

secondary yields are commented upon in a less exact and informal manner;

" secondary office blocks.....were achieving 7½% / 8½%"

" secondary city and suburban shopswere commanding 9%/ 12%"

" secondary industrials.....were now in the 12% to 15% range".

Sweeney⁴ analysed the performance of property investments using reverse yield gap analysis where prime yields alone were used without any reference to overall property yields. "Property Outlook" published by Hamilton Osborne King uses prime yields as a way to gauge the state of the investment market.

The prime property category represents an unknown proportion of total property. Using this category of property to represent movements in all yields categories can only be justified in certain circumstances. Firstly, where an established relationship in terms of movement exists between prime and secondary yields or where prime property represents a significantly large percentage of the total value of turnover to be representative of all property.

The turnover of the property investment market includes prime property and property which falls outside the definition of prime. Turnover figures used in this study are an average of individual figures compiled by several P.S.I. firms and they include the majority of significant non-prime or secondary investment transactions.

4.3.3 Turnover - the Merits of an Indicator.

An analysis of historic property yields trends can illustrate broadly the performance of the investment market by reference to actual yield levels and also highlight the direction in which yields are moving. It is extremely difficult, if not impossible, to translate accurately property yield statistics into P.S.I. output. For example, in the United Kingdom between 1980 and 1990 yields were on a rising trend a scenario which was not reflected in the turnover of property investment market.⁵

Yields are used in analysing property investment performance but turnover is the most accurate measure of output. Turnover depends directly on the volume and value of transactions which in turn generate fees which constitutes output. Property yields and turnover are not strongly correlated (as shown in Table 4.1).

TABLE 4.1 Turnover and Yields - Correlation Coefficient (r)

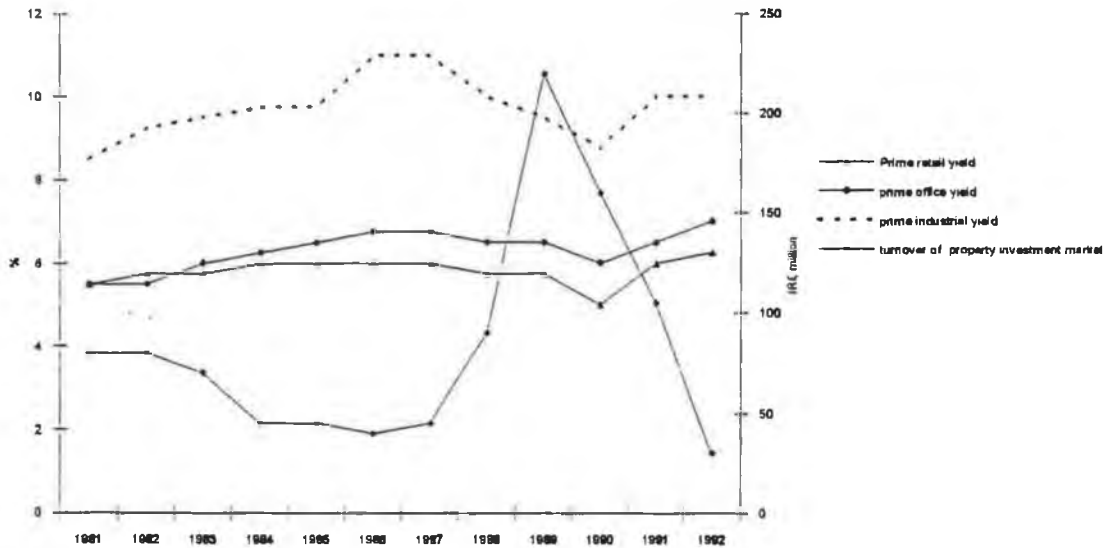
Variables	Correlation Coefficient (r)
Turnover and prime industrial	-0.45295
Turnover and prime retail yield	-0.59641
Turnover and prime office yield	-0.20611

Source: various P.S.I. firms. Note: none of r-values are statistically significant.

A linkage exists between yields and turnover as movement in one variable generally corresponds with movement in the opposite direction by the other variable. Proportionate changes in yields and turnover can be quite different over the same period. Figure 4.2 shows property yield movements and turnover in the property investment market. For example between 1987 and 1989 yields decreased by

0.25% (office), 1% (retail) and 1.5% (industrial) while turnover increased from £45m to £220m.

FIG. 4.1 Property Yields & Turnover of the Property Investment Market



Source: Various P.S.I. firms

4.4 THE OCCUPATION MARKET - COMMERCIAL PROPERTY

P.S.I. firms earn agency income from the six property sectors. Identifying property indicators for the occupation market must take into account the characteristics of each of the individual property sectors.

4.4.1 Commercial Property Sector - Offices

Dublin accounts for in excess of 90% of the office stock in this country.⁶ The questionnaire results showed that 38.9% of Dublin based P.S.I. firms ranked office agency as either the first or second most important source of agency income. In contrast the corresponding figure for non-Dublin firms was 3%. Office rental and capital values in Dublin are on average several times higher than in

any other urban area. The Dublin office market is probably the best researched sector of the commercial property market in Ireland, in terms of volume and quality of statistics produced.

Effectively the Dublin office market constitutes the office market in this country. There are potentially numerous categories and sub-categories within the office sector in Dublin. Four main factors account for this diversity of the office sector; location, age of property, type of space and designated status. Consequently broad or general comments on the state of the office market in Dublin are difficult to make considering its complex and tiered nature.

4.4.2 Commercial Property Sector - Retail

The total amount of retail space in the Republic of Ireland is approximately 22.5m. sq.ft. with c.30% of this space located in Dublin.⁷ There is a wide variety of retail establishments which constitute this selling space and they differ principally by size, type of goods sold and locations.

In the last 30 years the retail property market in Ireland has become more diverse in its nature due principally to radical changes in retailing. Trends in society such as increased car ownership, more women at work and deep-freezer technology have been the underlying causes of changes in retailing generally.⁸ Retail agency income was ranked first or second most important source of agency income by 52.8% of Dublin based firms compared with 32.3% of non-Dublin firms. This figure is considerably higher than the corresponding figures for the industrial and office sectors.

4.4.3 Commercial Property Sectors - Industrial

Industrial property in this country falls into two broad classifications; manufacturing space and warehouse/ storage space.

The vast majority of purpose built manufacturing space has been developed by the Industrial Development Authority (I.D.A.). Most I.D.A. development projects are situated outside of Dublin and the I.D.A. has provided industrial property for virtually all of the large foreign companies which have located part of their operations in Ireland. The other industrial property classification is warehouse/ storage space. The majority of this space is located in Dublin. In total there is c. 20m. sq.ft. of industrial space in Dublin.⁹

In a survey in 1987 of I.A.V.I. member firms actively involved in industrial agency work, the majority of transactions conducted by them resulted in sales to non-manufacturing users¹⁰. P.S.I. firms are only used by the I.D.A. for certain areas of professional services work such as rent reviews and valuations, as the I.D.A. does the promotion and negotiations for all its own space and deals directly with potential occupiers.¹¹

In terms of income earned from agency, the industrial sector is ranked consistently low by non - Dublin firms, with just 3% ranking it first or second in order of importance compared to 11.1% for Dublin based firms. Including no.3 rankings the figures for Dublin rises to 41.7% and 13.8% for non-Dublin firms.

The industrial property market is concentrated in Dublin and is essentially a warehouse and distribution space market. Several different sub-categories of warehousing space have emerged, differentiated mainly because of the changes in technology that have come about over the last 20 to 30 years. This has radically changed occupiers' requirements for both manufacturing and warehousing space and hence building styles and standards. (See appendix K).

4.4.4 Take-up and Rental Values

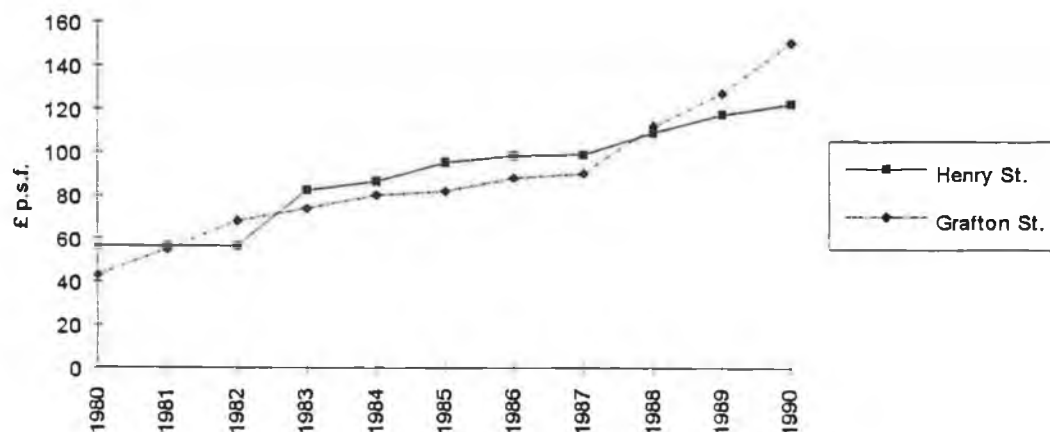
Take-up of space is a very good property indicator in that it shows the amount of floorspace leased or sold to tenants and owner-occupiers over a specific period. Even allowing for the fact that this space will be let or sold at different rates per sq.ft., take-up is a good measure of activity (buying, selling, letting) in the various property sectors and therefore P.S.I. output.

The major obstacle to using take-up of space as a property indicator is a practical one. Figures are only available in detail for the office sector with several Dublin firms, most notably Hamilton Osborne King, producing office take-up figures. Since mid-1992 the research department of Sherry Fitzgerald have begun producing take-up figures for industrial space but essentially little data are available for either industrial or retail space.

This creates problems for statistical analysis of the industrial and retail sectors but also means that three commercial property sectors can not be analysed using a common property indicator. Rental values per sq.ft. are essentially products of the interaction between the demand

and supply dynamics in the property market. Rental levels can be distorted in both depressed and buoyant markets by various incentives given to tenants (rent free periods, fitting out allowances) and landlords (premiums). One rental value for a specific location or category of property traded over a period of time is not a satisfactory or correct way to reflect the performance of an entire property sector. The nature and range of properties within sectors of the commercial property market has resulted in a correspondingly wide variation in rental levels. (See table 4.1). Kinsella¹² and McCarthy¹³ showed that in Henry Street and Grafton Street, both regarded as prime Dublin retail locations, rental levels are determined by a number of different factors and this has been illustrated by recent trends in rental values on both streets. (See fig. 4.3)

FIG. 4.2 Grafton St. and Henry St. Rental Values, 1980 - 1990



Source: Kinsella (1992), Mc Carthy (1992).

Prime and secondary property are not static classifications and they can and have changed over time in all property sectors. New categories of property have also emerged within the commercial

property sectors; "B1" style industrial units, suburban office parks and regional/suburban shopping centres.

4.4.5 JLW ERV Index

(See appendix L explanatory note on JLW Index) Rental indices are compiled using rental values obtained from a number of different properties. The JLW Index includes individual rental indices for retail, offices and industrial properties. The ERV (estimated rental value) indices are like take-up and rental values per sq.ft., not the perfect property indicator.

TABLE 4.2 Variation in Commercial Rental Levels

Location	Sector	Average (1990) Rent £p.s.f.
Stillorgan Shopping Centre	Retail	32
Grafton Street	Retail	150
Cork (Prime)	Retail	50
Waterford (Prime)	Retail	27
Custom House Docks	Office	22-30
New Suburban Blackrock/Dun Laoghaire	Office	13-15
Prime "third" Generation - Dublin 2	Office	15-16
Airways (Dublin)	Industrial	5.50
Sandyford (Dublin)	Industrial	5.50

Source : Various P.S.I. firms

Although the index is based mainly on data from prime property some properties that could be classed as "near-prime" or even secondary are included. The principal advantage of the rental index over the simple rental per sq.ft. is that a mix of properties in terms of location and type are used in its construction.

4.5 THE OCCUPATION MARKET - NON COMMERCIAL PROPERTY

4.5.1 Residential Property

Residential property represents the largest sector of the property market in this country. There are c.900,000 residential dwellings which can be divided into three main categories differentiated by tenure: owner-occupier, private rented and local authority.¹⁴ The owner-occupier sector accounts for 81% of all residential dwellings in the Republic of Ireland.¹⁵

The major part of the P.S.I. output that arises from this sector is from the sale of residential property with negligible income from letting and acquisition. Firms from 21 out of the 26 counties responded to the questionnaire and residential agency was ranked first in the importance rankings by at least one firm in each county. In terms of importance rankings 72.3% of non-Dublin based firms and 54% of Dublin based firms ranked residential first.

4.5.2 Leisure Property - Public Houses

According to the Census of Distribution (Retail Establishments) figures for 1988 there were 6,478 public houses and off-licences in the State with 666 located in Dublin. In contrast to the other sectors of the property market where supply can be increased, legislation has effectively ensured a fixed supply of public houses and a second-hand only market.¹⁶ The number of public houses and off-licences has

decreased by 5.3% (State) and by 12.4% (Dublin) respectively since 1977.

A survey carried out by the Drinks Industry Group in 1989 found that although Dublin has only 7% of the public houses in the country they accounted for 32% of sales.¹⁷ The public house sector is predominantly an owner-occupier sector with approximately 95% of properties being owner-occupied.¹⁸ In the commercial property sectors there are numerous categories and sub-categories of properties depending on a wide range of factors. Properties within the public house sector are differentiated principally by their annual turnover figures. This reflects the fact that the public house and hotel sectors differ fundamentally from the other property sectors in that their values are essentially based on the turnover generated by the business operating within the property.

4.5.3 Leisure Property - Hotels

The Irish Hotel Industry Annual Review 1991 stated that there were 658 hotels in Ireland accounting for a total of 20,925 hotel rooms. (Table 4.2) The public house and hotel sectors have important common characteristics. Property within the hotel sector also is valued on its ability to earn profit, the vast majority of hotels are owner occupied. Unlike the public house sector the supply of hotels is not fixed. However hotels are a very specialised type of property and no developer would risk undertaking a speculative hotel project. Hotels will be built but only when a hotel operator has been signed up to purchase the completed property.¹⁹

TABLE 4.3 Distribution of Hotels and Hotel Rooms

	Leinster	Munster	Ulster and Connaught	Ireland
Number of hotels	199 (30.3)	253 (38.4)	206 (31.3)	658
Number of rooms	7,253 (34.7)	8,635 (41.3)	5,037 (37)	20,925

Source: Irish Hotel Industry Review 1991, Simpson Xavier Howath.

Note: Figures in brackets are numbers as percentages of national total.

4.5.4 Agricultural Property

The questionnaire results show that the agricultural sector is a relatively minor source of agency income for Dublin based P.S.I. firms. Only 19.5% of Dublin firms earn any income from agricultural agency with just two firms giving this sector a first, second or third in the importance rankings. For firms outside Dublin the situation is dramatically different with 89.2% of firms earning income from agricultural agency and 20% ranking it their most important source of agency output.

Apart from the questionnaire results there are negligible data and statistics on the agricultural property market in terms of the level of output and possible indicators. There are figures on the agricultural land sales for 1992, but no corresponding statistics are available for any year prior to this. Agricultural land sales amounted to c.£24m.²⁰ in 1992. One problem with analysing figures like this for agricultural land sales is that prices paid do not always reflect the potential return from farming the land. Higher prices frequently make economic sense because the purchase expects or hopes that future residential

development will be permitted, so in reality "residential" land is effectively being bought.²¹ Land prices are the most commonly used and most appropriate indicator of output from this sector. However, without any figures for statistical analysis it is difficult to draw firm conclusions regarding the contribution of the agricultural sector to the P.S.I.

4.5.5 Property Indicators - Residential

Data from the Bulletin of Housing Statistics produced by the Department of the Environment forms the basis for indicators used for residential agency output. Information used to produce these statistics is obtained from the various lending agencies and the Central Statistics Office.

The total value of loan approvals represents the amount of money borrowed by house purchasers for new and second-hand houses. The house prices (new and second-hand) published in the Bulletin of Housing Statistics are average prices based on the value of houses bought with funds from the various lending agencies. Average house price statistics are compiled in a more detailed way than loan approval statistics with figures for six different areas and a national figure. Correlation analysis revealed that there was a relatively strong relationship between new house prices and loan approval value for new house prices with a correlation coefficient (r) of 0.94 with the corresponding figure for second-hand houses being 0.90 (See appendix M).

House prices were described by An Foras Forbatha as being probably the single most important barometer of how the residential property market is functioning.²² The residential property market is of relatively similar importance to P.S.I. firms nation-wide and the house price figures reflect this fact while the loan approval statistics can not.

There is a very strong correlation between average house prices (new and second-hand) in the six areas for which the figures are compiled. The national figure for average new house price shows an almost perfectly positive correlation with the corresponding figure for second-hand houses. (See appendix M and N).

The loan approval value statistics provide the basis for an estimate of P.S.I. output from residential agency and they are also an indicator of output. The house price statistics show that changes in prices are broadly similar throughout the country. Loan approval value will be used as the property indicator representing residential agency output.

4.5.6 Property Indicators - Leisure

The characteristics of the Leisure property market (public houses and hotels) means that any property indicator used for this sector must be capital value based. Capital value indices or average sale prices for this sector are not suitable nor are such figures produced.

The most suitable indicator would be the total value of (leisure property) sales per annum, but obtaining sufficient relevant data for statistical analysis is a major problem. Figures for the total value of hotel sales are only available since 1990 while public house sales

figures have been produced annually since 1985 but only for Dublin.²³ Available figures offer a guide to the level of output from this sector while the Dublin public house market is a reasonable indicator of trends in other densely populated areas of the country ²⁴ nothing can be inferred from the hotel sales figures.

4.6 SUMMARY

Proxy variables used to represent P.S.I. agency output for statistical purposes are called property indicators. The role of property indicators is to explain and predict movements, directional changes and trends in output from the investment and occupation markets.

The turnover of the commercial property investment market, rather than yields, is the most appropriate property indicator for investment agency output. The JLW ERV Index is the best available property indicator for occupation agency output from the retail, office and industrial sectors.

Residential agency output is the most important source of income for the P.S.I. and the indicators selected is total value of loan approvals. The total value of public house sales or turnover of the public house property market has been identified as an indicator for the public house sector. Property indicators have been selected for the hotel agricultural sectors but lack of data prohibit the undertaking of statistical analysis of these sectors.

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**CHAPTER FIVE:
PROFESSIONAL SERVICES: IDENTIFYING INDICATORS**

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5.1 INTRODUCTION

The main objective of this chapter is to identify indicators of professional services output, which consists of five different classifications of work. As indicators of agency output have already been selected, the nature of the relationships between the two components of P.S.I. output, agency and professional services, can be investigated.

5.2 PROFESSIONAL SERVICES RESEARCH

Indicators of agency output move in a distinctly cyclical manner. The hypothesis that all components of P.S.I. i.e. agency and professional services, follow the same agency (indicator) cycles and are ultimately determined by the same macro-economic variables is not necessarily a false one. It simply has never been proved or disproved.

In virtually all available published research on P.S.I. output, indicators for agency output are used to illustrate and assess the performance of the property market and the P.S.I.. Property indices produced in the UK and Ireland by P.S.I. firms are designed to track trends in rental and capital values and assess the return on property investments.

Agency services account for the largest share of total P.S.I. output yet professional services also clearly represents an important source of income to firms (See Table 5.1). However this balance is not reflected in the level of research undertaken and statistics produced for each area of output. In comparison to agency output research on professional services is negligible with no indicators designed specifically to represent professional services output.

TABLE 5.1**Professional Services Share of P.S.I. Output**

Output Category of Firm	Average Professional Services Content (%)
Less Than £100,000	26.9
£100,000 - £250,000	31.9
£250,000 - £500,000	29
£500,000 - £1m	35
£1m - £2m	25
£3m - £5m	25.7

Source: P.S.I. Questionnaire Survey, 1992.

Research on P.S.I. output in Ireland is very poor in terms of the quality and volume of published material. Essentially this is a result of the size of the Irish (property) market, the lack of compulsion to disclose output figures and the absence of a centralised collection organisation for P.S.I. statistics (See 2.3.2). The research is affected to a far greater degree by these factors in comparison to agency services research.

A situation seems to exist within the industry whereby P.S.I. output is analysed by tracking indicators of agency output, which essentially reflect property market activity. The nature of the relationship between professional services and agency output must be established to assess whether agency indicators are acceptable as indicators of total P.S.I. output.

5.3 VALUATIONS

Valuations are the most important source of professional services income to the P.S.I.. It is the broadest category of professional services and it is impossible to list every individual type of valuation that could be requested by clients. In 1.5.2 the principal types of valuations were listed. These for the purposes of analysis can be classified into three categories; mortgage, asset and investment.

5.3.1 Mortgage Valuations

Mortgage valuations consists of two sub-categories; residential mortgage valuations and advances to the property sector.

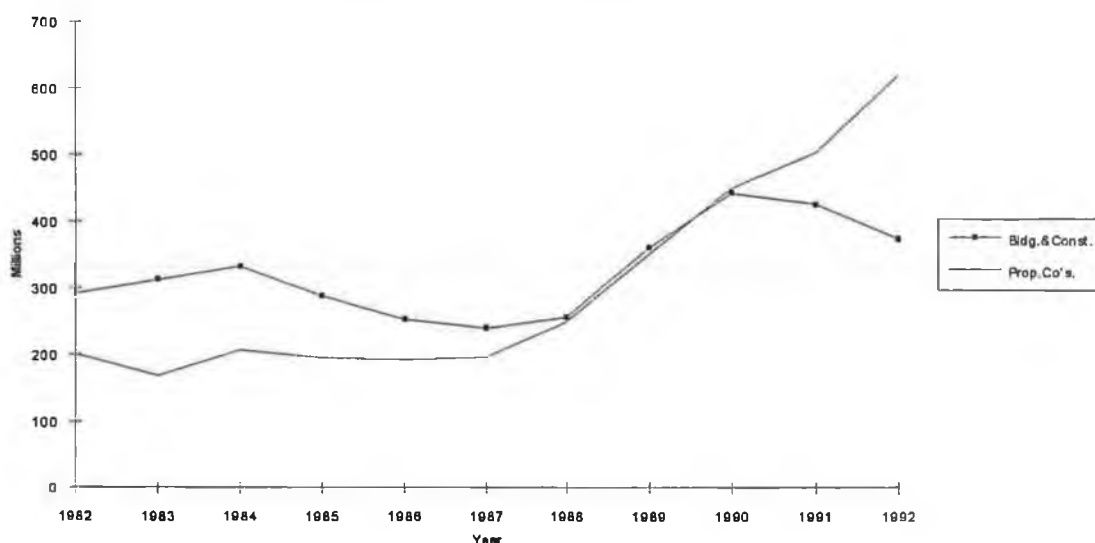
A residential mortgage valuation is carried out to satisfy the requirements of lending agencies when they grant a loan to a borrower for the purchase of a house. The valuation is undertaken to assess the potential value of the house as security. The number of residential mortgage valuations undertaken is directly linked to the number of loans approved for house purchasers by the lending agencies.

Residential mortgage valuation indicators and residential agency indicators are based on the same loan approval data in the Bulletin of Housing Statistics¹. The wider property sector consists of property companies and building/ construction companies. Valuations may be requested by banks for prospective loans and loans already advanced to assess the security of the loan. It is a more difficult task to track valuation output from the wider property sector than for residential mortgage valuations. Firstly, residential mortgage valuations are mandatory and undertaken just prior to the loan being approved.

Practices vary between the different banks, regarding loans to the property sector, as to the necessity for undertaking valuations and the number of valuations that should be carried out during the lifetime of a loan².

Lending to the wider property sector consists of loans advanced to property companies and to building/ construction companies. Statistics for the 1987 to 1992 period show that agency indicators and advances to building/ construction companies exhibited a similar variable trend over this period. However lending to property companies continued to increase annually over the same period (See Figure 5.1).

FIG. 5.1 BANK LENDING ANALYSIS



Source: Central Bank Quarterly and Annual Bulletins

The figures for property companies are misleading as they suggest that valuation output from loans advanced to property companies is continuing to increase when it is actually decreasing. Lending to property companies lags behind the principal agency indicators and advances to building/ construction companies. This can be explained by

the underlying feature of the property development process. Supply and market demand can not be matched exactly because of the time involved between planning, commencement and completion of schemes. The increase in lending is more likely therefore to reflect advances taken-up under previously established loan commitments as opposed to new loans to property companies³.

5.3.2 Investment Valuations

Property is an established investment medium and consequently a need for valuation advice arises. Investment valuation for property may be classified according to two sub-categories.

Valuations are requested by investors on property which they wish to acquire (but where the P.S.I. firm undertaking the valuation does not act as their agent) to assess its investment value. The turnover of the property investment market will dictate the level of valuation output. Clearly output from this type of investment valuation and investment agency output are both determined by the same factors.

Valuations can also be requested by property investors who wish to have their property investments periodically revalued. The actual size of the commercial property investment stock is crucial. This is the underlying factor dictating the level of valuation output. No statistics are produced on the stock of investment property but it was estimated to be valued at £1.8 billion in 1992⁴. Research by Savills⁵ in the UK has shown that increased turnover in the property investment market adds to the stock of commercial property investments in the long term.

Property investors may be categorised under three broad classifications; institutions (life assurance companies and pension funds), property companies and private individuals. The different types of investors have varied objectives and obligations to uphold in terms of property investment. Institutions remain the dominant property investors in Ireland. Although there is a greater focus on short-term performance for institutional investors they are still viewed as long term investors in property⁶.

Valuations of property investments is necessary to assess the performance of property portfolios and the normal practice for institutions is to revalue on an annual basis using P.S.I. firms⁷. This provides a sizeable, constant source of valuation output for the P.S.I.. Growth in investment valuation output has been stunted by the fact that property now accounts for a much lower percentage of total institutional portfolio, c.7% - 8% compared to 20% in the early 1970's⁸. An increased share of the typical investment portfolio within the context of increased institutional funds in all investment types, is the type of environment to permit corresponding growth in valuation output.

Property companies are required to observe a mix of rules in property valuations principally accountancy regulations, Companies Acts requirements and Stock Exchange regulations. The various rules and regulations have not resulted in P.S.I. firms receiving valuation work on a constant annual basis from property companies. Normally investment property owned by property companies (and large private investors) will be valued both by "in-house" and independent valuers (P.S.I. firms) but at different time periods, for example, Green Property⁹ value their

investment property annually but an independent valuation is only undertaken every three years.

Institutions seek funds through life policies and savings schemes which they operate. In this competitive business environment institutions need to show up to date and accurate investment performance to attract new funds. Property companies and private individual investors are small in comparison to Irish institutional investors and are not subject to the same degree of pressure to constantly illustrate investment performance in contrast to institutions. Property investment for property companies and private investors is funded principally through equity and debt finance.

5.3.3 Asset Valuations

Property market activity in general determines the level of asset valuation output. Lisney¹⁰ identified "a sluggish market with static values" resulting in "weaker demand for asset valuations". Hamilton Osborne King¹¹ stated that "static and declining values in recent years had prompted many companies to defer valuations". In contrast an increase in property values will result in companies having their property assets revalued.

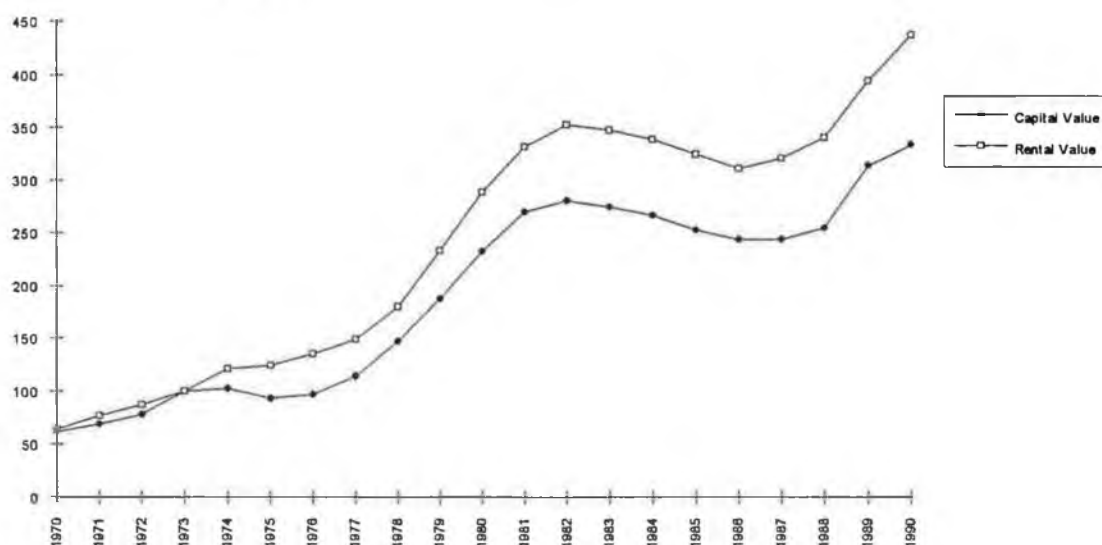
The rationale behind the reluctance to have property assets revalued when property values are static or declining is the negative impact it would have on overall company accounts. The normal corporate practice is that property continues to be shown in the accounts of companies at the same figure for an indefinite period. Where a revaluation is undertaken then property assets are valued and the relevant figure in

the balance sheet is revised. A revaluation of property assets when property values are declining (or static) would result in a writedown of figures on the balance sheet¹².

Research carried out by County Natwest¹³ in the UK highlighted the reluctance and subsequent failure of the larger non-property companies to reflect the full impact of declining property values. Many of the largest UK companies which expanded heavily into property activities in the late 1980's had not revalued their property holdings in two or three years. Revaluation of property holdings would result in a combined corporate writedown of several billions.

The level of asset valuation output depends principally on trends in property values. The term "property values" is somewhat vague although asset valuations are undertaken to obtain capital values of assets. Both capital and rental values could be termed as property values. The JLW ERV Index is used to track agency (occupation) output. Correlation analysis shows that the correlation between the JLW Capital Value Index and JLW ERV Index is extremely high, with a correlation coefficient $(r) = 0.99$ (See Figure 5.2).

FIG. 5.2 JLW ERV INDEX AND CAPITAL VALUE INDEX



Source: Jones Lang Wootton Research Department

5.4 PROPERTY MANAGEMENT

The primary source of property management output for the P.S.I. is the commercial property sector. High owner-occupation levels in the non-commercial (residential and leisure) sectors have resulted in negligible output from these sectors in comparison to the commercial sector. The residential sector is the largest source of agency output but has a much smaller potential management market. Almost 90%¹⁴ of the residential sector is either owner-occupied or in public ownership. Management of residential property is not perceived as being as lucrative as commercial property and many P.S.I. firms will not undertake residential property management¹⁵.

The nature of the duties and work involved in property management varied according to the management contract. Of the firms which responded to the questionnaire survey 95% quote their management fees on the basis of a percentage of rent collected. This means that fees are directly related to the actual rental income from property.

Agency output needs activity i.e. buying, selling and letting, in the property market to generate fees. Property management does not rely on activity in the property market to the same extent as agency output. Taking the hypothetical example of a modern shopping centre with forty retail units, of which three are vacant; over a period of a year there are no new lettings or sales of properties in the shopping centre and thus no agency income is generated for any P.S.I. firms.

In contrast, over the same period the shopping centre must be managed, so there is a constant flow of management fees. Property market activity and revised rents agreed after rent reviews may result in periodic upward or downward movements in management income.

Low turnover in the property investment market i.e. little activity, can also lead to institutional investors terminating management contracts so as to utilise in-house surveying staff, previously involved in investment work¹⁶.

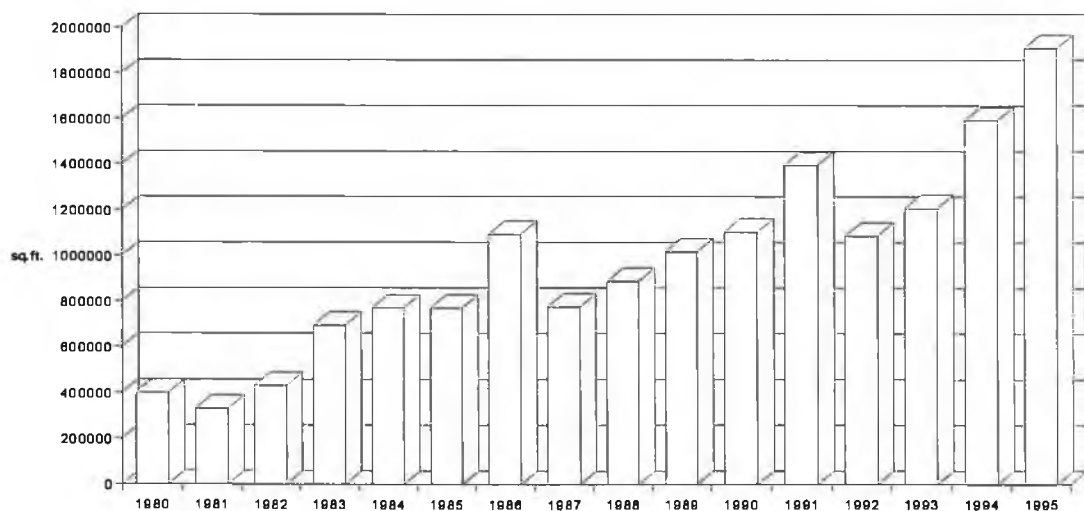
Property management output will increase if the property market expands but management work will not experience the major swings in output levels which agency services experience. Management work is only partly affected by activity in the property market as there will always be a substantial core of management income irrespective of changes in agency output.

5.5 RENT REVIEWS

A rent review situation implies the existence of a landlord - tenant relationship. In theory if all occupied space was owner-occupied then there would be no rent reviews at all.

In effect take-up of leasehold space in any year contributes to agency output and has the spin-off effect of providing potential rent review work in several years time when rent reviews are due under the terms of leases. If the predominant review pattern is five yearly then theoretically rent review work arises every five years hence as a result of space let now. Even if leasehold or freehold interests are sold the lease and rent review pattern will remain unchanged and rent review activity will increase steadily in the longer term. Figure 5.3 illustrates the application of this theory, using the Dublin office market as an example. It shows the amount of office space (in square feet) that theoretically should be reviewed every year based on lettings from 1975 to 1990.

FIG. 5.3 RENT REVIEWS OUTPUT - THEORETICAL INDICATOR OF OUTPUT LEVEL FOR OFFICE MARKET



Source: Hamilton Osborne King

In practice the scenario outlined graphically in Figure 5.3 is unrealistic. Firstly all leases will not have five yearly review patterns, notably those leases of less than five years duration. It also assumes that (a) rent reviews always take place as stipulated in the lease and (b) reviews are always carried out in the time frame set out in the lease. Rent reviews can be postponed beyond the original dates stipulated in the lease and often rent review proceedings are not even initiated at all.

Movements in rental values have been identified as the principal factor affecting the level of rent review output. Hamilton Osborne King¹⁷ stated that where landlords believed no rental increases could be achieved in general they would not initiate rent review proceedings. Lisney¹⁸ commented that several years of little or no growth in rental values had meant that rent review proceedings had settled into an established and low profile pattern.

When rental values begin to increase once again this will lead to an increase in rent review activity as landlords try to benefit from the uplift in rental levels (by translating into new higher revised rents). Between 1988 and 1992, rental values experienced a huge overall increase and this was reflected in rent review output. Lisney¹⁹ pointed out that as rental values increased there had been an increase in rent review activity.

5.6 RATING

The level of rating output depends on the number of rateable valuation appeals that are submitted to the Valuation Office, with on average 50%²⁰ of appeals achieving some sort of reduction.

The imperfections that still exist in the rating system and rating legislation are the principal cause of appeals of rateable valuations. Revaluation is not done on a regular nation-wide basis, but on an "ad-hoc" basis leading to major inconsistencies in rates bills and adding to present case law.

The 1988 Valuation Act did eliminate most superfluous and speculative appeals but P.S.I. firms "touting" for rating work are also responsible to a certain extent for the level of appealing²¹. Where the valuation lists are published P.S.I. firms assess the changes in the rateable valuations for properties. Firms will be particularly interested in the larger rateable valuations and those that have changed considerably. Firms will write to the occupiers asking to act on their behalf, on a performance basis, whereby if no reduction in a clients rates bill is achieved then no fee is paid to the firm. Such business practices employed by firms effectively increases awareness of occupiers to the concept of appealing rateable valuations.

Where the rateable valuation of property in an area has not been revised for a considerable period of time and rental values have been rising rapidly in that same period, rates bills can increase dramatically. This happened in Swords, Co. Dublin in 1990 where annual rates bills in the town increased by between 250% and 400% over the previous years bill²².

Output of the construction industry also affects the amount of property that can be added for revision through new construction, extensions and refurbishments²³.

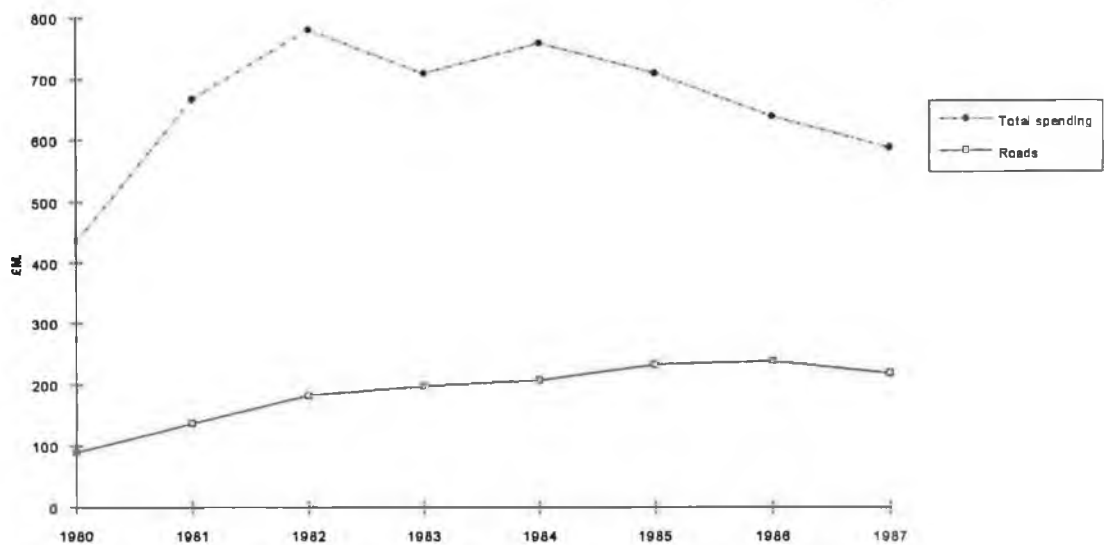
Changes in rental values, construction output, and the business practices of P.S.I. firms are all variables influencing the level of rating appeals submitted. However it is the rating system itself that produces the rateable valuations and thus ultimately the appeals which is the underlying factor generating rating output.

5.7 COMPULSORY PURCHASE

Compulsory Purchase Orders are used by acquiring authorities as a means of acquiring land for various development projects and schemes. The level of proposed capital expenditure on public projects and schemes broadly determines the level of compulsory purchase output.

Reductions in capital spending were identified by Lisney²⁴ as the reason for the postponement of several road schemes. Successive annual reviews published by several P.S.I. firms concentrate almost exclusively on road schemes when referring to compulsory purchase activity. Roads have historically represented the largest single item of public capital expenditure on productive infrastructure. Expenditure on road schemes increased considerably its share of public capital expenditure on new productive infrastructure during the 1980's when both nominal and road expenditure was declining (See Figure 5.4)

FIG. 5.4 Public Capital Programme - Spending on Productive Infrastructure



Source: C.S.O. Annual Statistical Abstracts

Funding for capital expenditure is obtained from two sources; state (exchequer) and the European Community (non-exchequer). In 1981, the exchequer funded 62.8% of the public capital programme but since 1990, non-exchequer funds represent the largest share²⁵.

The European community (non-exchequer) provides funding for capital projects principally through the structural and cohesion funds with the proviso that the state agrees to provide "matching" funds which are a proportion of the European Community contribution. Between 1989 and 1993, £3 billion²⁶ in Structural Funds was made available to Ireland through the twelve operational programmes. Under the Peripherality programme, aimed at developing the transport infrastructure, total funding allocated was £822 million with European Community contribution accounting for £562 million (71%) and State contribution of £260 million (29%). For the period 1994 to 2001 Ireland will receive approximately £7.5 billion in Structural and Cohesion Funds. Matching

funding for Structural Funds will be 25% and 15 - 20% for Cohesion funds²⁷.

Property market forces do not have any influence on the level of compulsory purchase output. European Community money is the driving force behind all major infrastructural projects at various stages of development in Ireland. Changes in the level of funding from this source (European Community) would have a direct impact on public capital expenditure in this country and thus compulsory purchase output for the P.S.I.

5.8 PROFESSIONAL SERVICES - VOLATILITY OF INCOME

Question 15 in the questionnaire survey asked P.S.I. firms to rank the various professional services in order of 'volatility to market/economic conditions'. Table 5.2 shows that the results obtained from this question reinforce the linkages between the different professional services, property market and agency output.

TABLE 5.2 Professional Services - Volatility of Income

Rank	Number of Firms				
	Vals.	Rent Reviews	Prop. Mgt.	Rating	Comp. Purch.
No.1	47(52.2)	15(19)	9(12.7)	6(10.3)	10(15.9)
No.2	13(14.4)	19(24)	16(22.5)	9(15.5)	10(15.9)
No.3	7(7.8)	22(27.8)	14(19.7)	8(13.8)	7(11.1)
No.4	5(5.6)	14(17.7)	7(9.9)	10(17.2)	12(19)
No.5	7(7.8)	8(10.1)	10(14.1)	13(22.4)	12(19)

Source: P.S.I. Questionnaire Survey, 1992.

Note: figures in brackets refer to % of firms with this ranking.

Indicators of valuations and rent review output are principally agency indicators and therefore it is not surprising that firms perceive these two professional services as the most volatile (or most responsive to market/economic conditions). Property market activity has negligible influence on the level of output from compulsory purchase and rating. Factors that determine the level of output from these two services are non-property market and non-economic factors and this is reinforced by the questionnaire findings which show them to be least volatile.

Property management is a more constant source of income for the P.S.I. but it will also increase when property market activity increases but not to the same extent as valuations, rent reviews and agency indicators. Management was regarded as the third most volatile professional service in between two broadly market driven services (valuations and rent reviews) and two non-market driven services (compulsory purchase and rating).

The results obtained from question 11 in the questionnaire survey (see table 3.4) showed that in terms of overall professional services output, compulsory purchase and rating represent a relatively minor source of income in comparison to the combined income from valuations, rent reviews and property management.

Property market activity is the principal determinant of professional services output and thus in effect agency indicators represent total P.S.I. output for statistical analysis purposes.

5.9 SUMMARY

The level of research undertaken on professional services in Ireland is negligible yet professional services represent an important source of income to P.S.I. firms.

Output from residential mortgage valuations is directly linked to the level of home loan approvals. Lending to the wider property sector is difficult to measure as valuations are not mandatory and valuation practices vary between banks. The level of investment valuations is principally determined by three factors; property investment market activity, size of the commercial property stock and property's share of total investment. The impact that revaluation of property assets has on corporate balance sheets means property market activity determines the level of asset valuations.

There is always a substantial core of property management output irrespective of minor fluctuations due to property market activity. Changes in rental values are the principal factors affecting the level of rent review output. The level of rating output depends on the number of rateable valuation appeals that arise basically because of the imperfections in the rating system and legislation. The amount of European Community funding dictates the level of public capital expenditure in Ireland which in turn is the principal determinant of compulsory purchase output.

Overall property market activity is the principal determinant of professional services output. The questionnaire survey data confirms that valuations and rent reviews are market driven services, rating and compulsory purchase are non-market driven while property management

lies in between these two groups in terms of volatility to market conditions.

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CHAPTER SIX :

DETERMINANTS OF P.S.I. OUTPUT : IDENTIFYING THE KEY VARIABLES

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6.1 INTRODUCTION

In this chapter the nature of the relationship between the Irish economy and P.S.I. output will be examined. Property indicators have already been chosen to represent P.S.I. output and new output data (from the questionnaire survey) are introduced to confirm the ability of the property indicators to effectively represent P.S.I. output movement and to assess how output trends vary for different sized firms.

Statistical analysis will be used to establish quantitative relationships between property indicators (P.S.I. output) and various macro-economic variables. Regression and correlation analysis are the statistical methods employed. (See appendix O).

Current research data available on each area of agency output represented by a property indicator is outlined. Statistical analysis is undertaken using selected independent variables and the property indicators (dependent variables). The results of the statistical analysis are examined to identify the key independent variables which can explain P.S.I. output movements.

6.2 PROPERTY INDICATORS AND THE ECONOMY

The Irish economy continually operates in recurring phases of rising and falling activity which are referred to as business cycles.¹ Property indicators illustrate that, like the economy, P.S.I. output moves in a cyclical manner. Economic indicators such as G.N.P., unemployment and consumer expenditure are used to measure overall economic activity so as to classify

it as rising (expansion phase) or falling (in recession) as well as to determine the cyclical turning points of these expansions and recessions. The P.S.I. exists essentially because of the derived demand for property. This derived demand is a product of the interaction of different macro-economic variables which influence demand and supply forces in the property market. The property market is not one single entity as it consists of several different markets distinguished by property sector. Property indicators were identified in chapters four and five for P.S.I. output, with agency indicators used to reflect, generally, trends in professional services output.

6.3 PROPERTY INDICATORS AND THE VARIATION IN THE OUTPUT OF FIRMS.

Property indicators are proxy variables representing P.S.I. output. In chapter two the actual level of P.S.I. output was estimated for one specific year (1991). In chapters three and five, the relative importance of different categories of work within each service was established. Certain property indicators are of greater importance because of the significance of the areas of work which they are selected to represent.

However, the principal use of property indicators is to track movement in output i.e. to see if output is increasing, decreasing or remaining static. Due to the nature of P.S.I. output, several property indicators had to be used to track output movements. The following indicators are used:

- Value of Loan Approvals for Houses
- Turnover of the Property Investment Market

- JLW Retail ERV Index
- JLW Industrial ERV Index
- JLW Office ERV Index
- Turnover of the (Dublin) Public House Market.

The indicators have been selected because they are the best available proxies for P.S.I. output. Property indicators are, however, not based on actual output figures obtained from firms. Question six in the questionnaire survey was designed to provide data on the movements in the level of P.S.I. output over the period 1987 - 1992. Table 6.1 shows the average annual percentage change in the income of firms in each output category based on a sample of 77^(a) firms which responded to this question.

TABLE 6.1 Variation in output of firms

Average Percentage Variation (for firms)

Output Category	1988	1989	1990	1991	1992
less than £100,000	11	15	6	5.9	1.2
£100,000 - £250,000	12.8	23.5	7.3	-3.1	6.1
£250,000 - £500,000	13.7	14.5	20.7	0.2	0.7
£500,000 - £1,000,000	13.7	15	16.5	10	0.5
£1,000,000 - £2,000,000	30	10	0	-10	-10
£3,000,000 - £5,000,000	16.7	21.7	25	6.7	0

Source : P.S.I. Questionnaire Survey, 1992

(a) Only 77 out of 106 firms which responded to the questionnaire survey fully answered question six i.e. filled in the values for all years given.

Table 6.2 shows the annual percentage change in each of the six property indicators over the 1987 to 1992 period.

TABLE 6.2 Property Indicators - Annual Percentage Change

	1988	1989	1990	1991	1992
JLW Retail ERV Index	5.2	9	4	2.3	2.4
JLW Office ERV Index	8	19.3	14.8	0	-2.5
JLW Industrial Index	0.3	23.2	11.3	1.7	-1.9
Value of House Loan Approvals	45	24.3	-16.1	8	24.9
Turnover of Property Investment market	100	144.4	-27.3	-34.4	-71.4
Turnover of Public House Market	42	147	-14.5	12.5	-61

Source : JLW, Hamilton Osborne King, Morrisseys, Bulletin of Housing Statistics.

The time period, 1987 to 1992, for which the questionnaire data on the annual variation in firms output is available is too short to allow statistical analysis to quantify the relationship with the property indicators.

However, the questionnaire data indicates that output trends are similar, notably in directional terms in all output categories. Property indicators (with the notable exception of the value of loan approvals for houses) showed decreasing growth rates for 1991 and 1992. The residential indicator however, moved in the opposite direction over these two years

and as a result of the overall importance of this particular property sector, the negative impact on output levels was lessened.

6.4 IDENTIFYING DETERMINANTS OF OUTPUT- OUTLINE OF STATISTICAL ANALYSIS PROCEDURE

The first step, using simple regression analysis, is to calculate the individual coefficients of determination or r-square value for each of the independent variables. For each of the six dependent variables (property indicators) several independent variables with the highest r-square values are identified.

However by only calculating r-square values it can not be stated with certainty that movement in the independent variables explains X% of the movement in the dependent variable. Using tests of statistical significance² it can be determined whether or not the results (r-square values) obtained from the simple regression analysis are statistically significant (see appendix P).

Multiple regression analysis is then undertaken to see if a combination of two independent variables can achieve a higher r-square value than individual (independent) variable.

A test called the partial 'f'-test criterion³ is undertaken using the results obtained from the multiple regression analysis. This second test determines the marginal contribution of an additional independent variable to the regression model given that

another independent variable is already in the model. Thus the partial 'F'- test criterion actually tests for the significance of adding a variable to a single regression model (see appendix P).

6.5 THE OCCUPATION MARKET : KEY DETERMINANTS OF OUTPUT

There is clearly a strong link between economic activity and P.S.I. output. Economic activity is however a very broad term and there are numerous kinds of economic indicators produced which reflect the performance of different aspects of an economy. Identifying the specific variables which can explain movements in the various property indicators involves undertaking statistical analysis. (See appendix Q for description of independent variables used in the statistical analysis).

6.5.1 Commercial Property Sector - Relationship with the economy

Commercial property consists of three different sectors; retail, office and industrial. The output from the commercial occupation market is represented by three indicators; the JLW Retail ERV Index, JLW Office ERV Index and JLW Industrial ERV Index.

Research in the UK on the commercial property market highlights the nature of the relationship between rental values and the wider economy. Fraser ⁴ showed that commercial property rental values in the UK have been directly affected by economic trends and that rental growth is closely linked to the economic cycle. Evans and Valente⁵ state that the demand for commercial floorspace is broadly determined by the state of the economy although it does not simply rise and fall with various phases of economic

cycle. The commercial property market is linked to the buoyancy of an economy but on a lagged basis.

Whitmore⁶ describes how Barclay De Zoete Wedd used employment numbers to reflect economic demand. Their research found a strong inverse relationship existed between unemployment and rental values. The rise in the workforce in the UK between 1982 and 1989 was also shown to be followed closely by rising rents. When the size of the workforce peaked in April 1990, rents began to fall.

6.5.2 Commercial Property Sector - Statistical Analysis

The present study shows that movements in the number of persons employed in the finance, commerce and insurance sector (Financial Services Sector) is the single most important independent variable explaining movements in the Irish commercial property indicators i.e. the JLW ERV Indices. The results obtained from the statistical analysis (see table 6.3) show that the number of persons employed in the financial services sector achieved the highest individual coefficients of determination (r^2) for each of the JLW ERV indices.

TABLE 6.3 Commercial Property Sector - Key Independent Variables

Dependent Variable	(Simple Regression) Independent Variable and R-Square Value	(Multi-Regression) Two Independent Variables and R-Square Value
JLW Retail ERV Index	Financial Services Sector Employment (0.975)	Financial Services Sector Employment & GNP (0.98)
JLW Office ERV Index	Financial Services Sector Employment (0.944)	Financial Services Sector Employment & Advances to Building/Construction Sector (0.97)
JLW Industrial ERV Index	Financial Services Sector Employment (0.91)	No Significant Variables

Movements in the number of persons employed in the financial services sector together with GNP (at current prices) movements explained 98% of the movement in the retail indicator. Advances to the building and construction sector and movement in the number of persons employed in the financial service sector explained 97% of the movement in the office indicator. (Appendix R summarises what are the most significant independent variables in terms of explaining the movement of the dependent variables).

No combination of independent variables was found to explain, in a statistically significant manner, the movement in the JLW Industrial ERV Index. However, movement in the number of persons employed in the financial service sector alone explained 91% of the movement in this indicator (see table 6.3).

The statistical analysis illustrates the importance of the commercial, finance and insurance sector in the Irish economy. This sector of the economy has expanded its relative share of output and employment while manufacturing industry and agricultural share has declined. Statistical analysis showed little evidence of a relationship between the industrial property indicator and the number of persons employed in manufacturing industry. This is not surprising given that units in the industrial property market are a mixture of office, warehouse and production space with the overall proportion of production space declining since the 1960s. The importance of the financial service sectors workers with respect to the JLW Industrial ERV Index would seem to illustrate the change in the economic activities associated with industrial property.

6.5.3 Residential Property Sector - Relationship with the Economy

The value of loan approvals for houses is the indicator of output from residential agency. Research into the residential property market and housing demand places a considerable emphasis and importance on the rate of household formation (the extent to which new households are set up).

Blackwell⁷ identified two sets of influences on household formation : the change over time in the population by size, age and sex, and the headship rates (proportion of persons in specific age / sex groups who are heads of households). The main underlying influences on headship rates are : preferences, real disposable income, relative prices of houses by comparison with other commodities, the demand for housing as an asset

and housing subsidies. Real disposable income was identified, by Blackwell, as the critical variable in respect to headship rates.

There are two critical influences on population size; rates of emigration and natural increase. Walsh⁸ identified emigration as the dominant influence in Ireland on the rate of population change, the size of the potential labour force and the unemployment rate. Emigration influences both population structure and size. The level of emigration from Ireland generally depends on the performance of the economy.

Randolph⁹ identified that at a fundamental level, housing and labour markets are linked through the ability of households to pay for varying quantities and qualities of housing in various locations. The labour markets influences the level of housing demand through its impact on household income levels.

Sherry Fitzgerald¹⁰ illustrated the importance of economic factors to the residential property market in a more explicit way. Positive economic indicators and favourable underlying economic trends were identified as factors which would result in increases in house prices and increased turnover in the residential sector.

6.5.4 Residential Property Sector - Statistical Analysis

The movement of the independent variables G.N.P. and personal credit

together were found to explain 95% of the movement in the total value of loan approval for residential property (see table 6.4).

TABLE 6.4 Residential and Public House Sectors

- Key Independent Variables

Dependent Variable	(Simple Regression) Independent Variable and R-Square Value	(Multi-Regression) Two Independent Variables and R-Square Values
Value of House Loan Approvals	Personal Credit (0.945)	Personal Credit & GNP (0.95)
Turnover of Public House Property Market	GNP (0.874)	No significant variables

In comparison to the commercial property indicators, the JLW ERV indices, there were considerably less independent variables with high values of r^2 i.e. coefficient of determination. G.N.P. has proved to be a key variable for the residential and commercial sector, as it broadly measures economic activity. It is not surprising that personal credit levels are also important for the residential sector considering that house purchase represents the single biggest element of personal borrowing.

6.5.5 Public House Sector - Relationship with the Economy

The indicator of agency output from the public house sector is the turnover of the Dublin public house market.

Research on the public house market has identified economic variables as the principal factors affecting the turnover of the market. The recession was

identified by Morriseys¹¹ as having a "knock-on" effect on the public house market by affecting the volume of sales of licensed trade products. The Property Valuer¹² identified several economic factors affecting turnover of the market : disposable income, emigration, unemployment and interest rates.

The main source of funding for purchasers is bank loans as the public house sector is essentially an owner-occupier sector with no involvement from institutional investors. The availability of finance will thus depend on the lending policy of banks towards the public house sector. The 1992 Finance Act introduced one very important change which has had a major impact on the licensed premises trade. The Act requires public house licensees to obtain a tax clearance certificate before their seven-day license is renewed. This aspect of the Act has been reinforced by a targeting of publicans by the Revenue Commissioners.¹³

6.5.6 Public House Sector - Statistical Analysis

Movements in G.N.P. explained 87% of the movement in the dependent variable; the turnover of the public house market (see table 6.4). The coefficient of determination values obtained for independent variables in respect of the public house market were in general considerably lower than those obtained from the statistical analysis of the commercial and residential sectors. No combination of independent variables explained movement in the indicator for this market in a statistically significant manner (see appendix R).

Turnover increased dramatically in the market from £15.2m. in 1988 to £37.5m. in 1989 and then was sustained at high levels through 1990 and 1991. Purchasers bought public houses in the expectation that they would increase their shares of a static market (of public house retail sales). The retail sales volume index for public house and off-licenses which measures sale of alcoholic beverages showed that between 1980 and 1991, overall consumption had dropped. The increased number of public house refurbishments since 1988 is evidence of the attempt by publicans to increase their respective market shares.

Changes such as the 1992 Finance Act and the subsequent powers given to the Revenue Commissioners and the effect of bank policy on the percentage of purchase price advanced are likely to have an impact in the market but these variables are difficult to quantify.

6.6 THE INVESTMENT MARKET : KEY DETERMINANTS OF OUTPUT

The turnover of the property investment market is the indicator of investment agency output. Research in Ireland and the UK has not succeeded in quantifying the exact relationship between the turnover of the property investment market and the independent variables influencing turnover. Research tends to be concerned about movements in property yields and factors considered to affect conditions for property investment (See for example Sweeney¹⁴ and Fraser¹⁵)

6.6.1 The Relationship Between the Occupation and Investment Markets

Research in the U.S.A. by Di Pasquale and Wheaton¹⁶ analysed the nature

of the relationship between the investment market and the occupation market. The two markets are clearly different in nature. In the investment market, investors buy and sell property as assets/investments, while in the market for space occupiers are looking for space which is simply another factor of production.

Rent is determined in the occupation market and not in the investment market. Di Pasquale and Wheaton did identify however important links between the two markets. Rental values, determined in the occupation market, are central in determining the demand for real assets. In acquiring an asset, investors are really purchasing a current or future income stream. Changes in rent occurring in the occupation market affect the demand for assets in the investment market. Secondly, if construction output increases the supply of property assets grows. Eventually not only will prices be driven down in the investment market, rents will also decline.

6.6.2 Investment Market - Relationship with the Economy

A linkage exists between property yields and turnover as movement of one variable in one direction generally corresponds with a movement in the opposite direction by the other variable e.g. increase in yield and decrease in turnover.

Fraser¹⁷ concludes that property yields should be influenced primarily by the level of gilt yields and rental growth expectations but subdued by the influence of institutional investors. Sweeney¹⁸ comments that research indicates property yield changes are most often motivated by changes in investor expectations especially as regards inflation, interest rates and

return on other investments notably gilts and equities. As these factors shift, yields adjust.

When turnover on the property investment market reached a record high of £220m. In 1989 investors, principally institutions, had bought property investments in the expectation of rental growth. Since that peak of 1989, institutions began to withdraw from the property investment market as rental growth expectations had not been realised. Hamilton Osborne King¹⁹ concluded that a combination of high interest rates and a lower percentage of the price of properties being made available by banks together with the option of placing money on deposit at historically high rates is negative for property investment.

6.6.3 Investment Market - Statistical Analysis

No independent variable or variables used in the analysis could explain satisfactorily the movement of the turnover of the property investment market Table 6.5 shows that in fact only one of the independent variables used in the regression analysis proved to be statistically significant (see also appendix R).

Table 6.5 Property Investment Market - Independent Variables

Dependent Variable	Independent Variables	R-Square Value	Statistically Significant ?
Property Investment Mkt. Turnover	Financial Services Sector Employment	0.41	Yes
	Total Personal Spending on Goods & Services	0.32	No
	GNP	0.31	No
	Davy Gross Total Returns Equity Index	0.27	No
	JLW Overall Index	0.24	No

What the analysis did prove was that the behaviour of the property investment market was erratic and difficult to predict. For example, the huge increases in turnover experienced between 1987 and 1989 (when turnover increased from £45m. to £220m.) could not be explained by any of the independent economic variables. The variables which in fact have the biggest influence on turnover, are market 'sentiment' and 'instinct' and the institutional 'view' of property, all of which are difficult to quantify in terms of statistical analysis.

O'Brien²⁰ showed that over the 1967 to 1988 period, property offered a relatively attractive long-term return in relation to gilts and equities allied to a very low exposure to risk. Yet despite these impressive statistics, the proportion of the average institutional investment portfolio in property has been declining rapidly since the 1970's, from 20% to approximately 7% to 8%. Institutions, without any fundamental change in underlying economic circumstances suddenly, and apparently irrationally, decided from 1988 to 1990 that they required property investments and this influenced other non-institutional investors to follow their lead. Conversely when property fell out of favour with the institutions, turnover in the market dropped dramatically from £220m. in 1989 to £30m. in 1991.

Investment demand for property is more volatile than occupation demand as it relies more on anticipated trends rather than underlying economic factors.

6.7 INTEREST RATES AND P.S.I. OUTPUT

Interest rates tend to have a "filter down" effect in an economy. It can take perhaps 12 to 18 months for the full effect of a change in interest rates to take place. However, lower interest rates encourage borrowing which leads to consumer spending and investment, increased imports, a higher level of economic activity and possibly faster inflation. Higher interest rates do the opposite.²¹

Barclays de Zoete Wedd²² investigated the theory that lower interest rates will stimulate the property sector. In the UK between 1987 and 1989 when property market activity was at record levels, interest rates were rising. Between 1989 and 1992 when interest rates were reduced from 15% to 8% property market activity declined dramatically.

The statistical analysis undertaken for the purposes of this study, showed that there is no consistent link between interest rates and P.S.I. output. The results showed that interest rate levels were not important in explaining movements in property indicators. In fact, interest rate levels proved to be statistically insignificant in all the individual analyses undertaken. These results do not of course mean that interest rates are unimportant to the P.S.I. It is just that the impact of interest rates is not immediate and thus more difficult to detect.

6.8 SUMMARY

P.S.I. output arises because of the derived demand for property which is a product of the interaction of different macro-economic variables.

Annual changes in firms' output (obtained from the questionnaire survey) does not correspond exactly with property indicator movements. However property indicator trends and annual changes in firms output exhibit similar patterns in directional terms to conclude that the selected property indicators are the best currently available proxies for P.S.I. output movements.

Statistical analysis was undertaken to identify and quantify the relationship that exists between the Irish economy and P.S.I. output. Correlation and regression analysis were the methods of statistical analysis used to identify the independent variables (macro-economic variables) that explain movements in the dependent variables (property indicators).

The two key variables that were the most significant in explaining movements in the level of agency output were G.N.P. and employment levels in the financial services sector.

Statistical analysis was unable to identify significant explanatory variables for the property investment market which is dictated by market sentiment or instinct and the attitude of the institutional investors. Investment demand for property is volatile and difficult to predict as it tends to rely more on anticipated trends than considering underlying economic factors.

Statistical analysis showed that interest rates were not significant in explaining the movement of any of the property indicators for either the investment or occupation markets.

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CHAPTER SEVEN :-

MAIN CONCLUSIONS AND RECOMMENDATIONS

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7.1 THE P.S.I. - ITS PLACE IN THE ECONOMY

The importance of the Property Services Industry (P.S.I.) in Ireland should not be measured solely in terms of output and employment. Property whether as an investment, factor of production or home is a crucial and integral part of any modern economy. The wide and diverse range of property (and non-property) services undertaken by P.S.I. firms underlines the fact that the industry has a significant role within the functioning of the economy. The industry can not be regarded simply as a selling agent for the products of the Construction Industry.

Output figures for the P.S.I. understate the significance of the industry in monetary terms. Output in the form of fee income represents merely a small percentage of the value of the transactions handled by the industry. Based on the estimated P.S.I. output for 1991 of £74m. the actual value of the transactions undertaken is in the order of several billions.

7.2 EMPLOYMENT

Based on 1991 figures there are approximately 2500 people employed in the P.S.I. in Ireland. However, the vast majority of firms are small in size with 88% of firms employing less than ten staff. An examination of employment and output trends in the P.S.I. revealed that a relatively small percentage of firms, concentrated in Dublin, account for a disproportionately large share of total output and employment.

Employment growth in the industry is essentially dependent on the large and medium-sized firms experiencing increased levels of output.

7.3 COMPONENTS OF P.S.I. OUTPUT

The majority of P.S.I. firms still quote standard fee rates in line with the former recommended scales of the I.A.V.I. and S.C.S. in the aftermath of the 1991 Competition Act. However, the questionnaire survey revealed that in order to attract and retain business there must be a degree of flexibility in terms of fees charged, particularly in respect to larger clients.

For the majority of firms in the industry specialisation in one or two property services is not an option they can consider. Smaller firms in particular need to offer as wide a range of services as possible (given the limitations of each individual firm) to generate sufficient income to remain in profit. This applies especially to firms outside of Dublin.

Non-property services, such as sale/valuation of machinery, fine art, antiques, livestock etc. and acting as a general financial broker are an important source of income to many PSI firms. Approximately 85% of firms earn fees from non-property services.

Agency output is derived from two sources: the occupation market and the investment market, which between them span the various

property sectors. Agency accounts for approximately 75% of total property services output with the residential sector being the most important source of agency income.

Professional services output is derived from five different property services; valuations, rent reviews, property management, rating and compulsory purchase. Professional services earn approximately 25% of total property services output with valuations representing the most significant source of work within the professional services classification.

7.4 ESTIMATION OF P.S.I. OUTPUT

No private sector firm or public sector body in Ireland has ever produced figures for the output of the P.S.I. As part of the research undertaken for this study various possible methods of estimating P.S.I. output, such as using VAT returns and stamp duty receipts, were examined. However these approaches proved unfeasible. New data were needed to estimate output and this was obtained from the questionnaire survey undertaken as part of this study. Output was estimated for one specific year (1991) using data obtained from the questionnaire survey.

The most appropriate and practical method, for statistical analysis purposes, for tracking P.S.I. output over a period of years was to use proxy variables termed property indicators. Property indicators are used to represent P.S.I. output for the purposes of statistical analysis

in order to identify the key variables determining the level and movement of P.S.I. output.

On the other property management does have a substantial core of work unaffected by property market activity. Rating and compulsory purchase work are non-property market driven services but they only represent a minor source of professional services income.

7.5 THE LINK BETWEEN PROFESSIONAL SERVICES AND AGENCY OUTPUT

The use of agency indicators to represent P.S.I. output, does not imply that professional services are unimportant in terms of their contribution to P.S.I. output, rather it highlights the close nature that exists between the two components of P.S.I. output that allows agency indicators to be used.

Professional services output, unlike agency output, does not rely exclusively on activity in the property market. In general terms, movements in agency indicators would satisfactorily represent movements in professional services output.

However property management does have a substantial core of work unaffected by property market activity. Rating and compulsory purchase work are non-property market driven services but they represent a minor source of professional services income.

7.6 DETERMINANTS OF P.S.I. OUTPUT

Statistical analysis was undertaken, using regression and correlation analysis to establish the relationship between property indicators (dependent variables) and various macro-economic variables (independent variables).

7.6.1 Occupation Market

Two independent variables, GNP and the number of persons employed in the financial services sector, were found to be the most significant variables in terms of explaining the movements of the property indicators representing agency output from the occupation market.

Employment in the financial services sector was the single most important explanatory variable for the commercial property sector. This highlights the relative economic importance of the activities i.e. commerce, insurance and finance, which constitute the financial service sector heading.

GNP, which measures general economic activity, and personal credit levels, which measures the level of personal borrowing proved to be the most important independent variables for the residential sector, explaining 95% of the movement in the property indicator.

Movement in the level of GNP explained 87% of the movement in the turnover of the public house market, quite a low coefficient of determination in comparison with the other occupation markets. The

expectation by purchasers of obtaining an increased market share as well as bank lending policy are important factors in the public house market but it was not possible to use these variables in statistical analysis to quantify their relationship with the indicator.

7.6.2 Investment Market

Statistical analysis was unable to identify any independent variables which could explain the movement of the turnover of the property investment market. The behaviour of the property investment market is erratic and difficult to predict. The factors which dictate the level of turnover are market 'sentiment' and 'instinct' and the institutional 'view' of property, all of which are difficult to quantify for statistical analysis.

Investment demand for property is more volatile than occupation demand as it relies more on anticipating trends rather than on current economic circumstances.

7.7 RESEARCH

The relatively small size, by international standards, of the property market in Ireland is the underlying cause of the low level of property research undertaken and the lack of quality data being produced. In particular property research on professional services output and property markets outside Dublin is negligible.

Improved research on the P.S.I. in terms of the volume and quality of data produced will enable a more sophisticated level of economic investigation of the industry to be undertaken in the future.

7.8 AREAS FOR FURTHER STUDY

A formal independent centre should be established to collect and analyse data on the property market and the P.S.I. One of the principal aims of such a research centre would be to improve the understanding of the relationship between the industry and the wider economy.

The centre could be funded partly by the two bodies which constitute the industry, the I.A.V.I. and the S.C.S. As the leading national centre for the education of property professionals, the research centre should be located within the Dublin Institute of Technology.

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APPENDIX A

Note on P.S.I. Questionnaire Survey

A questionnaire survey was carried out in October 1992 for the purposes of obtaining information on the Property Services Industry (P.S.I.) in Ireland. The survey involved sending to each firm a questionnaire with fifteen questions, a sample completed questionnaire and a covering letter to explain the nature of and reasons for undertaking the survey. The questionnaire survey was deemed necessary due to the lack of important data on the P.S.I. which were required for the purposes of completing this study.

The questionnaire was sent to 490 firms, the names of which were obtained from the I.A.V.I. and the S.C.S., which were adjudged to fall within the definition of the industry. This helped establish that there were only 469 firms in the industry and not 490. The discrepancy between the two sets of figures i.e. 490 and 469, can be explained by two principal factors: firms no longer offering property services or firms going out of business .

Questionnaires were sent out between October 12th and October 22nd 1992. A "reminder" letter was sent in November to improve the response rate to the questionnaire survey. The final response rate was 23% and this figure included three of the five largest firms in the P.S.I.

Several managing directors and senior partners of P.S.I. firms were interviewed prior to the final format of the questionnaire being settled. The interviews were carried out to ask the interviewees opinions on the format of certain questions in the questionnaire.

For example, each interviewee was asked if a question on the annual gross fee income of firms (question four in the questionnaire survey) should ask for the exact amount of gross fee income or use ranges of gross fee income. Obtaining data on output (gross fee income) of firms was vital to the overall study, with negligible data available from published sources. In general, interviewees felt that asking for exact fee income figures would deter many firms from replying to this question, as many firms would regard this as highly sensitive and confidential information. To overcome this difficulty and still get information on output, ranges of gross fee income were requested.

Several questions regarding output (questions 5, 6, 7, 10 and 11 in the questionnaire) were asked, requiring answers in rankings and percentages rather than seeking exact figures to also ensure an adequate response.



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October 7, 1992

Dear Sir

Last November I began a post-graduate research project in the College of Technology in Bolton Street. The title of my thesis is "The Development of an Econometric Model of the Property Services Industry in the Republic of Ireland". As part of the project I have devised an questionnaire which is being sent to approximately 500 member firms in the industry.

The Property Services Industry includes estate agents, general practice surveyors and auctioneering firms. One of the major problems to overcome in undertaking such research is the lack of sufficient data and statistics on the industry and the factors which influence it. This questionnaire will be a start in an attempt to obtain some new data and information on the industry.

The questionnaire consists of 15 questions and a sample completed questionnaire has been enclosed also. All replies to the College will be treated as being confidential. I am only interested in getting the general or broad overview of the industry. The names of firms or any information pertaining to them will only be used with the consent of the firms involved. This questionnaire has the full support of both the I.A.V.I. and R.I.C.S. I would be very grateful if you could complete the questionnaire and return it to me as soon as possible as I have a deadline to meet to submit this project for a Masters Degree award. A high response rate to the questionnaire will give credibility to the statistical analysis of the replies.

Yours Sincerely,

David Mc Kenna B.Sc(Surv), Dip.Prop.Econ.

Encl.

**QUESTIONNAIRE SURVEY OF THE
PROPERTY SERVICES INDUSTRY IN
THE REPUBLIC OF IRELAND**

**DEPARTMENT OF SURVEYING
COLLEGE OF TECHNOLOGY
BOLTON STREET
DUBLIN 1**

OCTOBER 1992

QUESTIONNAIRE FOR MEMBER FIRMS OF THE PROPERTY SERVICES
INDUSTRY IN THE REPUBLIC OF IRELAND

Office use only

NAME OF FIRM:

1. Number of full-time staff employed by your firm in all branch offices
in the Republic of Ireland ? ₄

2. Number of branch offices in the Republic of Ireland ? ₅

3. What percentage of your staff are considered support staff?
**(Support staff = secretarial, administrative, accounts staff etc.)* ₇

4. Please indicate the approximate average gross fee income of your
firm for 1991 within the following ranges by ticking the appropriate box:

- > IR£ 3,000,000 less than IR£ 5,000,000 ₈
- > IR£ 2,000,000 less than IR£ 3,000,000 ₉
- > IR£ 1,000,000 less than IR£ 2,000,000 ₁₀
- > IR£ 500,000 less than IR£ 1,000,000 ₁₁
- > IR£ 250,000 less than IR£ 500,000 ₁₂
- > IR£ 100,000 less than IR£ 250,000 ₁₃
- > Less than IR£ 100,000 ₁₄

5. Please indicate approximately by ticking the appropriate box what percentage
on average of your gross fee income is attributable to ancillary activities such as
the valuation and sale of fine art, plant and machinery, building/structural
surveying, insurance/mortgage brokerage:

- 0% ₁₅ > 30% less than 40% ₁₉
- > 0% less than 10% ₁₆ > 40% less than 50% ₂₀
- > 10% less than 20% ₁₇ > 50% ₂₁
- > 20% less than 30% ₁₈

6. Please indicate below the approximate percentage variation in gross fee income, + or -, over the preceding year: *(Estimates of 1992 and 1993 figures)*

1988	<input type="text"/>	<input type="text"/>	<input type="text"/>	24
1989	<input type="text"/>	<input type="text"/>	<input type="text"/>	17
1990	<input type="text"/>	<input type="text"/>	<input type="text"/>	30
1991	<input type="text"/>	<input type="text"/>	<input type="text"/>	33
1992	<input type="text"/>	<input type="text"/>	<input type="text"/>	36
1993	<input type="text"/>	<input type="text"/>	<input type="text"/>	31

For example if the gross fee income of the firm in 1988 had increased by 20% over the 1987 income then you would record for 1988 :

(Indicate + or - in the first column. If increase or decrease is more than 100% than record as 99 in the other two boxes)

7 How much on average of your firm's gross fee income is accounted for by agency and non-agency business:

(Please give answers as a % of total gross fee income)

Agency

Non-Agency

(AGENCY refers to sales and lettings. NON-AGENCY refers to professional services which includes valuations, property management, rating, compulsory purchase, rent reviews, arbitrations.)

8. Number of net additional property professional staff employed by your firm :
("Property professional" staff means those employed as chartered surveyors, valuers, estate agents, auctioneers, negotiators. "Net additional" means new staff employed over and above those taken on to replace somebody leaving the firm.)

In the last 5 years

In the last 10 years

9. What are the factors that would lead to a decision by your firm to employ net additional property professional staff:

(Please rank 1,2,3,4 in order of importance)

Increase in the fee income of the firm

Extending the firm's range of property services

Existing staff fully occupied

Other ...please specify

10 Please rank in order of importance the sectors of the property market which provide your firm with the most fee income on average from agency work :

(If your firm does not do business in any of the sectors of the property market listed below please leave the appropriate box blank.)

- Retail 54
- Residential 55
- Office 56
- Industrial 57
- Agricultural 58
- Leisure 59

(Leisure property includes hotels, public houses, cinemas, theatres, bowling alleys, ice-rinks etc. Retail also includes restaurants and retail warehouses. Agricultural property includes agricultural land and farm buildings.)

11 Please rank in order of importance the professional services which provide your firm with the most fee income :

(If your firm does not offer any of the professional services listed below then leave the appropriate box blank.)

- Valuations 60
- Rating 61
- Rent Reviews and Arbitrations 62
- Compulsory Purchase 63
- Property Management 64

(See note on this question on the next page)

For the purposes of this questionnaire professional services have been divided up into 5 categories as listed above. However as some of these categories "overlap" in reality there are problems of definition. For example as part of property management contract a firm may have to undertake rent reviews. However I have listed rent reviews and property management as separate categories above. So I will define each of the categories to show what is

included in each of them:

Valuations - Investment valuations (includes acting for client purchasing an investment)

Asset/Balance sheet valuations

Insurance valuations

Residential mortgage valuations

Rating - Dealing with rating appeals for clients.

Rent Reviews and Arbitration - Acting for landlord or tenants in rent reviews and arbitrations.

Compulsory Purchase - Acting for a claimant or acquiring authority in respect of a compulsory purchase order.

Property Management - Managing a property investment for a client.

This may involve the execution of many different duties set down in the contract between the property owner and the management firm. Such duties may include doing rent reviews, lease renewals, collecting rent etc.

12. What fees does your firm charge for the following work:

SECTOR	SALE <i>(as % of capital value)</i>	LETTING <i>(as % of rental value)</i>	ACQUISITION <i>(as % of capital value/ rental value)</i>
RETAIL	_____	_____	_____
RESIDENTIAL			
New	_____	_____	_____
Second-hand	_____	_____	_____
OFFICES	_____	_____	_____
INDUSTRIAL	_____	_____	_____
AGRICULTURAL	_____	_____	_____
LEISURE			
Public House	_____	_____	_____
Hotel	_____	_____	_____

(These refer to standard/normal commission rates charged by your firm.

Leisure property is represented by hotels and public houses here.)

13. Commission rates for agency work may vary for many different reasons.

What are the factors which cause commission rates to vary? Please rank the following in order assigning the 1 value to the factor which in your opinion influences commission rates the most and so on.

- Increased competition from other auctioneers 65
- Expected sale/letting value of property 66
- Difficulty or ease in selling/letting the property 67
- Whether the property being sold/let is in an urban or rural location 68
- Firm's business relationship with client* 64
- Other reason ... please specify 70

* (Client may be a "retained" client or a "once-off" deal)

14. How does your firm normally calculate fees for the various professional services undertaken? Please indicate in your own words beside each service the method of calculating fees due:

(The purpose of this question is to discover how firms in the industry bill their clients for professional services and so more space has been allowed on the page to explain the methods used to calculate fees.)

VALUATIONS

Investment valuations

Asset/Balance Sheet valuations

Insurance valuations

Residential mortgage valuations

RATING

RENT REVIEWS ARBITRATIONS

COMPULSORY PURCHASE

PROPERTY MANAGEMENT

15. Please rank in order of volatility to market/economic conditions the following:
a. PROPERTY SECTORS (Rank 1 to 7) b. PROFESSIONAL SERVICES (Rank 1 to 6). For example if you think that the level of fee income from say retail agency is the most variable area of agency work then you would assign it the 1 value and if agricultural income varies the least then give it the 7 value. Then do the same for professional services.

PROPERTY SECTORS

- Residential 71
- Retail 72
- Offices 73
- Industrial 74
- Agricultural 75
- Hotels 76
- Public Houses 77

PROFESSIONAL SERVICES

- Valuations 78
- Rating 79
- Compulsory Purchase 80
- Rent Reviews 81
- Arbitrations 82
- Property Management 83

(Hotels and public houses are taken separately for the purposes of this question.)

Dept. of Surveying
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Phone: 727177 Ext.204


20 Nov. 1992

PROPERTY INDUSTRY SURVEY

Further to my letter and questionnaire of October 1992, may I ask you to spend a few minutes in completing and returning the questionnaire to add to those I have already received.

I am anxious that my study of the Irish Property industry should be as comprehensive as possible. I look forward to receiving the questionnaire within the next few days,

Yours sincerely,



David Mc Kenna B.Sc.(Surv), Dip.Prop.Econ.

**PROPERTY SERVICES INDUSTRY
QUESTIONNAIRE SURVEY
COMPILATION OF DATA**

OCTOBER 1992

Note: data obtained from questionnaire survey responses which is compiled here includes responses for all questions except for questions 9, 12 and 14.

QUESTIONNAIRE				
SURVEY P.S.I.				
OCT. 1992				
LOCATION	NO. OF STAFF	BRANCH OFFICE	SUPPORT STAFF	FEE INCOME
(by county)		(> 1 office)	(as a % of total staff)	(1991 figures) (£)
DUBLIN	105	YES	38	3 -5,000,000
DUBLIN	18	NO	33	500000-1000000
DUBLIN	4	NO	25	
DUBLIN	2	NO	50	<100,000
DUBLIN	1	NO	0	<100,000
DUBLIN	30	NO	80	100000-250000
DUBLIN	1	NO	0	<100000
DUBLIN	4	NO	25	<100000
DUBLIN	2	NO	50	<100000
DUBLIN	2	NO	50	<100000
DUBLIN	3	NO	33	<100000
DUBLIN	65	NO	30	3-5000000
DUBLIN	12	NO	25	500000-1000000
DUBLIN	5	NO	20	100000-250000
DUBLIN	62	YES	27	3-5,000,000
DUBLIN	2	NO	50	100000-250000
DUBLIN	3	NO	33	<100000
DUBLIN	2	NO	50	100000-250000
DUBLIN	2	NO	50	<100000
DUBLIN	15	YES	30	500000-1000000
DUBLIN	26	YES		1000000-200000
DUBLIN	2	NO	50	<100000
DUBLIN	7	NO	28.57	250000-500000
DUBLIN	7	NO	30	250000-500000
DUBLIN	2	NO	50	<100000
DUBLIN	4	NO	50	100000-250000
DUBLIN	2	NO	50	<100000
DUBLIN	2	NO	50	<100000
DUBLIN	2	NO	50	<100000
DUBLIN	2	NO	50	<100000
DUBLIN	3	NO	33	100000-250000
DUBLIN	3	NO	33	<100000
DUBLIN	3	NO	33	<100000
DUBLIN	3	NO	33	<100000
DUBLIN	1	NO	0	<100000
DUBLIN	3	NO	33	100000-250000
DUBLIN	3	NO	33	100000-250000
DUBLIN	13	NO	30	250000-500000
DUBLIN	13	YES	15	500000-1000000

DUBLIN	3	NO	33	<100000
DUBLIN	4	NO	50	<100000
WATERFORD	4	NO	50	<100000
SLIGO	2	NO	50	<100000
SLIGO	2	NO	50	<100000
SLIGO	4	NO	50	<100000
SLIGO	1	NO	100	<100000
TIPPERARY	2	NO		100000-250000
TIPPERARY	5	NO	40	100000-250000
TIPPERARY	4	NO		<100000
KERRY	2	NO	50	<100000
KERRY	5	NO		100000-250000
KERRY	3	NO	66	100000-250000
WATERFORD				<100000
WATERFORD	5	NO	40	100000-250000
KILKENNY	2	NO	50	<100000
GALWAY	4	YES	25	100000-250000
GALWAY	3	NO	33	<100000
GALWAY	3	NO	0	<100000
GALWAY	2	NO	50	<100000
GALWAY	5	NO	40	250000-500000
TIPPERARY	2	NO	0	<100000
TIPPERARY	2	NO	50	<100000
TIPPERARY	3	NO	33	<100000
DONEGAL	4	NO	75	
DONEGAL	2	NO	50	<100000
CORK	3	NO	66	<100000
CORK	4	YES	50	100000-250000
CORK	2	NO	50	<100000
CORK	3	NO	33	100000-250000
CORK	12	NO	33	250000-500000
CLARE	4	NO	50	100000-250000
CLARE	15	YES	50	500000-100000
CLARE	5	YES	20	100000-250000
DONEGAL	1	NO	0	<100000
DONEGAL	3	NO		<100000
DONEGAL	2	NO	50	<100000
DONEGAL	3	NO	66	<100000
DONEGAL	2	NO	50	<100000
WICKLOW	4	NO	50	<100000
WICKLOW	7	YES	60	100000-250000
WICKLOW	3	NO	33	<100000
WICKLOW	2	NO	50	<100000
WICKLOW	2	NO	50	
KILDARE	4	NO	50	100000-250000
KILDARE	4	YES	50	<100000
KILDARE	2	NO	50	<100000
ROSCOMMON	2	NO	50	<100000
ROSCOMMON	3	NO	33	<100000
WEXFORD	7	YES	60	100000-250000
WEXFORD	4	NO	25	100000-250000
DONEGAL	1	NO	0	<100000
WEXFORD	2	NO	50	<100000

MEATH	4	NO	50	<100000
MEATH	5	NO	60	<100000
MEATH	5	YES	60	<100000
MONAGHAN	7	NO	75	<100000
MONAGHAN	2	NO	50	<100000
CAVAN	2	NO	50	<100000
OFFALY	2	NO	50	<100000
LOUTH	1	NO	0	<100000
LOUTH	3	NO	33	<100000
CARLOW	4	NO	50	<100000
CARLOW	1	NO	0	<100000
LONGFORD	3	NO	75	<100000
LIMERICK	3	NO	33	<100000
LIMERICK	6	NO	80	<100000

NON-PROPERTY INCOME	AGENCY	NON-AGENCY	NET NEW STAFF	NET NEW STAFF
(as a % of total income)	(as a % of total income)	(as a % of total income)	(last 5 years)	(last 10 years)
10 TO 20	88	12	28	36
0	40	60	0	4
40 TO 50	50	50	1	1
0	80	20	0	0
0 TO 10	90	10	0	0
0	20	80	0	-5
0	0	100	0	0
0 TO 10	50	50	0	0
0 TO 10	75	25	0	0
30 TO 40	60	40	0	0
10 TO 20	85	15	1	2
0	50	50	20	30
0	50	50	0	2
0 TO 10	60	40	2	2
0	85	15	30	40
40 TO 50	25	75	0	0
0	95	5	0	0
20 TO 30	70	30	1	1
20 TO 30	70	30	0	0
0	95	5	9	9
0 TO 10	75	25	0	2
0 TO 10	75	25	0	0
0 TO 10	95	5	2	2
0	75	25	4	5
0	85	15	0	0
0 TO 10	65	35	0	0
30 TO 40	100	0	0	0
0 TO 10	90	10	0	0
10 TO 20	30	70	0	0
>50	33	67	0	0
0 TO 10	100	0	0	0
10 TO 20	80	20	1	2
10 TO 20	70	30	1	1
10 TO 20	85	15	0	0
30 TO 40	40	60	0	0
0	75	25	0	0
0	50	50	0	0
0 TO 10	20	80	2	3
40 TO 50	50	50	0	0

0 TO 10	90	10	0	0
20 TO 30	65	35	0	0
10 TO 20	75	25	0	0
30 TO 40	60	40	0	0
0	80	20	0	0
10 TO 20	65	35	0	1
40 TO 50	95	5	0	0
0 TO 10	95	5	0	0
10 TO 20	88	12	1	1
40 TO 50	80	20	0	0
0 TO 10	80	20	0	0
20 TO 30	40	60	1	1
0 TO 10	10	10	1	2
0 TO 10	93	7	0	0
0 TO 10	67	33	0	1
0 TO 10	50	50	0	0
0 TO 10	90	10	0	0
10 TO 20	90	10	0	0
20 TO 30	70	30	1	1
0 TO 10	95	5	0	0
10 TO 20	75	25	2	3
10 TO 20	75	25	2	2
40 TO 50	90	10	0	0
0 TO 10	65	35	1	1
30 TO 40	80	20	0	0
>50	8	92	0	0
20 TO 30	80	20	0	0
>50	85	15	0	0
30 TO 40	70	30	0	0
0 TO 10	90	10	0	0
0 TO 10	90	10	1	3
0 TO 10	80	20	0	0
>50	90	10	0	1
30 TO 40	50	50	1	2
20 TO 30	80	20	0	0
>50	90	10	0	0
10 TO 20	90	10	0	0
>50	80	20		
10 TO 20	85	15	1	1
10 TO 20	95	5	0	0
30 TO 40	67	33	1	1
20 TO 30	70	30	0	0
0 TO 10	90	10	1	1
0 TO 10	90	10		
0 TO 10	90	10	0	0
10 TO 20	75	25	0	1
0 TO 10	95	5	0	0
30 TO 40	100	0	0	0
40 TO 50	75	25	0	0
10 TO 20	85	15	1	1
0 TO 10	90	10		
0 TO 10	100	0		
0 TO 10	90	10	0	0

0 TO 10	90	10	0	0
0 TO 10	95	5	2	2
10 TO 20	80	20	1	1
0 TO 10	80	20	0	0
0	85	15	0	0
0 TO 10	20	80	0	0
10 TO 20	50	50	0	0
0 TO 10	25	75	0	0
30 TO 40	60	40	0	1
20 TO 30	70	30	1	1
0 TO 10	95	5	0	0
10 TO 20	85	15	0	0
0 TO 10	90	10	0	0
0	25	75	0	0

	41	39	-1	2	-2
	5	10	5	5	-10
			5		
	10	20	20	10	5
	20	15	15	-10	-15
	20	15	0	24	20
	20	10	10	20	10
	12	10	15	20	5
	10	0	5	0	0
				50	50
	30	20	20	25	15
	10	10	8	5	5
	40	100	4	-11	-18
	-5	23	8	-9	8
	NEW	NEW	NEW	NEW	NEW
	0	0	0	0	0
	10	15	5	10	5
	10	0	5	0	-5
	10	10	5	10	-20
		25	12	-5	25
	10	20	-20	10	-10
	12	17	-5	11	14
	15	20	5	-10	-15
	20	28	20	-10	20
	15	5	5	5	-10
	10	10	10	10	20
	-15	25	-5	10	15
	60	15	13	-34	-5
	5	7	5	-2	
	5	5	10	-15	3
	15	10	0	20	10
	15	15	15	10	
	0	0	0	10	20
	10	8	5	10	10
	5	8	10	-5	10
	0	-5	0	5	5
	15	10	4	-10	-20
			18	-12	20
	5	10	10	7	10
	10	10	30	-25	-10
	NEW	NEW	NEW	NEW	NEW
	20	60	30	-30	25
	1	40	-3	54	-33
	10	16	-2	1	-10
	10	10	10	5	
	-20	-20	5	10	5
		10	10	5	-25
	NEW	NEW	NEW	NEW	NEW
	25	0	10	10	-20

				5	
	5	4	5	3	2
	10	10	0	0	0
	10	10	-5	5	-5
	10	15	5	15	-5
	2	10	-10	15	-20
	0	0	0	0	10
	5	5	5	5	10
	-15	25	10	5	20
	15	5	-10	-5	20
	2	0	20	-20	100
	52	30	-34	20	-10
	10	10	10	0	0

Retail	Residential	Office	Industrial	Agricultural	Leisure	
2	1	5	6	4	3	
1		2	3			
1		2	3		4	
	1					
1		2	3			
2	1	3	4	6	5	
1	2	3	4	6	5	
3	1	2	4	6	5	
2	1	4	5	3	6	
3	6	1	2	5	4	
2	6	1	3	5	4	
2	1	3	4		5	
4	1	2	3		5	
4	1	3	2			
	1					
2			3		1	
1	2					
	1					
	1	2				
3	1	2				
2	1	3				
1		2	3		4	
2		3	1			
1		2	3			
2	1		3			
3	1	2	4			
4	1	2	3			
			1			
	1					
2	1	3	4			
	1	2	3			
3	1	2	4			
1	2	3				
1		2	3			
	1					
	1					
1	4	2	3			

2	1	3				
3	2	6	5	1	4	
3	1			2		
2	1	3	4	5	6	
2	1	5	4	3	6	
3	1	4	5	2	6	
2	1	3	5		4	
4	1	6	5	2	3	
3	2			1	4	
3	2			1	4	
1	2			3	4	
4	5	1	2	5	4	
2	1				3	
2	1	3		4		
2	1	5	3	6	4	
1	2	3	4	5		
	1			2		
3	1			2	4	
3	2	4	5	1	6	
				1		
1	2	4	5	6	3	
	1			2		
3	1	5	6	2	4	
3	1	6	5	2	4	
2	1	3		4	5	
2	1		3	4		
3	2		4	1		
3	1	6	4	2	5	
	2			1		
3	1		5	2	4	
	1			2	3	
3	1			2		
2	1	6	5	3	4	
2	1	4	5		3	
3	1			2		
3	1			2		
2	1	6	4	3	5	
3	1	4	6	2	5	
3	2			1	4	
2	1	4	3	5	6	
2	1	4	3			
3	1		4	2	5	
4	1			4	2	
	1					
2	1	4	3	6	5	
3	1	6	4	2	5	
3	2	4	5	1	6	
3	1	4	5	2	6	
3	1			2	4	
3	1	6	5	2	4	
2	1	3	4	5		
3	1	5		2	4	
3	1	6	5	4	3	

3	1	6	4	2	5
3	2	4	6	1	5
4	2	6	5	1	3
3	2	5	4	1	6
3	1	5	4	2	6
	1			2	
3	1	5	4	2	6
4	5	3	2	6	1
2	1	4	3		5
3	1	5	4	2	6
	2			1	
2	1	4	3	5	6
	2			1	3
3	1	2	4		

PROFESSIONAL SERVICES				
(importance in fee income terms)				
	Valuations	Rating	Rent Reviews / Arbitration	Compulsory Purchase
	1		2	4
	3		2	
	3		2	4
	2		3	
	3	5	2	4
	1	4	3	5
	1	3	5	4
	1	4	3	5
	1	5	2	4
	1	4	3	5
	1	4	2	5
	1	4	3	5
	1		2	
	2		1	
	1			
	1		2	
	1	3	2	
	1			
	2	5	1	4
	1		2	
	1		2	
	2	3	1	5
	2	3	1	4
	2	3	1	5
	1		2	
	2		3	1
	1		2	
	1		3	
	1	4	3	5
	3	4	1	5
	1		2	
	3	2	1	5
	2			
	2	4	3	5

	2		3	
	1	3	2	4
	1	3		2
	1	5	2	3
	1	5	2	3
	1	4	3	2
	1		2	
	1			
	1		3	
	1			
	4	1	3	2
	1		2	3
	1		3	
	1	3	2	4
	2	3	1	
	1			
	1	2	3	
	1	5	2	3
	1			
	3		1	2
	1		3	
	1		4	2
	1	4	3	5
	1			
	2	1		
	1	3	2	5
	1		2	
	1		2	
	1		3	
	1			
	1		3	2
	1	4	2	3
	2		3	4
	1			
	1			
	1	2	4	3
	1	4	2	5
	1			
	2	4	3	5
	1	4	3	5
	1	3	4	5
	1		3	
	1			
	1		3	
	1	5	3	4
	1	5	2	4
	1		2	
	1		3	2
	2	3	1	4
	1			
	1	5	2	4

	1		2	
	2	5	3	4
	1		3	2
	1	4	3	5
	1			
	1		3	
	1	3	2	4
	1		2	
	1	4	2	3
	1			
	1		2	
	1			
	3		2	

		VARIATION IN FEE INCOME LEVELS	
		(AGENCY SECTORS)	
Property Management			Residential
3			6
1			1
			7
1			5
1			1
1			4
2			1
2			1
2			1
3			1
2			
3			7
2			2
			4
			3
			4
3			6
3			1
3			3
4			
5			
4			
			7
			1
1			
			1
			1
2			3
2			4
2			1
3			
4			7
1			3
1			2

1		7
		2
4		2
4		1
4		3
5		6
3		7
		1
		1
2		6
		1
5		7
		1
2		1
5		6
4		1
		1
		7
4		2
		2
		2
2		7
3		1
2		7
		1
3		1
4		7
3		
		2
2		1
		5
4		1
5		1
1		6
		1
		2
5		1
3		6
2		7
1		7
2		1
2		1
2		1
		1
		7
2		7
2		5
3		2
		1
		7
		6
		5
3		7

3			2
1			6
			7
4			6
2			1
2			
5			2
3			6
5			4
3			7
			3
1			

Retail	Offices	Industrial	Agricultural	Hotels	Pubs	
4	1	2	7	3	5	
2	4	3	5	6	7	
2	1	4	6	3	5	
1	2	3	4	6	7	
5	2	6	7	3	4	
1	2	5	3			
4	3	2				
2	3	4	7	6	5	
2	3	6	7	5	4	
3	2	4	7	5	6	
1	3	2				
1	2	3	4	5	6	
1	4	3				
1	3	2				
4	2	1				
3		4		2	1	
3	1	2				
5	3	4	2	1	7	
2	1					
3	1	2		4	5	
3	2	1				
1	3	2				
6	1	4	5	2	3	
2	4	3				
6	4	5	7	3	2	
2	3	4				
	2	1				
1	2	3				
2	3					
4	3	5		1	2	
5	6	4	3	1	2	
1	2	4	7	6	5	
1	3	4	5	6	7	

1	2	3	6	5	4
3		6	1	5	4
1			5	3	4
3	4	2	7	5	6
1	2	4	7	5	6
5	1	2	7	3	4
1	2	3	6	4	5
4	6	5	2		3
3		2	4		
3	4	2	7		5
2			3	4	
5	4	2	6	1	3
2	3	5	7	6	4
2	3		4	6	5
1	2	5	7	3	4
2	6	5	7	4	3
2		6	3	5	4
1	3	2	6	4	5
3	4	5	1	7	6
			1		
1	5	6	7	4	3
5	4	3	6	1	2
4	6	7	2	5	3
5	3	1	6	2	4
2	6	7	3	5	4
3			2		
5	2	1	6	3	4
5		3	1		4
5			2	4	3
1	2	6	7	3	4
2	7	6	3	5	4
2	7	6	4	5	3
2	1	3		4	5
4	5	7	6	3	2
1			3		
2	7	6	3	5	4
1	2	3	7	4	5
1	2	4	3	5	6
1	2	4	3	5	6
2	4	3			
3		4	2		
			3		2
2	3	5	6	7	4
2	3	1	4	5	6
1	5	6	4	3	2
2	3	1	4	7	6
4	6	7	1	5	3
4			2	5	3
3	5	4	6	1	2
1	2	3	7	4	5
3	4		6	1	2
6	3	5	4	1	2

1	5	4	3	6	7
3	5	1	7	2	4
5	4	3	1	6	2
5	2	3	7	1	4
3	5	4	2	7	6
3	4	6	1	5	7
3	1	2		4	5
1	3	2	5	7	6
6	4	5	3	2	1
4			1	5	2

VARIATION IN FEE INCOME LEVELS			
(PROFESSIONAL SERVICES)			
	Valuations	Rating	Compulsory Purchase
	3	5	4
	2	3	1
	5	3	1
	1	5	6
	1	2	4
	3	4	5
	1		
	3	4	5
	1	6	5
	4	6	3
	1		2
	1	6	5
	1	5	6
	4		1
	4		1
	6	5	1
	1		
	2		
	1	4	6
	2	3	5
	6	2	1
	2		3
	1	2	5
	1		
	2		
	1		
	1	6	5
	3		
	6	1	2
	2		
	5	4	3

	6	1	2
	1	3	4
	6	3	5
	2	3	6
	1	6	4
	5	2	4
	1	4	2
	1		
	1		
	3		
	1		
	5	1	2
	1	5	3
	1		
	1	3	2
	1		
	1	5	4
	6	5	1
	1	4	5
	1		
	2		1
	1	5	6
	1	6	3
	6	1	2
	1	2	4
	2	4	
	6	4	2
	1		
	1		
	2		
	1	6	4
	5		1
	1	4	6
	1	2	6
	1	4	6
	2	6	5
	1	3	6
	3	2	4
	1		
	1		
	1	5	6
	2	6	5
	6	2	3
	1	6	4
	1		
	4		2
	1		
	1		
	3	1	2

	1	6	5
	5	1	3
	4	5	
	7	2	6
	1	5	6
	1	6	4
	6	5	4
	1	5	6
	5		1
	2		

Rent	Arbitration	Property			Competition
Reviews		Management			
1	2	6			1
4	5	6			2
2	4	6			4
3	2	4			1
3	6	5			2
1	2	6			3
					2
1	2	6			2
3	4	2			1
2	5	1			1
3	4	5			
3	4	2			3
2	3	4			2
2	3				2
					1
2	3				3
					3
					3
3	4	2			5
2		3			1
1		3			4
2	3	5			2
1	4				4
4	5	3			5
					2
					2
1					
6	3	4			1
2					3
1		3			2
					2
4	3	2			3
2	1	4			4
4	3	5			2
1		3			2
1	2	6			3

4	3	5			5
2	5	6			1
4	2	1			1
4	5	1			2
2	3	5			1
3	6	1			3
3	5	6			5
					2
					3
2		1			2
					2
4	3	6			
2	4	6			6
					1
5	6	4			5
		2			4
3	2	6			1
2	4	3			3
2	3	6			3
					2
3	4				2
3	4	2			1
4	2	5			3
3	4	5			4
3	5	6			5
1		3			4
5	3	1			4
					1
2	3				2
3		2			3
1					2
5	3	2			1
					1
3	2	4			5
5	2	3			4
					2
3	5	4			5
5	2	3			5
3	4	1			2
5	4	2			1
1	5	6			
3		2			
		2			3
2	4	3			2
					1
4	3	1			3
1	4	5			2
3	5	2			2
					5
3	1			N	
		2			3
					1
5	4	6			

2	4	3			2
4	2	6			1
1	2	3			1
5	4	3			1
3	4	2			4
2	3	5			5
1	2	3			5
4	3	2			5
					4
4	3	2			1
					5
3		1			3

3	2	4	1
3	5	4	2
3	5	4	2
4	3		1
4	5	2	3
5	1	4	2
1	2	4	3
3	4	5	1
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APPENDIX B

NET ADDITIONAL PROPERTY STAFF

Time Period	Number of Persons		
	All PSI Firms	Dublin based Firms	Non-Dublin based Firms
1987 - 1992	121 (145)*	102	19
1982 - 1992	166 (199)*	137	29

Source: PSI Questionnaire Survey, 1992.

Note: Figures in brackets are estimates of total increases in staff numbers, including support staff.

APPENDIX C

EMPLOYMENT LEVELS IN THE PSI

Estimate 1

Number of PSI Firms	469
Average Firm Size	<u>6.3</u>
Total Staff	2955

Estimate 2

Number of PSI Firms (less five largest firms)	464
Average Firm Size	<u>4.3</u>
	1995
Add largest five firms	<u>450</u>
Total Staff	2445

APPENDIX D

EMPLOYMENT GROWTH

In the last five years:

* 70% of firms took on no additional property staff

* Five firms or 4.7% of firms in the sample accounted for 75.2% of new additional staff employed.

In the last ten years:

* 62.1% of firms took on no additional property staff

* Five firms accounted for 72.3% of new additional staff employed.

Source: PSI Questionnaire Survey, 1992.

SUPPORT STAFF

Percentage of total staff numbers
attributable to support staff

OUTPUT CATEGORY OF FIRMS	0 - 20%	20-40%	40-60%	60-80%	80-100%
less than £100,000	9	13	36	5	1
£100,000-£250,000	2	8	9	2	0
£250,000-£500,000	0	5	0	0	0
£500,000-£1M.	1	3	1	0	0
£1M.-£2M..	---	---	---	---	---
£2M.-£3M.	---	---	---	---	---
£3M.-£5M.	0	3	0	0	0

Source: PSI Questionnaire Survey, 1992.

ESTIMATION OF TOTAL INCREASE IN EMPLOYMENT

On the basis of these figures from the questionnaire, support staff seem to represent a relatively significant proportion of total staff numbers. The majority of firms fall into the percentage ranges 20-40% and 40-60%. The percentage of support staff is generally higher in the smaller (in staff terms) firms which also constitute the vast majority of firms in the P.S.I. One support staff person is obviously a lot more significant in percentage terms to a small firm than to a larger firm.

However support staff numbers do not increase at the same rate of growth as property staff numbers. For estimation purposes support staff numbers increase at a rate of 20% of property staff numbers.

Thus:

Time Period	Property Staff Numbers (increase)	Support Staff Numbers (increase)	Total Staff (increase)
1987 - 1992	121	24	145
1982 - 1992	166	33	199

Source: PSI Questionnaire Survey, 1992.

APPENDIX E

(1991 No. 24)

ARRANGEMENT OF SECTIONS

PART I

PRELIMINARY

SECT.

1. Short title
2. Commencement
3. Interpretation

PART II

RULES OF COMPETITION

4. Anti-competitive agreements, decisions and concerted practices
5. Abuse of dominant position
6. Right of action
7. Notification of agreements, decisions and concerted practices to Authority
8. Licence of Authority under section 4(2) and certificate of Authority under section 4(4)
9. Appeal to High Court

PART III

THE COMPETITION AUTHORITY

10. Establishment of Competition Authority
11. Studies and analyses by Authority
12. Reports

PART IV

MERGERS, TAKE-OVERS AND MONOPOLIES

13. Construction with Act of 1978
14. Investigation of dominant position
15. Definitions in Act of 1978
16. Notification of proposed merger or take-over
17. Amendment of sections 6, 7 and 8 of the Act of 1978
18. Amendment of section 9 of the Act of 1978
19. Control of concentrations

PART V

GENERAL

20. Authorised officers
21. Powers of authorised officers
22. Repeals
23. Regulations
24. Expenses

*Annotations by Brian J. Cregan, B.C.L. (N.U.I.), M.A. (Oxon.), Barrister-at-law,
Director of Competition Policy, Confederation of Irish Industry.

There is no petrol filling station in Ireland with a turnover in excess of IR£2 million. There is no barrister in Ireland with a gross income of more than IR£3 million and there are probably only a handful of the solicitors firms in Ireland with a gross turnover in excess of IR£3 million. Therefore the effect of this amendment would be to exempt every public house and every petrol filling station, every barrister and every solicitor and I do not think that that would be in the public interest. See 129 Seanad Debates Col. 1627-1628.

91/24-05

Interpretation

- 3.—(1) In this Act, unless the context otherwise requires—
- “the Act of 1972” means the Restrictive Practices Act, 1972;
 - “the Act of 1978” means the Mergers, Take-overs and Monopolies (Control) Act, 1978;
 - “the Act of 1987” means the Restrictive Practices (Amendment) Act, 1987;
 - “authorised officer” means a person appointed under section 20;
 - “the Authority” means the Competition Authority established by section 10;
 - “the Court” means the High Court or, in the case of an appeal, the Supreme Court;
 - “the Minister” means the Minister for Industry and Commerce;
 - “prescribed” means prescribed by regulations made by the Minister;
 - “undertaking” means a person being an individual, a body corporate or an unincorporated body of persons engaged for gain in the production, supply or distribution of goods or the provision of a service.
- (2) In this Act a reference to a section or Schedule is to a section of, or Schedule to, this Act unless it is indicated that a reference to some other provision is intended.
- (3) In this Act a reference to a subsection or paragraph is to the subsection or paragraph of the provision in which the reference occurs, unless it is indicated that reference to another provision is intended.
- (4) In this Act a reference to any other enactment is to that enactment as amended by any other enactment including this Act.

91/24-06

GENERAL NOTE

This section contains definitions of some of the terms used in the Act.

91/24-07

DAIL DEBATES

(3) Amendment No. 3—Enforcement

Deputy Taylor moved amendment No. 3 which provided that the following definition be added:

“ ‘the Director’ means the director of Consumer Affairs.”

Deputy Taylor also outlined a number of consequential amendments—amendments Nos. 44, 81 and 82. The purpose of these amendments was to give a role in the Act to the Director of Consumer Affairs. Deputy Taylor was of the view that the needs of the consumer should be paramount in this legislation and that the office with primary responsibility for protecting the consumer should be the Director of Consumer Affairs and Fair Trade. It was, he said, strange that the Director was given no role in securing the rights and protecting the interests of the consumers generally.

The objective of this amendment was to permit complaints to be made to the Director of Consumer Affairs and to permit the Director to bring the matter before the courts so that the rights of the consumer could be protected. See 409 Dail Debates Col. 929.

Minister O'Malley responded that this raised the whole enforcement issue which was central to the Bill and he said

“one of the core features of this Bill is its enforcement mechanism. Previous competition legislation . . . laid the emphasis on the State as the primary enforcement agency. Provision was also made for the private enforcement of the legislation

91/24-07

24-07

[Release 27: 6 - n - 92.]

Minister then asked whether it would include Building Societies which are not in the business of making profit but the Minister did not agree on this issue. A debate occurred on whether Building Societies carried on business for gain. See 409 Dail Debates Col. 959-960.

91/24-07

Deputy Barry also raised the question of whether the ESB was covered by the Bill and the Minister replied

"the ESB are positively and definitely covered by this Bill and they have accepted that fact now." See 409 Dail Debates Col. 960-961.

Amendment No. 6 was put to a vote and was defeated.

(7) *Amendment No. 7—Class actions/Trade Associations*

Deputy Taylor then moved amendment No. 7 which provides that

in page 4, sub-section 1, line 3 after "service" to insert:

"or if not engaged for gain that has as one of its interests or objects the review or control of anti-competitive activities."

The purpose of the amendment was to deal with the question of who is entitled to enforce the law in the event of a breach. Deputy Taylor was of the view that an undertaking which was an unincorporated group of consumers who get together to bring an action would not be entitled to do so under section 6 because the undertaking *per se* would not have been aggrieved even though its members would have been aggrieved. The purpose of his amendment was to expand the definition of an undertaking and to add the words outlined above. This would ensure that a number of people could come together to ensure that the Act was properly enforced.

The Minister rejected this amendment on the grounds that the Deputy was trying to change the wrong definition. This was because section 6 provides that any aggrieved person may bring an action against an undertaking. The undertaking therefore was the defendant, and therefore in the Minister's view it was not necessary to change *that* definition.

The amendment was put and declared lost and section 3 was agreed. See 409 Dail Debates Col. 976.

The Minister came back to this issue in the Seanad Debate when he said

"The Authority carry out the role of investigation and adjudication on applications . . . and it would be inappropriate to give them also the role of prosecution. It is possible for representative actions to be taken by groups or associations on behalf of their members so that the enforcement requirement does not necessarily always fall on one individual who might be seriously financially embarrassed were he to lose the action. I can cite . . . if necessary a number of cases where that has been done in recent years by organisations as diverse as the Irish Creamery Milk Suppliers Association, the Irish Farmers Association and SPUC." See 129 Seanad Debates Col. 1623.

PART II

RULES OF COMPETITION

Anti-competitive agreements, decisions and concerted practices

4.—(1) Subject to the provisions of this section, all agreements between undertakings, decisions by associations of undertakings and concerted practices which have as their object or effect the prevention, restriction or distortion of competition in trade in any goods or services in the State or in any part of the State are prohibited and void, including in particular, without prejudice to the generality of this subsection, those which—

91/24-08

- (a) directly or indirectly fix purchase or selling prices or any other trading conditions;
- (b) limit or control production, markets, technical development or investment;
- (c) share markets or sources of supply;
- (d) apply dissimilar conditions to equivalent transactions with other trading parties thereby placing them at a competitive disadvantage;

91/24-08

24-11

[Release 27: 6 - ii - 92.]

91/24-08

(1) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which by their nature or according to commercial usage have no connection with the subject of such contracts.

(2) The Competition Authority established by this Act ("the Authority") may in accordance with section 8 grant a licence for the purposes of this section in the case of—

- (a) any agreement or category of agreements,
- (b) any decision or category of decisions,
- (c) any concerted practice or category of concerted practices,

which in the opinion of the Authority, having regard to all relevant market conditions, contributes to improving the production or distribution of goods or provision of services or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit and which does not—

- (i) impose on the undertakings concerned terms which are not indispensable to the attainment of those objectives;
- (ii) afford undertakings the possibility of eliminating competition in respect of a substantial part of the products or services in question.

(3) (a) A licence under subsection (2) shall, while it is in force, and in accordance with its terms, permit the doing of acts which would otherwise be prohibited and void under subsection (1).

(b) Where a licence under subsection (2) covers a category of agreements, decisions or concerted practices, any agreements, decisions or concerted practices (as the case may be) within that category which comply with the terms of the licence need not be notified under section 7 to benefit from the licence while it is in force.

(4) The Authority may certify that in its opinion, on the basis of the facts in its possession, an agreement, decision or concerted practice notified under section 7 does not offend against subsection (1).

(5) Before granting a licence or issuing a certificate under this section, the Authority may invite any Minister of the Government concerned with the matter to offer such observations as he may wish to make.

(6) On granting a licence or issuing a certificate under this section, the Authority shall forthwith give notice in the prescribed manner to every body to which it relates stating the terms and the date thereof and the reasons therefor and cause the notice to be published in *Iris Oifigiúil* and cause notice of the grant of the licence or issue of the certificate, as the case may be, to be published in one daily newspaper published in the State.

(7) The prohibition in subsection (1) shall not prevent the Court, in exercising any jurisdiction conferred on it by this Act concerning an agreement, decision or concerted practice which contravenes that prohibition and which creates or, but for this Act, would have created legal relations between the parties thereto, from applying, where appropriate, any relevant rules of law as to the severance of those terms of that agreement, decision or concerted practice which contravene that prohibition from those which do not.

(8) In respect of an agreement, decision or concerted practice such as is referred to in subsection (7) a court of competent jurisdiction may make such order as to recovery, restitution or otherwise between the parties to such agreement, decision or concerted practice as may in all the circumstances seem just, having regard in particular to any consideration or benefit given or received by such parties on foot thereof.

24-08

APPENDIX F



The
SOCIETY OF CHARTERED SURVEYORS
in
THE REPUBLIC OF IRELAND.

SCALES OF PROFESSIONAL CHARGES
for
GENERAL PRACTICE DIVISION

May 1987

- (h) As an alternative to all scales, except sale commissions, a fee on a time basis may be charged.
- (i) Fees shall be paid within thirty calendar days of the date of the fee account and fees outstanding beyond this period shall be subject to interest at the current "AA" bank rate of interest on overdrafts chargeable by the Associated Banks.

VALUATIONS

Notes

- (a) Fees prescribed by the valuation scales do not include structural surveys.
- (b) As it is usually necessary to value the whole of an estate to arrive at the value of a fraction, the charge for valuing a fraction of an estate should be based on the amount of work involved.
- (c) When one valuer acts between the parties the charge shall be scale and one half, normally divisible between the parties.
- (d) The scales are exclusive of the work involved in the preparation of a Precis of Evidence, consultations and court attendance which will be charged on a time basis.

1. Valuation of Freehold or Leasehold Properties

- (a) Freehold Property £0.20% of capital value.
- (b) Leasehold Property £0.20% of capital value.

and in addition

Fee as in Scale 2(a) if the rent reserved in excess of 1/8 of the total rental value of the property. The additional fee is charged on the rent reserved.

2. Valuation for Annual Rental

- (a) Open Market Rental Value £2.00%.
- (b) For preparing a Precis of Evidence, attending consultations and giving evidence at Court Hearings, one half of the fee payable under Scale 15 for a letting of the same property.

3. Valuation for Rating

- (a) For preparing a report and advising generally regarding the quantum of the revised assessment.
 - 31.50 per cent up to R.V. £100
 - 21 per cent on next R.V. £400
 - 15.75 per cent on next R.V. £500
 - 10.50 per cent on remainder.
- (b) For lodging the statutory notice of appeal, making formal submissions to the Commissioner of Valuation and undertaking negotiations with the appeal valuer, fee by arrangement.
- (c) For the preparation of appeals to the Court, including Precis of Evidence, attending consultations and attending at Court, fee by arrangement.
- (d) For advising generally in relation to liability for rates, including vacancy relief, claims for exemption and provisional apportionments of assessments, fee by arrangement.

4 Valuation for Capital Gains Tax

Fee to be charged as in Scale 1 on the amount of the valuation as at April, 1974 but increased in accordance with the index compiled by the Revenue Commissioners for Capital Gains Tax purposes.

The valuation fee does not include negotiation with the Revenue Authorities for which a separate fee, by arrangement should be agreed.

5 Valuation of Furniture and Effects, Fixtures, Stock in Trade, Goodwill, Licences, Timber Live and Dead Stock.

5.25 per cent up to £200
2.63 per cent on the next £800
1.31 per cent on residue - to include inventory if required.

6 Valuation of Plant and Machinery

As scale 5.

The scale does not include the preparation of a plant register for which a separate fee should be agreed.

7 Valuation for Insurance Purpose

2/3rds of Scale 1, 5 or 6, as appropriate, based on the current reinstatement value.

8 Compensation for Compulsory Acquisition and Disturbance

Fee to be based on the amount of compensation agreed plus the estimated value of works carried out by the Acquiring Authority.

- (a) For report and preparation of claim.
 - (i) Fee 1½ times Scale 1 (a) or 1 (b) or
 - (ii) On a time basis.
- (b) Negotiating with the Acquiring Authority, to include preparation of initial report and statement of claim.
 - (i) Fee £1.25% of the amount of the settlement or arbitration award or
 - (ii) Fee on a time basis.
- (c) Arbitration.

Fee in addition to the above, on a time basis, for additional work following the reference to arbitration including the preparation of a Precipos of Evidence, attendance at consultations and arbitration hearing.

9 Compensation under the Planning Acts

- (a) Preliminary - taking instructions and advising up to the stage of service either of a Purchase Notice or Claim for Compensation.

Fee by arrangement subject to a minimum of £250.
- (b) Purchase notice or claim for compensation.
 - (i) Fee £1.25% of the purchase price or compensation payable or
 - (ii) Fee on a time basis.
- (c) Arbitration

Fee in addition to the above, on a time basis, for additional work following the reference to arbitration including the preparation of a Precipos of Evidence, attendance at consultations and arbitration hearing.
- (d) Undertakings to grant planning permission.

Fee to be as in (b) above based on the estimated market value of the property with the benefit of the undertaking given either on part or the whole of the property.

SALES

Notes

- (a) All advertising expenses, printing, bill posting, preparation of catalogues, lotting, porters and removal of goods where appropriate are payable by the vendor. In addition, where the property is situated more than ten miles from the members office travelling expenses are to be paid by the vendor.

(b) Location of the property is the deciding factor when assessing the relevant rate of commission and not the address of the member.

(i) Dublin District comprises Dublin City and Suburbs and the Borough of Dun Laoghaire (as defined from time to time for Census of Population purposes). It extends north to Malahide, west to Lucan and South to Bray.

(ii) Cork and Limerick cities comprise Cork County Borough and Limerick County Borough, together with their respective suburbs as defined from time to time for Census of Population purposes.

(c) Commission is payable by the vendor in all cases except under Scales 11 and 12.

10 Sales of Freehold and Leasehold Property by Auction, Private Treaty or Tender.

For introducing a purchaser able, ready and willing to purchase on terms authorised by the vendor.

(a) Freehold Property

£2.50% if the property is situated in the County Boroughs of Dublin, Cork or Limerick.

£3.50% if the property is situated elsewhere.

(b) Leasehold Property

In addition to a fee under (a) based on the premium, a fee equal to 10 per cent of the amount of the annual rent is payable.

Sale before Auction

If a sale of the property, whether arranged by the Auctioneer or not, is effected after the acceptance of instructions and before the auction, commission is payable to the Auctioneer on the same scale as for sale by auction.

Non-Sale

In the event of non-sale at the auction or of withdrawal of instructions before the auction, the amount of any fee is a matter of arrangement.

Division of an Estate into Lots

Where the division of an estate into a number of lots involves substantial additional work an extra fee may be charged by the Auctioneer

11 Sale of Furniture and Effects, Stock in Trade, Chattels, Goodwill, Licences, Timber, Live and Dead Stock.

On the Vendor's premises

(a) £5.00% payable by the purchaser plus a minimum fee of £5.00% payable by the vendor and in addition all expenses incurred in the sale.

- (b) In the Auctioneer's Salesroom

£5.00% payable by the purchaser plus £10.00% payable by the vendor to include advertisements and saleroom.

12 Sales of Plant and Machinery

As Scale 11

13 Purchases

- (a) For seeking and negotiating the purchase of a property on the instructions of a client: £2.50%

For abortive work under this part of this scale, a fee on a time basis.

- (b) For negotiating the purchase of a particular property on the instructions of a client: £1.50%

When no purchase is effected a fee under Scale 1 or 2 as appropriate to be charged.

- (c) Leasehold Property

In addition to a fee under (a) or (b) above a fee equal to 10 per cent of the amount of the annual rent payable

These fees would apply to normal transactions but a special fee, by agreement, would be chargeable in the case of small amounts as might arise, for example, in the purchase of a ground rent.

14 Sales and Purchases Effected by Transfer of Shares.

Commission to be as in the previous scales calculated on the full value of the property involved.

LETTINGS

Notes:

- (a) If the rent is a progressive one, the commission should be based on the average rent for the period up to the first possible break in the tenancy.
- (b) Where the rent on the letting of unfurnished property is indeterminate by reason, for example, of its being geared to the turnover of a business conducted by the lessee, Scale 15 should be applied to the agent's open

market rental valuation of the property

- (c) When a property, which an agent has been instructed to let or sell, is let with an option to purchase, and the lessee afterwards exercises his option, or becomes the purchaser within the period of the option, the commission for selling, less the commission already paid on the letting, will then become payable.

15 Letting Premises

For negotiating the terms of a letting or introducing a lessee: 10 per cent of the annual rent.

In addition a fee is payable under Scale 10 on the amount of any premium which is paid.

16 Letting Land on Building Lease or by Means of an Agreement for a Building Lease, or a Fee Farm Rent.

100 per cent on the first £100 p.a.

50 per cent on the next £900 p.a. and

25 per cent on the residue of one year's ground rent or of the full ground rental value which would otherwise have been obtained had not the lessee undertaken works or other liabilities resulting in a ground rent lower than the full rental value.

and in addition

On any premium or consideration which is equivalent thereto; a fee is payable under Scale 10 on the amount of the premium or consideration.

17 Negotiating a Lease when Acting on Behalf of a Lessee:

- (a) For seeking and negotiating the lease of a property on the instructions of a client:-

Fee payable for a letting of the same property in accordance with Scale 15.

For abortive work under this part of this scale, a fee on a time basis.

- (b) For negotiating the lease of a particular property on the instructions of a client:- One half of the fee payable under Scale 15. Where no letting is effected a fee may be charged either on a time basis or based on the appropriate scale for rental valuation.

18 Negotiating a Lease when Acting on Behalf of the Lessor (to include renewal of a lease under the Landlord and Tenant Act).

Negotiating a tenancy or lease of a particular property on the instructions of a client to a named lessee.

One half of the fee payable under Scale 15 for a letting of the same property

When no letting is effected a fee may be charged either on a time basis or based on the appropriate scale for rental valuation

19 Rent Reviews

- (a) For negotiating the revised rent under the rent review provisions of a lease on behalf of a lessor or lessee
£5.00% of the revised rent.
- (b) For the preparation of a submission to an arbitrator or independent expert, attending consultations and attendance at hearings, fee by arrangement.
- (c) For acting as an independent expert in the settlement of disputes arising under Rent Review Clauses in leases.
A fee as in Scale 2(a) plus one half
- (d) For acting as an arbitrator in the settlement of disputes arising under Rent Review Clauses in leases
See Scale 32

20 Negotiating an Option on Behalf of a Lessor or Lessee

- (a) When exercised - fee at appropriate letting scale.
- (b) When not exercised - fee as for rental valuation

21 Management of Properties

Fee by arrangement.

22 Collection of Rents

The fee, to include payment of normal outgoings and provision of an annual statement, is to be based on the aggregate of the rents reserved by the leases or lettings plus any incidental receipts collected and/or accounted for in the course of management.

- (a) Ground Rents - £2.50% to £7.50% of amount collected.
- (b) Half yearly and quarterly collections - £5.00% of amount collected.

- (c) Monthly collections - £7.50% of amount collected.
- (d) Weekly collections - £10.00 to £15.00% of amount collected.
- (e) Other collections - by arrangement.

23 Negotiating Loans

£1.00% of amount advanced.

24 Assessment of Fire Losses, Malicious Injury Losses Etc.

(a) Buildings

£3.00% of the amount of the agreed assessment disregarding any adjustments by reason of the operation of a policy limit or similar factor. If the amount of this assessment does not exceed £10,000 fee may be charged on a time basis.

(b) Chattels, Plant and Machinery

£5.00% of the amount of the agreed assessment disregarding any adjustments by reason of the operation of a policy limit or similar factor. If the amount of this assessment does not exceed £10,000 fee may be charged on a time basis.

These fees shall include all time spent on the site, making examinations, all necessary measuring, pricing and valuing, negotiating final agreement and making final report.

25 Dilapidations

£5.00% of the amount of the valuation unless this amount does not exceed £5,000 when fee may be charged on a time basis.

26 Town Planning Work

Fee by arrangement.

27 Laying Out or Development of an Estate

Fee by arrangement.

28 Surveying and Preparation of Plans

Fee by arrangement.

29 Inspection and Approval of Plans

Fee by arrangement

30 Structural Surveys

Fee by arrangement

31 Repairs and Maintenance

Including the preparation of schedules, obtaining estimates and supervision of the work.

£10.00% of the amount expended or a fee based on the time involved.

32 Acting as Arbitrator

- (a) Fees for arbitration work should not be calculated on an ad valorem basis or otherwise related directly to the amount of the award. An arbitrator, when appointed should establish his fee either by;
- (i) Specifying an hourly or daily rate. This basis would be appropriate particularly in cases where it is not possible to estimate the amount of time likely to be involved or
 - (ii) Proposing a fixed sum which the arbitrator assesses as being appropriate in relation both to the amount of time likely to be involved and the magnitude of the issue to be decided upon.
- (b) When appointed an arbitrator is entitled to require an initial payment of a specified sum as "security for costs" which is intended to cover abortive work undertaken by the arbitrator in making arrangements for the hearing of a dispute which, however, is subsequently settled directly between the parties.
- (c) Where a fee is being charged on an hourly or daily basis all time devoted to the exercise, including the consideration of submissions, inspection, travel and time wasted where hearings are cancelled or postponed, should be included together with incidental costs incurred.

**THE IRISH AUCTIONEERS
AND VALUERS INSTITUTE**



**SCALES OF PROFESSIONAL
CHARGES (1990 edition)**

Registered Offices
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DUBLIN 2**

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FEES OF PROFESSIONAL CHARGES

ON FEE SCALES

Fees set out herein, whilst not mandatory are recommended by the Council.

Cases where fees may be subject to taxation members should arrange, on accepting instructions, for the subsequent payment of scale fees. Similar arrangements should be made where a payment by a Local Authority also represents only a contribution.

Fees are in all cases exclusive of travelling and other expenses. (See special provisions in Section 2)

Cases involving separate lots and/or exceptional difficulties, additional fees over those set out may be charged

Fees prescribed by the Valuation Scales do not include structural surveys

Where services are charged on a time basis, these should be by prior arrangement

A minimum fee of £100 is applicable to all scales other than Scale Numbers 2C, 5D, 18C and 30

Where the valuation required is a fraction of an estate the charge for such valuation should be based on the valuation of the entire estate

GUIDELINES

Fees relating to —

Valuation of private houses, whether new or secondhand — 2%

Valuation of purchase/transfer/letting of all land and buildings other than that of agricultural land (whether or not developed since November 1972 or sold on behalf of non-taxable persons) — 23%

Valuation of purchase/transfer of agricultural land/land with buildings thereon, and where land is undeveloped — 10%

Valuation of Chattels — 23%

Valuation of Livestock — 2.3%

6. Sale of live horses or greyhounds – 2.3% from 1.1.1991.
7. Valuations, Rent Review Reports, Rent Collection and other professional activities – 23%.
8. Valuation of agricultural land and farm buildings constructed on the land – 23%.
9. Valuation of livestock – 23%.

* In the practical administration of the 10% rate of VAT on legal services directly related to agricultural land, the term 'agricultural land' can be taken to mean farm land, parkland, bogland and the like. Farm buildings including glasshouses are included. As a general but not invariable rule, residential buildings are excluded unless

- (1) the buildings have been used exclusively for residential purposes by the owner or occupier of the land; and
- (2) the area of the land being disposed is of 10 acres or more.

The user at the time of disposal is the main criterion in determining if the 10 per cent rate applies. The Inspector of Taxes should be consulted in doubtful cases.

Members are recommended to consult with their own advisors in relation to the detailed applicability of V.A.T. to their individual circumstances.

SECTION 1.

VALUATIONS

Capital Values

- a. **Freehold.**
£0.20% of Capital Value.
- b. **Capital Gains Tax**
£0.30% of Capital Value based on the valuation at the 5th April 1974 as indexed up per the Revenue Commissioners for Capital Gains Tax purposes. The valuation fee does not include negotiation with the Revenue Commissioners or their valuation officials for which a separate fee by prior arrangement should be agreed.
- c. **Insurance Purposes**
Two thirds of Scale 1a, the fee to be calculated on the reinstatement value.
- d. **Leasehold Property**
Scale as in 1a together with an additional amount as in Scale 2a provided the rent reserved is in excess of one eighth of the total rental value of the property – the additional fee to be charged on the rent reserved.
- e. **Revision of Valuation**
Where a valuation has been prepared and a fee received and where no subsequent inspection is required, the charge for subsequent revisions of the assessment should be by arrangement.
- f. **Compulsory Purchase Acquisition**
 - (1) Taking instructions, preparation and submission of claim, (including estimated value of accommodation works), and negotiating with the Acquiring Authority:
 - 1.1. £2.50% or
 - 1.2. Fee to be based on an hourly rate at the Valuer's discretion.

Notes:

These fees do not include expenses or attendance at arbitration

In the event of the acquisition being referred to Arbitration, a fee is payable in accordance with Scale Nr. 27.

Interest will accrue on the fees from date of entry on the land by the local authority on the same basis that interest accrues on the settlement or arbitration award.

2. Rental Values.

a. Open Market Annual Rental Value

£2.00%.

b. Landlord & Tenant and other relevant Acts excluding the Housing and Private Rented Dwellings Act 1982

£2.00%.

The scale includes inspection of premises, preparation and submission of valuation and preparation of evidence. The fee is exclusive of consultations, court and/or arbitration attendances.

c. Private Rented Dwellings Act 1982

Fee by arrangement subject to a minimum of £200 to include inspection, report and attendance at the hearing

3 Rateable Valuations

a. For inspection and general advice

Fee by arrangement

b. Rating Appeals

Where reduction achieved — fee to be 50% of one year's saving effective on current rates

Where no reduction achieved — fee by arrangement

c. Negotiating a refund of rates

A minimum fee of 10% of the amount of the refund secured.

4. Compensation under the Planning Acts

a. For advising prior to service of a Purchase Notice or a claim for compensation

Fee by arrangement

b. Purchase Notice or Compensation Claim

£2 50% of purchase price or compensation award

consultations and hearings.

d. Where undertaking to grant planning permission is given

Fee as in b. above based on market value with the benefit of such an undertaking.

Chattels for all purposes include preparation of inventory

a. Furniture, effects, equipment, fixtures and fittings, etc.

£1.25% up to £50,000

£0.75% - £50,000 to £75,000

Over £75,000 - fee by arrangement.

b. Plant & Machinery and growing crops

Fee by arrangement.

c. Livestock of all kinds

£0.50%

d. Valuation Certificate

1. On agents premises - minimum fee £50

2. Visits to premises for inspection - minimum fee £100

a: Where the visit is 10 miles or more from the agents office, all and other expenses are payable.

SECTION 2.

**SALES
BY AUCTION AND PRIVATE TREATY
AND TENDER**

FEES:

In cases where two agents are co-operating at the request of the Vendor, the fee should be at the rate of scale and a half of the fees set out.

In the event of non-sale at auction or withdrawal of instructions before or after auction or tender, the fee is by arrangement.

more than ten miles from the agent's office, travelling expenses are to be paid by the Vendor.

- (d) Location of property is the deciding factor when assessing the relevant rate of commission and not the address of the agent.
- (a) In the case of sales and Freehold and Leasehold property:
1. **Dublin district** comprises of Dublin City and suburbs and the borough of Dun Laoghaire (as defined from time to time for Census of Population purposes), It extends north to Malahide, west to Lucan and south to Bray.
 2. **Cork and Limerick cities** comprise Cork County Borough and Limerick County Borough, together with their respective suburbs as defined from time to time for Census of Population Purposes.
- (f) Abortive Sales — fee by arrangement to be calculated on a time basis.
6. **Freehold Property**
£2.50% in Dublin district, Cork and Limerick cities, as defined in (e) above, and £3.50% in all other areas, payable by the Vendor.
7. **Leasehold Property**
Fee as 6 above and in addition, a fee is chargeable at the rate £10% of the amount of annual rent payable where such rent exceeds 1/8th of the total rental value.
8. **Property over £50,000**
A fee may be negotiated in excess of 6 above in cases of sales by auction.
9. **To a named Purchaser**
Half scale as set out in 6 and 7 above.
10. **Property Sales by Order of the Courts**
£2.50% on the first £100,000
£1.50% on the balance.
Fees are payable by the Courts

10 Art and Chattels

Salesrooms or on Vendor's Premises –
Minimum fee of 10% payable by the Vendor.
Purchasers premium payable at a minimum rate of 8%.

Handling Timber

Fee by arrangement.

Restock Sales

Pedigree and Pure Bred Non Registered (P.B.N.R.)

Livestock

£5% payable by the Purchaser.

Ordinary Livestock other than Mart Sales

£2.50% payable by the Purchaser.

Clearance sales on farms

£5% payable by the purchaser.

All expenses are payable by the Vendor in a, b and c

ON 3.

PURCHASES

Household Property

Negotiating the purchase of a named property

£1.50% payable by the Purchaser.

Seeking and Negotiating the purchase of a property

£2.50% payable by the Purchaser.

Household Property

Fee as in 14a and 14b and in addition, a fee is chargeable at the rate of 10% of the annual rent payable where such rent exceeds 1/8th of the total rental value.

For Abortive Negotiation

Fee to be based on a time basis at Valuer's discretion, and in addition, fee is charged for Valuation if any

Purchasing at Auction

Fee by arrangement

SECTION 4.

LETTINGS

Notes:

- (a) in cases where two agents are co-operating at the request of the Landlord, the fee should be at the rate of scale and a half.
- (b) Where the lease provides for a progression of rent, the fee should be based on the average rent over the period up to the following review date or possible break in tenancy.
- (c) When an option to purchase is embodied in a lease or letting agreement, a fee in accordance with Section 2, less the fee already paid on the letting is payable by the Vendor when the Option is exercised.
- (d) If a Capital Consideration be paid, under the heading in Sub-Sections 19 and 20 below, a fee is payable as in Section 2, sub-section 6 and 7 on such consideration in addition to the fee based on the rent.
- (e) Where the sale of any fittings, furniture etc. is involved together with a letting, £5% on the amount obtained may be charged to the Lessor in addition to the fee for the letting.

17. **Lands for Grazing, Con-Acre, Meadows etc. by Auction or Private Treaty**
£5% payable by the Licensee.
All expenses payable by the Licensor.

18. **Residential Premises**
For negotiating the terms of a letting or introducing a tenant.
- a. £6.25% of the annual rent and in addition where any premium is paid, a fee is payable as in Section 2, sub-section 6 on the amount of the premium
 - b. **Negotiating the terms of an extended tenancy**
Fee by arrangement but not more than 1/3rd of a
 - c. **Preparation and/or checking inventories of furniture and effects**
Fee by arrangement – minimum fee £50 00

7. Commercial/Industrial Premises

For negotiating the terms of a letting or introducing a Lessee

£10% of the first year's rent.

Where the rent on the letting is in the nature of a concessionary rent in consideration of the Lessee's undertaking to carry out repairs or refurbishment, the scale is applied to the agent's open market rental valuation of the premises as if such repairs or refurbishment had been carried out.

Seeking and negotiating a Lease or Tenancy of Commercial/Industrial property on behalf of a Lessee

Fee payable as for a letting of the same property as set out in 18 or 19 above

Negotiating a tenancy of a named property on behalf of a lessee/lessor

One half of the fees as set out in 18 or 19 above

For abortive negotiation

Fee by arrangement, and in addition, a fee is charged for valuation, if any.

SECTION 5.

RENT REVIEWS

23. **Negotiating the revised rent under the rent review provisions of a lease on behalf of a lessor or lessee**
£5% of the revised rent to include consultation.
For attendance at hearings see Scale 27.
24. **Acting as independent expert in the settlement of disputes arising under rent review clauses in leases**
Scale and a half of fee set out in Section 2a, i.e. 3%, subject to a minimum fee according to the expert's assessment of the likely time and level of responsibility involved.
25. **Acting as an Arbitrator in the settlement of disputes arising under rent review clauses in leases**
The fee must not be calculated on an ad valorem basis, but upon an hourly or daily rate subject to a minimum fee according to the arbitrator's assessment of the likely time and level of responsibility involved.

SECTION 6.

MISCELLANEOUS

- 26. Negotiating an option to purchase or sell a named property**
£1.50% of the proposed purchase or sale price.
Fee payable by the instructing principal.
- 27. Attendances at Consultations, Court Hearings, Arbitrations etc.**
Fee to be arranged prior to attendance.
- 28. Collection of Rents**
Fee by arrangement but not less than 10%. Such fee to include payment of normal outgoings and provision of annual statement.
- 29. Management of Properties**
Fee by arrangement, but not less than 10%.
- 30. Making or checking Inventories of furniture and effects**
Fee by arrangement — minimum fee £50.

APPENDIX G

AGENCY FEE RATES - SALE

Property Sector	No.1	No.2
	%	%
Retail	2.5	3.5
Offices	2.5	3.5
Industrial	2.5	3.5
Agricultural	2.5	3.5
Hotel	2.5	3.5
New Houses	2.5	1.5
Second-hand Houses	2.5	3.5

Range of Fee Rates for sale: 1% to 3.5%

AGENCY FEE RATES - ACQUISITION

Property Sector	No.1	No.2
Retail	1%	1.5%
Office	1%	1.5%
Industrial	1%	1.5%
Agricultural	1%	1.5%
Pubs	1%	1.5%
Hotel	1%	1.5%
Residential	1%	1.5%

Range of Fee Rates for acquisition: 0.2% to 3%

AGENCY FEE RATES - LETTING

Property Sector	No.1	No.2
Retail	10%	5%
Office	10%	5%
Industrial	10%	5%
Agricultural	5%	10%
Pubs	10%	5%
Hotels	10%	5%
Residential	10%	5%

Range of Fee Rates for letting: 2% to 15%

APPENDIX H

PROFESSIONAL SERVICES FEE RATES

Principal Methods Used

RENT REVIEWS

5% of revised rent	-	75% of firms
% of revised rent		12.5% of firms

RATING

50% of rates bill in year one		79.2% of firms
% of reduction in year one		12.5% of firms

PROPERTY MANAGEMENT

% of rent collected		60% of firms
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COMPULSORY PURCHASE

% of total claim value		41% of firms
Hourly Rate		23.1% of firms

RESIDENTIAL MORTGAGE VALUATION

Fixed set fee		41% of firms
% of capital value		34% of firms

INSURANCE VALUATION

0.133% of reinstatement cost		43.5% of firms
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INVESTMENT VALUATIONS

0.2% of capital value		52.1% of firms
% of capital value		39.4% of firms

ASSET VALUATION

0.2% of capital value		71.2% of firms
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APPENDIX I

IMPORTANCE RANKINGS

Nº 1. Ranked Agency Income Source - By Output Of Firms

Output Category (IR£000s)	Residential	Retail	Office	Industrial	Agricultural	Leisure
<£100	62.5	46.1	-	100	92.9	50
£100 - £250	22.8	23.1	33.3	-	7.1	50
£250 - £500	4.3	15.4	-	-	-	-
£500 - £1000	2.8	15.4	33.3	-	-	-
£1000 - £2000	1.4	-	-	-	-	-
£2000 - £3000	-	-	-	-	-	-
£3000 - £5000	1.4	-	33.3	-	-	-
No of Firms	70	13	3	2	14	2

Source: PSI Questionnaire Survey, 1992

IMPORTANCE RANKINGS

Nº 2. Ranked Agency Income Source - By Output Of Firms

Output Category (IR£000s)	Residential	Retail	Office	Industrial	Agricultural	Leisure
<£100	98.5	59.2	53.3	25	73.1	100
£100 - £250	5.3	25.9	20	50	23.1	-
£250 - £500	5.3	3.7	6.7	-	3.8	-
£500 - £1000	-	7.4	13.3	-	-	-
£1000 - £2000	-	-	6.7	-	-	-
£2000 - £3000	-	-	-	-	-	-
£3000 - £5000	-	3.7	-	25	-	-
No of Firms	19	28	16	4	26	1

Source: PSI Questionnaire Survey, 1992

IMPORTANCE RANKINGS

N^o 3 Ranked Agency Income Source - By Output Of Firms

Output Category (IR£000s)	Residential	Retail	Office	Industrial	Agricultural	Leisure
<£100	-	81.1	55.5	40	80	33.3
£100 - £250	-	16.2	33.3	35	-	33.3
£250 - £500	-	-	11.1	5	-	22.2
£500 - £1000	-	-	-	15	20	-
£1000 - £2000	-	-	-	-	-	-
£2000 - £3000	-	-	-	-	-	-
£3000 - £5000	-	2.7	-	5	-	11.1
No of Firms	0	37	9	20	5	9

Source: PSI Questionnaire Survey, 1992

APPENDIX J

PROFESSIONAL SERVICES OUTPUT - IMPORTANCE RANKINGS AND PARTICIPATION RATES

Ranking Service	Of	Valuations	Rating	Rent Reviews	Comou'v. Purchase	Property Management
N ^o 1		74	2	10	1	12
N ^o 2		16	3	35	8	21
N ^o 3		7	13	31	7	17
N ^o 4		1	16	3	16	11
N ^o 5		-	10	1	18	8
Total		98	44	80	50	69
N ^o Respondant Firms	of	103	103	103	103	103

Source: PSI Questionnaire Survey 1992

IMPORTANCE RANKINGS

N^o 1. Ranked Professional Services Income Source - By Output Of Firms

Output Category (IR£000s)	Valuations	Rating	Rent Reviews	Compul's Purchase	Property Management
<£100	73.2	37.5	50	100	70
£100 - £250	16.9	25	50	-	-
£250 - £500	2.8	25	-	-	10
£500 - £1000	4.2	-	-	-	20
£1000 - £2000	-	12.5	-	-	-
£2000 - £3000	-	-	-	-	-
£3000 - £5000	2.8	-	-	-	-
N ^o Of Firms	74	10	2	1	12

Source: PSI Questionnaire Survey, 1992

IMPORTANCE RANKINGS

N^o 2 Ranked Professional Services Income Source - By Output Of Firms

Output Category (IR£000s)	Valuations	Rent Reviews	Ratings	Compul'v Purchase	Property Management
<£100	43.7	70.6	100	50	83.3
£100 - £250	25	14.7	-	37.5	11.1
£250 - £500	12.5	2.9	-	12.5	-
£500 - £1000	6.2	8.8	-	-	-
£1000 - £2000	6.2	-	-	-	-
£2000 - £3000	-	-	-	-	-
£3000 - £5000	6.2	2.9	-	-	5.6
N ^o Of Firms	16	35	3	8	21

Source: PSI Questionnaire Survey, 1992

IMPORTANCE RANKINGS

N^o 3 Ranked Professional Services Income Source - By Output Of Firms

Output Category (IR£000s)	Valuations	Rent Reviews	Ratings	Comou'l'v. Purchase	Property Management
<£100	57.1	65.5	69.2	71.4	64.7
£100 - £250	14.3	27.6	23.1	14.3	11.8
£250 - £500	14.3	-	7.7	-	5.9
£500 - £1000	14.3	3.4	-	14.3	5.9
£1000 - £2000	-	-	-	-	5.9
£2000 - £3000	-	-	-	-	-
£3000 -£5000	-	3.4	-	-	5.9
N ^o Of Firms	7	31	13	7	17

Source: PSI Questionnaire Survey, 1992

APPENDIX K

CHARACTERISTICS OF TYPICAL INDUSTRIAL UNIT

	1960's Warehouse	Modern Warehouse
Office Content	+/- 10%	+/- 30%
Headroom	12 to 14 feet	Up to 30 feet
Roof	Single skin Asbestos often uninsulated	Insulated Metal Deck with high standard of roof lighting
Walls	Concrete Block - Dashed	Metal Deck Coloured as required
Tail Board loading	None	As required
Loading doors	10 foot x 10 foot	Suitable for 40 foot containers
Truck loading	Non-existent	Well provided
Car parking	Minimal	3 per 1000sq.ft. of floorspace
Span	40 to 50 foot	60 to 110 foot
Site coverage	60 to 70%	30 to 40%

Source: Jones Lang Wootton Research Department, 1992.

APPENDIX L

Jones Lang Wootton (JLW) Index

The Irish Property Index (JLW Index) has been compiled on an annual basis by Jones Lang Wootton since 1969 and bi-annually since 1988.

The JLW Index is based on a portfolio of Irish properties consisting of between 35 and 40 properties from the retail, office and industrial sectors. The percentage of the portfolio devoted to each property sector is weighted to reflect the relative importance of each property sector to institutional investors.

Jones Lang Wootton never divulge, under any circumstances, the actual list of properties in the portfolio for reasons of client confidentiality. Although institutional investors in general seek to have only prime property in their portfolios, some of the properties in this portfolio could only be considered "near prime" or "good" secondary, rather than prime property. The majority of properties in the portfolio are located in Dublin.

Jones Lang Wootton produce a range of different indices calculated from the portfolio of properties. The principal indices are the E.R.V. (Estimated Rental Value) Index, Capital Value Index and the Overall (Returns) Index. The ERV Index is calculated from rents achievable upon rent review.

Irish

PROPERTY INDEX

Jones Lang Wootton
Research

July 1993

 Jones Lang Wootton
Specialists in Business Property

10/11 Molesworth Street, Dublin 2. Tel: 6794622 Fax: 6795147

Positive Overall Return in first half of 1993

The JLW Index of Capital Values fell by 3.5% in the first six months of 1993. The latter half of 1992 saw capital values decrease by 6%, therefore the pace of fall in values is declining. This suggests that with yields at an all time high, some stability is returning to the market.

Because capital values fell by such a small amount the JLW Overall Returns Index was positive for the six month period to June 1993. Overall returns

were 1% for the period, although the annual return to June 1993 was -0.6%. The recovery in overall returns was partly due to an improvement in interest rates and partly to the correction of values in the market during the past year. It illustrates how critical the income flow from property is in maintaining positive returns at times of poor capital growth.

“income flow critical for positive returns”

Net income in the Index portfolio fell marginally in the first six months of 1993 due to a refurbishment

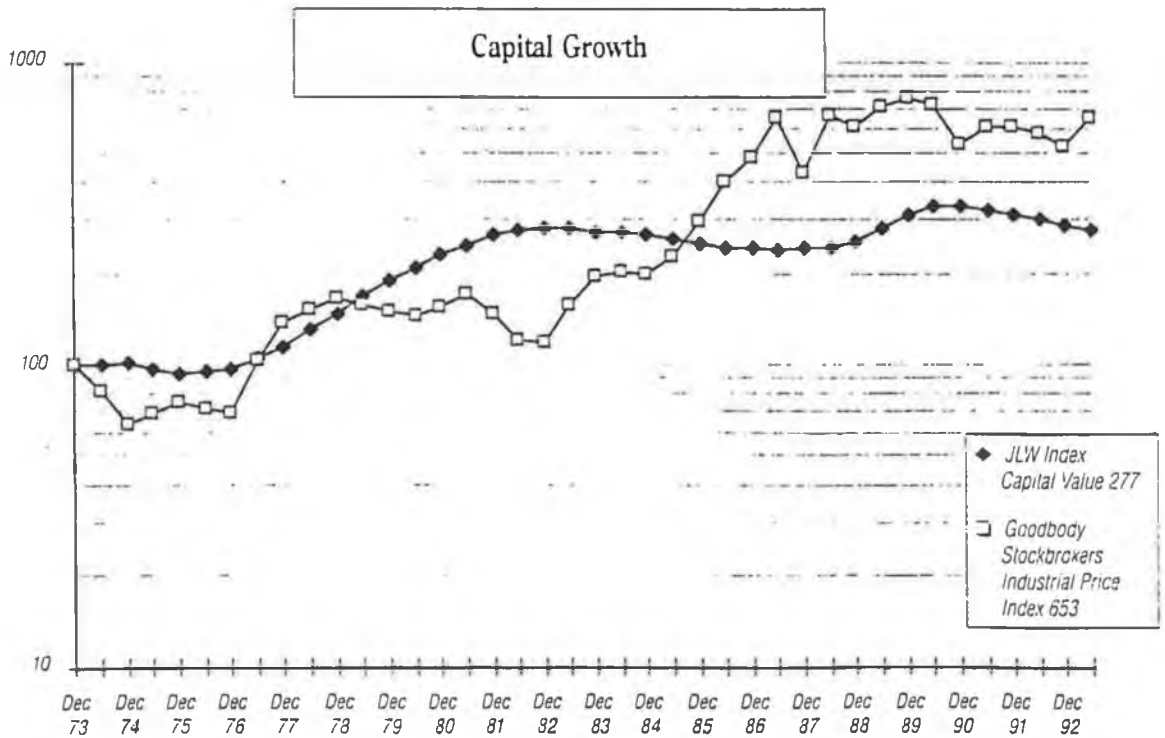
programme in one property. Rental values fell by just over 1% in the first half of the year, and by almost 2% in the year to June 1993.

The pace of decline in rental values has remained more or less the same throughout the year to June 1993. The Index of Office ERVs declined by 1.5% in the first half of the year (and by over 2% in the year to June 1993), while shop and industrial ERVs suffered slightly less (-1% and -0.7% respectively).

The industrial sector took the greatest fall in capital values in the first half of 1993 (-4.5%), continuing the at same pace of decline as 1992. In contrast the JLW Office Capital Value Index fell by just over 3% in the first half of 1993, compared to over 7% in the previous six months. The pace of decline also slowed, although less dramatically, in the retail sector, where values fell by 2% in the first half of 1993, compared to almost 4% in the previous six months.

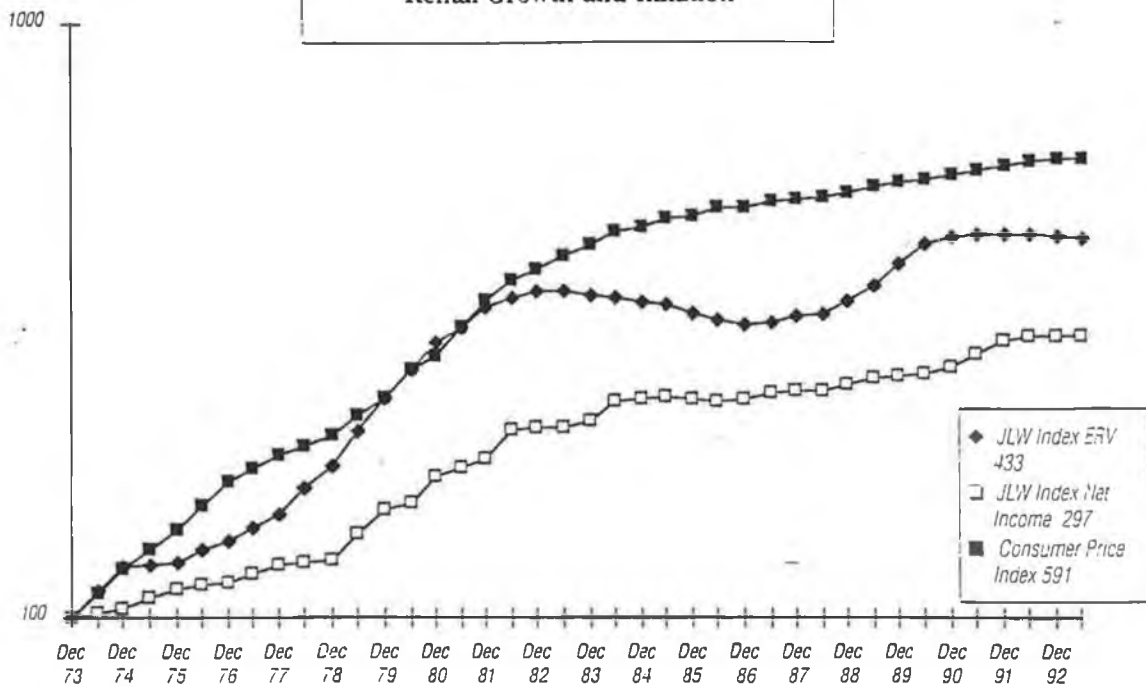
“office values down 3%”

Portfolio Statistics	Book Cost	Gross Value	Net Income	ERV	Current Yield	Breakdown by Gross Value	Number of Properties
Offices	21,273,056	31,347,500	2,431,279	2,707,746	7.8%	56%	13
Shops	13,485,659	20,322,400	1,586,327	1,659,163	7.8%	36%	15
Industrial	3,284,830	4,661,000	488,750	511,571	10.5%	8%	8
TOTAL	38,043,545	56,330,900	4,506,356	4,878,480	8.0%	100%	36



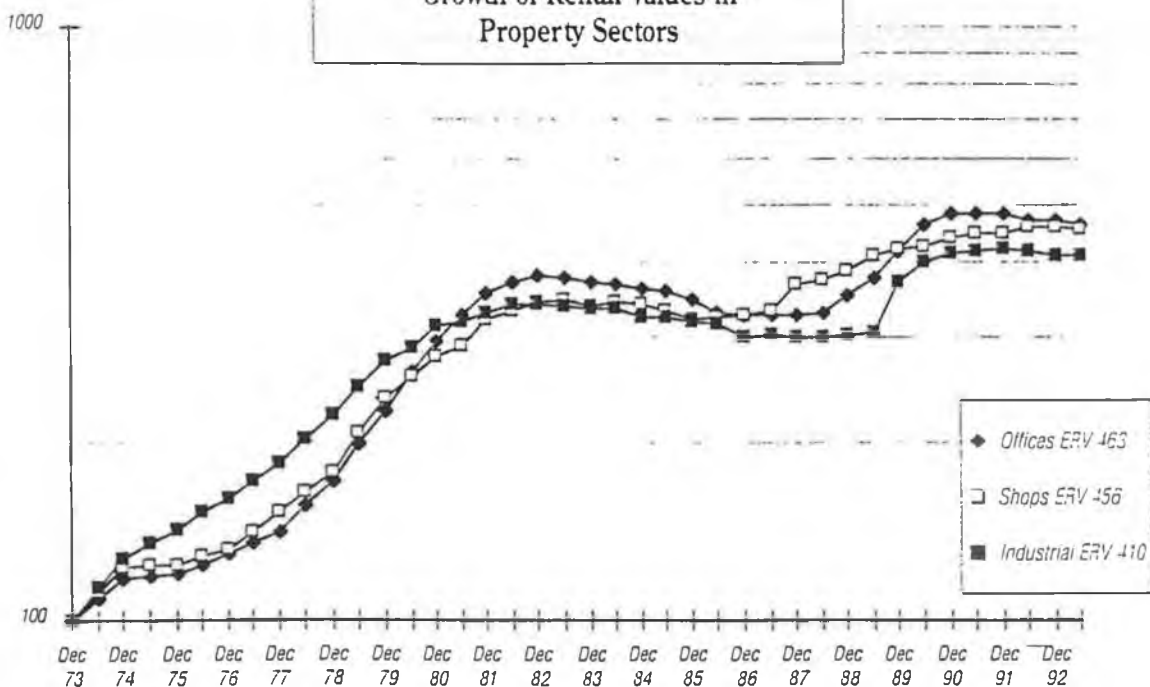
Note: JLV Index constructed on contract price and market value. Buying and selling costs not allowed for.

Rental Growth and Inflation



Note: Consumer Price Index calculated in the mid-month prior to JLV Index half year issues
Estimated Rental Values calculated from rents achievable upon rent review

Growth of Rental Values in Property Sectors



	JLW OVERALL INDEX	DAVY GROSS TOTAL RETURNS EQUITY INDEX	JLW INDEX CAPITAL VALUE	GOOBBODY STOCKBROKERS INDUSTRIAL PRICE INDEX
Dec 1969	46	46	46	46
Dec 1970	52	52	52	52
Dec 1971	62	62	62	62
Dec 1972	74	74	74	74
Dec 1973	100	100	100	100
Dec 1974	103	103	103	103
Dec 1975	104	104	104	104
Dec 1976	112	112	112	112
Dec 1977	122	122	122	122
Dec 1978	132	132	132	132
Dec 1979	144	144	144	144
Dec 1980	154	154	154	154
Dec 1981	164	164	164	164
Dec 1982	177	177	177	177
Dec 1983	187	187	187	187
Dec 1984	200	200	200	200
Dec 1985	211	211	211	211
Dec 1986	222	222	222	222
Dec 1987	231	231	231	231
Dec 1988	236	236	236	236
Dec 1989	242	242	242	242
Dec 1990	252	252	252	252
Dec 1991	277	277	277	277
June 1992	286	286	286	286
Dec 1992	272	272	272	272
June 1993	280	280	280	280

	GOOBBODY STOCKBROKERS TOTAL MARKET DIVIDEND INDEX	CONSUMER PRICE INDEX	JLW INDEX ERV	JLW INDEX NET INCOME
Dec 1969	46	46	46	46
Dec 1970	52	52	52	52
Dec 1971	62	62	62	62
Dec 1972	74	74	74	74
Dec 1973	100	100	100	100
Dec 1974	103	103	103	103
Dec 1975	104	104	104	104
Dec 1976	117	117	117	117
Dec 1977	128	128	128	128
Dec 1978	138	138	138	138
Dec 1979	150	150	150	150
Dec 1980	160	160	160	160
Dec 1981	170	170	170	170
Dec 1982	183	183	183	183
Dec 1983	193	193	193	193
Dec 1984	206	206	206	206
Dec 1985	217	217	217	217
Dec 1986	228	228	228	228
Dec 1987	237	237	237	237
Dec 1988	242	242	242	242
Dec 1989	248	248	248	248
Dec 1990	258	258	258	258
Dec 1991	283	283	283	283
June 1992	292	292	292	292
Dec 1992	278	278	278	278
June 1993	286	286	286	286

	OFFICES		SHOPS		INDUSTRIAL	
	ERV	CAPITAL	ERV	CAPITAL	ERV	CAPITAL
Dec 1969	46	46	46	46	46	46
Dec 1970	52	52	52	52	52	52
Dec 1971	62	62	62	62	62	62
Dec 1972	74	74	74	74	74	74
Dec 1973	100	100	100	100	100	100
Dec 1974	103	103	103	103	103	103
Dec 1975	104	104	104	104	104	104
Dec 1976	117	117	117	117	117	117
Dec 1977	128	128	128	128	128	128
Dec 1978	138	138	138	138	138	138
Dec 1979	150	150	150	150	150	150
Dec 1980	160	160	160	160	160	160
Dec 1981	170	170	170	170	170	170
Dec 1982	183	183	183	183	183	183
Dec 1983	193	193	193	193	193	193
Dec 1984	206	206	206	206	206	206
Dec 1985	217	217	217	217	217	217
Dec 1986	228	228	228	228	228	228
Dec 1987	237	237	237	237	237	237
Dec 1988	242	242	242	242	242	242
Dec 1989	248	248	248	248	248	248
Dec 1990	258	258	258	258	258	258
Dec 1991	283	283	283	283	283	283
June 1992	292	292	292	292	292	292
Dec 1992	278	278	278	278	278	278
June 1993	286	286	286	286	286	286

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APPENDIX M

		AVERAGE							
	AVERAGE	SECOND				CORRELATION CO-EFFICIENT			
	NEW	HAND	LOAN APPROVALS - VALUE						
	HOUSE	HOUSE	(millions)						
	PRICE	PRICE	NEW	S - H		Column 1	Column 2	Column 3	Column 4
	STATE	STATE	HOUSES	HOUSES		Column 1	1		
1970	5424					Column 2	0.996879	1	
1971	6068					Column 3	0.942673	0.930226	1
1972	6613					Column 4	0.906156	0.901461	0.916108
1973	7422		70.072	18.729					
1974	8534		73.397	26.554					
1975	10438		90.682	67.26					
1976	12258	12300	102.348	88.798					
1977	14770	14117	108.033	110.256					
1978	18966	17244	147.661	134.524					
1979	23144	21735	192.155	181.353					
1980	27539	24357	206.216	205.222					
1981	31634	29450	236.771	261.32					
1982	34700	31745	240.153	268.904					
1983	35006	34026	261.379	371.688					
1984	35770	35604	270.024	350.081					
1985	36655	35919	271.262	421.532					
1986	38005	37080	250.6	439.8					
1987	37922	36488	248.9	527.8					
1988	41308	39773	277.1	849.1					
1989	45819	42990	429.7	970.7					
1990	51618	49134	406.5	768.5					
1991	52600	51200	449.2	820.2					
1992	54550	50800	553.5	1032.3					

APPENDIX N

	NEW HOUSE PRICES						SECOND-HAND HOUSE PRICES			
	(AVERAGE)									
	DUBLIN	CORK	LIMERICK	GALWAY	WATERFORD	OTHER	DUBLIN	CORK	LIMERICK	GALWAY
1970	5739	5223	4735	5494	4808	5062				
1971	6301	6045	5303	6983	4904	5669				
1972	6852	6047	5867	7407	5456	6343				
1973	7631	6623	7181	9022	6396	7342				
1974	8618	7725	8281	10519	7558	8544				
1975	10346	10176	10706	11359	9952	10994				
1976	12083	12087	12033	14052	10947	12098	12483	11923	11040	13277
1977	15007	14690	15745	17102	13622	14196	14789	14096	13137	16375
1978	20276	17689	18175	20669	16771	17987	18051	16875	15858	21943
1979	25206	22890	24051	23994	21393	21372	23699	21842	20328	23264
1980	29787	27263	27045	26650	25309	25724	26879	25507	23356	25972
1981	35012	27930	32700	31289	27280	29815	33230	27389	27787	31765
1982	38501	30095	31656	35803	32874	33778	36159	27909	29636	33294
1983	37936	30891	32629	35952	33182	34260	37999	29011	31397	33820
1984	38448	32373	33821	36050	34743	34380	40115	29165	33094	37319
1985	38721	33659	35055	38594	34449	35486	39679	31668	33582	37976
1986	40080	34530	37190	39224	37746	36611	40520	33532	34722	39195
1987	40059	36107	36973	37931	36989	36023	38700	34553	33695	36564
1988	45674	39067	41974	41141	37434	37315	42589	37608	36266	42598
1989	53864	43056	43105	45628	39777	40445	49733	40191	39482	44786
1990	63595	48100	49032	53569	42453	43890	58936	43161	43800	48367
1991	61993	50917	50875	52597	42029	46187	59914	44859	43304	49007
1992	62375	51276	47399	59396	41470	49170	61028	44875	43976	49517

		CORRELATION CO-EFFICIENT								
			Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
WATERFORD	OTHER	Column 1	1							
		Column 2	0.99188	1						
		Column 3	0.984882	0.988707	1					
		Column 4	0.988835	0.988426	0.975195	1				
		Column 5	0.943461	0.951705	0.968964	0.949826	1			
		Column 6	0.974067	0.97929	0.980157	0.986081	0.982031	1		
		Column 7	0.994219	0.990706	0.983704	0.99415	0.954005	0.984843	1	
11455	11153	Column 8	0.984837	0.995277	0.994244	0.980814	0.965437	0.980808	0.982354	1
12999	12585	Column 9	0.978516	0.981671	0.989703	0.981844	0.987661	0.993575	0.986861	0.986806
16051	15543	Column 10	0.978811	0.981538	0.989098	0.981757	0.977642	0.987861	0.984505	0.986175
17771	18674	Column 11	0.964436	0.977667	0.975003	0.976963	0.972642	0.981357	0.973462	0.982996
20513	20450	Column 12	0.962034	0.975002	0.979719	0.976445	0.980331	0.987612	0.976205	0.981056
23622	25222									
25168	27243									
26546	31028									
29945	32227									
31709	33140									
30300	34252									
33269	34830									
34116	37724									
36543	36988									
38623	41166									
37951	42994									
41650	44494									

2

3

APPENDIX O

STATISTICAL ANALYSIS METHODS

CORRELATION

The correlation or the degree of closeness of fit between two variables is measured by the correlation coefficient (r). The correlation coefficient takes values in the range -1 to $+1$. A value of $+1$ denotes a perfect positive correlation between the two variables, say x and y : an increasing x being associated with an increasing y . A value of -1 would mean a perfectly negative correlation exists between the two variables i.e. an increasing value of x is associated with a decreasing y . A correlation coefficient value of zero would indicate that no relationship exists between two given variables.

Statisticians use the word correlation to emphasise that the existence of a relationship does not necessarily mean that changes in one variable are the cause of changes in the other variable. Thus two variables may be correlated, but not causally related.

SIMPLE REGRESSION

Regression analysis is a statistical technique used to determine relationships between variables or sets of data. Simple regression analysis provides an equation that can be used to estimate or predict the value of one variable from a given value of another.

The coefficient of determination (r squared) measures the degree to which movement in the dependant variable is associated with movement in the independent variable. The coefficient, r -squared, will be 0 if none of the variation in the dependant variable (y) is explained by movement in the independent variable (x). The r -squared will be 1 if all the variation in y is explained by

movement in x , and r -squared will be between 0 and 1, e.g. 0.68, if only part of the variation is explained by the relationship.

The statistical significance of the relationships established using regression and correlation analysis must be examined. There are various underlying assumptions made when using regression analysis. The assumptions made refer to the probability distribution of the variables and associated errors. If the variables used do not comply with the assumed distributions, the results obtained from the regression analysis may be deemed insignificant. Consequently, certain tests described in detail in appendix P must be carried out to ascertain the actual distribution of the variables.

MULTIPLE REGRESSION

It may be deemed necessary to include more than one independent or explanatory variable in the regression analysis, in order to overcome a lack of statistical significance between the variables involved in the simple regression or to improve on a low value of correlation between the variables. When more than one independent variable is included in the regression analysis the analysis is termed multiple regression analysis. As is the case with simple regression, having undertaken multiple regression analysis, the findings must be tested to determine statistical significance. Testing involves assessing the compliance of each variable with the underlying assumptions within the regression equation i.e. normal distribution.

A computer statistical package, *Analysis Tools on Microsoft Excel Version 4.0.*, was used to undertake the regression and correlation analysis.

APPENDIX P

STATISTICAL SIGNIFICANCE

In the print-out shown on page seven of this appendix, multiple regression analysis was undertaken to help explain the movement of the JLW Retail ERV Index (the dependent variable) over the period 1970 to 1991.

Two variables were selected to act as independent variables: Persons employed in the Financial Services sector (variable 1) and GNP at current prices (variable 2). The regression and correlation analysis was undertaken on the Microsoft Excel Version 4.0 (Analysis Tools) Package.

Principal Results

Multiple r-square (coefficient of determination) = 0.9796

Sample 't's - Variable 1 (Employment in Fin. Service) = 5.946

Variable 2 (GNP at current prices) = 2.128

Parameter estimates/values variable 1 = 4.747

variable 2 = 0.00458

The r-square value of 0.9796 implies that just under 98% of the movement in the JLW Retail ERV Index is explained by the movement of the two independent variables. A r-square value of 0.9796 would be considered very high (N.B. perfect positive correlation = 1.00) and would indicate that movement in these two variables could be used to explain movement in the dependent variable from 1970 to 1991.

However for both single and multiple regression models, calculating the r-square value is not sufficient on its own. Several tests must be carried out

using the other results obtained from the regression analysis (see print-out on page seven). The particular example shown on the print-out is a multiple regression analysis and two main tests are undertaken; 't'-test and the partial f-test criterion, for simple regression models only 't'-testing is required.

The 't'-test procedure

The 't'- test involves assessing the compliance of each (independent) variable with the underlying assumptions within the regression equation i.e. normal distribution.

Using 't'-tests, regression analysis would be deemed inadequate if the parameter estimates of the coefficient of the independent variable or variables were found to be statistically insignificant. A test statistic against which the sample 't' could be compared has to be calculated as follows:

1. Degrees of Freedom (V)

$$V = n-p-1$$

where: V = degrees of freedom

 n = number of data points

 p = number of independent variables

In the example:-

$$V = 22-2-1$$

$$V = 19$$

2. Critical t-value

To obtain the critical 't' value against which the test statistic is compared the degrees of freedom figure (V) is matched with the appropriate figure on the left most column (d.f.) of the 't' distribution table on page 10 of this appendix. For this example a 5% level of significance is used.

Using the 't' distribution table at 19 degrees of freedom and under the column headed 0.05 i.e. 100-95, the test statistic of 2.0903 is found. Thus for variable 1 (Financial Services sector employment) sample 't' equaled 5.946 and for variable 2 (GNP at current prices) sample 't' was 2.128. So at 0.05 level both variables 1 and 2 sample 't' values exceeded the test statistic of 2.0903. At 95% level of confidence therefore both variables were statistically significant.

N.B. Testing the parameter estimates for variables 1 and 2; for variable 1 $b_1 = 4.747$ with an associated 't' value of 5.946. So variable 1 is significant at 0.05 and 0.01 levels. However for variable 2, $b_2 = 0.00458$ and although this variable is significant at the 0.05 level it is not significant at the 0.01 level.

The Partial F-Test Criterion

One method of determining the contribution of an independent variable to a regression model is the partial f-test criterion. This involves determining the contribution to the regression sum of squares made by each independent variable after all the other independent variables have been included in a model. The new independent variable would only be included if it significantly improved the model.

Determining the Contribution of an Independent Variable

Where there are two independent or explanatory variables, the contribution of each to the model can be determined thus:

Contribution of Variable X1 given X2 has been included in the model is
 $SSR (b1/b2) = SSR (b1 \text{ and } b2) - SSR (b2)$

Contribution of Variable X2 given X1 has been included in the model is
 $SSR (b2/b1) = SSR (b1 \text{ and } b2) - SSR (b1)$

Note: SSR = regression sum of squares.

The term SSR (b2) represents the regression sum of squares for a model that includes only the independent variable X2 while the term SSR (b1) represents the regression sum of squares for a model that includes only the independent variable X1.

Procedure for F-Test

In the example we are using in this appendix:

X1 = Financial Services sector employment

X2 = GNP at current prices

The null and alternative hypotheses to test for the contribution of X2, to the model would be:

Ho : Variable X2 (GNP) does not significantly improve the model once variable X1 (Financial Services sector employment) has been included.

H1 : Variable X2 significantly improves the model once variable X1 has been included.

(i) Take the regression sum of squares figure from the multiple regression model. This figure equals 346,125 (call it 'A'). See page seven of this appendix.

(ii) In the simple regression print-out for JLW Retail ERV Index (dependent variable) and Financial Services sector employment (independent variable) on page eight of this appendix the regression sum of squares figure is 344,403 (call it 'B').

(iii) Subtract B from A

$$\text{SSR } (b_2/b_1) = 346,125 - 344,403 = 1,722 \text{ (call it 'C').}$$

(iv) In the multiple regression print-out, take mean square residual figure, 380, (call it 'D').

$$\text{(v) } \frac{\text{SSR } (b_2/b_1)}{\text{mean square residual}} = \frac{C}{D} = \frac{1722}{380} = 4.53$$

(vi) Compare 4.53 to critical figure in F- tables (page 11 of this appendix).

(vii) Degree of freedom on the numerator = 1

Degree of freedom on the denominator

$$\text{= } n - p - 1$$

$$\text{= } 22 - 2 - 1$$

$$\text{= } 19$$

(viii) From the F-tables on page 11 of this appendix, the critical value of F is 4.38 (taking a level of significance of 0.05).

(ix) The observed F-value of 4.53 exceeds the critical value 4.38 at 0.05 level. (N.B. at 0.01 level (see F-tables on page 12) the critical value would be 8.18.

(x) Conclusion is that at 0.05 level X2 (GNP) makes a significant contribution to the model if X1 (Financial Services sector employment) is already included.

Alternatively testing to see the contribution of X1 (Financial Services sector employment) to the model, given that X2 (GNP) is already included in the model is done using the same procedure described previously.

[Note: simple regression print-out for JLW Retail ERV Index (Dependent Variable) and GNP (Independent Variable) is on page nine of this appendix]

The observed F- value in this case is 35.35 which comfortably exceeds the critical F- value of 4.38 (obtained from the F- tables on page 11). In fact the observed F- value of 35.35 also exceeds the critical F- value of 8.18 at the 0.01 level (see F-tables on page 12).

Conclusion is that at the 0.05 and 0.01 levels, X1 (Financial Services sector employment) makes a significant contribution to the model if X2 (GNP) is already included.

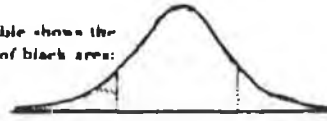
	JLW INDEX	FINANCE	GNP	<i>Regression Statistics</i>						
	ERV	SERVICE	CURRENT							
	RETAIL	SECTOR	PRICES							
		EMPLOYMENT	IRM.							
		(000's)								
1970	63	172	1648.5	Multiple R	0.98973205					
1971	79	172	1882.1	R Square	0.97956952					
1972	87	173	2284.3	Adjusted R Square	0.97741894					
1973	100	174	2741.5	Standard Error	19.4922175					
1974	123	175	3040.6	Observations	22					
1975	124	182	3796.3	<i>Analysis of Variance</i>						
1976	131	174	4617.2		<i>df</i>	<i>n of Squares</i>	<i>Mean Square</i>	<i>F</i>	<i>Significance F</i>	
1977	151	188	5595	Regression	2	346124.879	173062.44	455.491549	8.8643E-17	
1978	177	178	6528.6	Residual	19	7218.98433	379.946544			
1979	236	198	7633.9	Total	21	353343.864				
1980	278	201	9002.6							
1981	321	207	10854.4	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Statistic</i>	<i>F-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	
1982	344	210	12454.6	Intercept	-736.11938	135.894578	-5.4168415	2.2554E-05	-1020.5501	-451.68868
1983	338	212	13595.3	x1	4.74736035	0.79837249	5.9462975	6.6758E-06	3.076347	6.4183737
1984	340	212	14767.8	x2	0.00458362	0.0021533	2.12864827	0.04528492	7.6708E-05	0.00909054
1985	321	210	15824.2							
1986	327	212	16920							
1987	358	213	18305.7							
1988	387	222	19273.1							
1989	422	222	21268							
1990	439	225	22911							
1991	449	229	24252							
1992	460									

	JLW INDEX	FINANCE	<i>Regression Statistics</i>						
	ERV	SERVICE							
	RETAIL	SECTOR							
		EMPLOYMENT							
		(000's)							
1970	63	172	Multiple R	0.98726756					
1971	79	172	R Square	0.97469724					
1972	87	173	Adjusted R Square	0.9734321					
1973	100	174	Standard Error	21.1430563					
1974	123	175	Observations	22					
1975	124	182	<i>Analysis of Variance</i>						
1976	131	174		<i>df</i>	<i>Sum of Squares</i>	<i>Mean Square</i>	<i>F</i>	<i>Significance F</i>	
1977	151	188	Regression	1	344403.287	344403.287	770.42746	1.9175E-17	
1978	177	178	Residual	20	8940.57662	447.028831			
1979	236	198	Total	21	353343.864				
1980	278	201		<i>Coefficients</i>	<i>Standard Error</i>	<i>t Statistic</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
1981	321	207	Intercept	-1011.0562	45.8268886	-22.06251	5.2235E-16	-1106.6494	-915.46303
1982	344	210	x1	6.38574558	0.23006245	27.7565751	4.9088E-18	5.90584395	6.86564721
1983	338	212							
1984	340	212							
1985	321	210							
1986	327	212							
1987	368	213							
1988	387	222							
1989	422	222							
1990	439	225							
1991	449	229							
1992	460								

YEAR	JLW INDEX	GNP	<i>Regression Statistics</i>							
	ERV	CURRENT								
	RETAIL	PRICES	Multiple R	0.970334						
		IRM.	R Square	0.941549						
			Adjusted R Square	0.938626						
			Standard Error	32.13511						
1970	63	1648.5	Observations	22						
1971	79	1882.1								
1972	87	2284.3	<i>Analysis of Variance</i>							
1973	100	2741.5			<i>df</i>	<i>Squares</i>	<i>Mean Square</i>	<i>F</i>	<i>Significance F</i>	
1974	123	3040.6	Regression	1	332690.6	332690.6	322.1669	8.43E-14		
1975	124	3796.3	Residual	20	20653.31	1032.665				
1976	131	4617.2	Total	21	353343.9					
1977	151	5595								
1978	177	6528.6			<i>Coefficients</i>	<i>Standard Error</i>	<i>t Statistic</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
1979	236	7633.9								
1980	278	9002.6	Intercept	70.72506	12.33216	5.73501	1.08E-05	45.00064	96.44949	
1981	321	10854.4	x1	0.016928	0.000943	17.94901	3.23E-14	0.01496	0.018895	
1982	344	12454.6								
1983	338	13595.3								
1984	340	14767.8								
1985	321	15824.2								
1986	327	16920								
1987	368	18305.7								
1988	387	19273.1								
1989	422	21268								
1990	439	22911								
1991	449	24252								
1992	460									

STUDENT'S *t* DISTRIBUTION

This table shows the
values of black area:

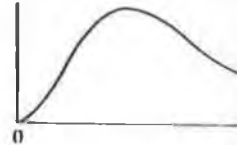


d.f.	Level of Significance												
	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.001
1	.158	.225	.510	.727	1.000	1.376	1.963	3.078	6.314	12.706	31.821	63.657	636.619
2	.142	.289	.445	.617	.816	1.061	1.386	1.886	2.910	4.303	6.965	9.925	31.598
3	.137	.277	.424	.584	.765	.978	1.250	1.638	2.353	3.182	4.541	5.841	12.941
4	.134	.271	.414	.569	.741	.941	1.190	1.533	2.132	2.776	3.747	4.604	8.610
5	.132	.267	.408	.559	.727	.920	1.156	1.476	2.015	2.571	3.365	4.032	6.859
6	.131	.265	.404	.553	.718	.906	1.134	1.440	1.943	2.447	3.143	3.707	5.959
7	.130	.263	.402	.549	.711	.896	1.119	1.415	1.895	2.365	2.998	3.499	5.405
8	.130	.262	.399	.546	.706	.889	1.108	1.397	1.860	2.306	2.896	3.355	5.041
9	.129	.261	.398	.543	.703	.883	1.100	1.383	1.833	2.262	2.821	3.250	4.781
10	.129	.260	.397	.542	.700	.879	1.093	1.372	1.812	2.228	2.764	3.169	4.587
11	.129	.260	.396	.540	.697	.876	1.088	1.363	1.796	2.201	2.718	3.106	4.437
12	.128	.259	.395	.539	.695	.873	1.083	1.356	1.782	2.179	2.681	3.055	4.318
13	.128	.259	.394	.538	.694	.870	1.079	1.350	1.771	2.160	2.650	3.012	4.221
14	.128	.258	.393	.537	.692	.868	1.076	1.345	1.761	2.145	2.624	2.977	4.140
15	.128	.258	.393	.536	.691	.866	1.074	1.341	1.753	2.131	2.602	2.947	4.073
16	.128	.258	.392	.535	.690	.865	1.071	1.337	1.746	2.120	2.583	2.921	4.015
17	.128	.257	.392	.534	.689	.863	1.069	1.333	1.740	2.110	2.567	2.898	3.965
18	.127	.257	.392	.534	.688	.862	1.067	1.330	1.734	2.101	2.552	2.878	3.922
19	.127	.257	.391	.533	.688	.861	1.066	1.328	1.729	2.093	2.539	2.861	3.883
20	.127	.257	.391	.533	.687	.860	1.064	1.325	1.725	2.086	2.528	2.845	3.850
21	.127	.257	.391	.532	.686	.859	1.063	1.323	1.721	2.080	2.518	2.831	3.819
22	.127	.256	.390	.532	.686	.858	1.061	1.321	1.717	2.074	2.508	2.819	3.792
23	.127	.256	.390	.532	.685	.858	1.060	1.319	1.714	2.069	2.500	2.807	3.767
24	.127	.256	.390	.531	.685	.857	1.059	1.318	1.711	2.064	2.492	2.797	3.745
25	.127	.256	.390	.531	.684	.856	1.058	1.316	1.708	2.060	2.485	2.787	3.725
26	.127	.256	.390	.531	.684	.856	1.058	1.315	1.706	2.056	2.479	2.779	3.707
27	.127	.256	.389	.531	.684	.855	1.057	1.314	1.703	2.052	2.473	2.771	3.690
28	.127	.256	.389	.530	.683	.855	1.056	1.313	1.701	2.048	2.467	2.763	3.674
29	.127	.256	.389	.530	.683	.854	1.055	1.311	1.699	2.045	2.462	2.756	3.659
30	.127	.256	.389	.530	.683	.854	1.055	1.310	1.697	2.042	2.457	2.750	3.646
40	.126	.255	.388	.529	.681	.851	1.050	1.303	1.684	2.021	2.423	2.704	3.551
60	.126	.254	.387	.527	.679	.848	1.046	1.296	1.671	2.000	2.390	2.660	3.460
120	.126	.254	.386	.526	.677	.845	1.041	1.289	1.658	1.980	2.358	2.617	3.373
∞	.126	.253	.385	.524	.674	.842	1.036	1.282	1.645	1.960	2.326	2.576	3.291

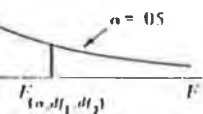
This table is reprinted from Table III of Fisher and Yates: *Statistical Tables for Biological, Agricultural, and Medical Research*, published by Oliver and Boyd Ltd., Edinburgh, by permission of the authors and publishers.

TABLE E.5 Critical values of F

For a particular combination of numerator and denominator degrees of freedom, entry represents the critical values of F corresponding to a specified upper tail area (α).

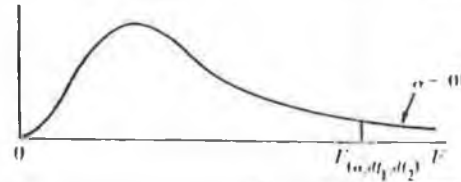


Denominator df ₁	Numerator (df ₂)											
	1	2	3	4	5	6	7	8	9	10	12	
1	161.4	199.5	215.7	224.6	230.2	234.0	236.8	238.9	240.5	241.9	243.9	
2	18.51	19.00	19.16	19.25	19.30	19.33	19.35	19.37	19.38	19.40	19.41	
3	10.13	9.55	9.28	9.12	9.01	8.94	8.89	8.85	8.81	8.79	8.74	
4	7.71	6.94	6.59	6.39	6.26	6.18	6.09	6.04	6.00	5.96	5.91	
5	6.61	5.79	5.41	5.19	5.05	4.95	4.88	4.82	4.77	4.74	4.68	
6	5.99	5.14	4.76	4.53	4.39	4.28	4.21	4.15	4.10	4.06	4.00	
7	5.59	4.74	4.35	4.12	3.97	3.87	3.79	3.73	3.68	3.64	3.57	
8	5.32	4.46	4.07	3.84	3.69	3.58	3.50	3.44	3.39	3.35	3.28	
9	5.12	4.26	3.86	3.63	3.48	3.37	3.29	3.23	3.18	3.14	3.07	
10	4.98	4.10	3.71	3.48	3.33	3.22	3.14	3.07	3.02	2.98	2.91	
11	4.84	3.98	3.59	3.36	3.20	3.09	3.01	2.95	2.90	2.85	2.79	
12	4.75	3.89	3.49	3.26	3.11	3.00	2.91	2.85	2.80	2.75	2.69	
13	4.67	3.81	3.41	3.18	3.03	2.92	2.83	2.77	2.71	2.67	2.60	
14	4.60	3.74	3.34	3.11	2.96	2.85	2.76	2.70	2.65	2.60	2.53	
15	4.54	3.68	3.29	3.06	2.90	2.79	2.71	2.64	2.59	2.54	2.48	
16	4.49	3.63	3.24	3.01	2.85	2.74	2.66	2.59	2.54	2.49	2.42	
17	4.45	3.59	3.20	2.96	2.81	2.70	2.61	2.55	2.49	2.45	2.38	
18	4.41	3.55	3.16	2.93	2.77	2.66	2.58	2.51	2.46	2.41	2.34	
19	4.38	3.52	3.13	2.90	2.74	2.63	2.54	2.48	2.42	2.38	2.31	
20	4.35	3.49	3.10	2.87	2.71	2.60	2.51	2.45	2.39	2.35	2.28	
21	4.32	3.47	3.07	2.84	2.68	2.57	2.49	2.42	2.37	2.32	2.25	
22	4.30	3.44	3.05	2.82	2.66	2.55	2.46	2.40	2.34	2.30	2.23	
23	4.28	3.42	3.03	2.80	2.64	2.53	2.44	2.37	2.32	2.27	2.20	
24	4.26	3.40	3.01	2.78	2.62	2.51	2.42	2.36	2.30	2.25	2.18	
25	4.24	3.39	2.99	2.76	2.60	2.49	2.40	2.34	2.28	2.24	2.16	
26	4.23	3.37	2.98	2.74	2.59	2.47	2.39	2.32	2.27	2.22	2.15	
27	4.21	3.35	2.96	2.73	2.57	2.46	2.37	2.31	2.25	2.20	2.13	
28	4.20	3.34	2.95	2.71	2.56	2.45	2.36	2.29	2.24	2.19	2.12	
29	4.18	3.33	2.93	2.70	2.55	2.43	2.35	2.28	2.22	2.18	2.10	
30	4.17	3.32	2.92	2.69	2.53	2.42	2.33	2.27	2.21	2.16	2.09	
40	4.08	3.23	2.84	2.61	2.45	2.34	2.25	2.18	2.12	2.08	2.00	
60	4.00	3.15	2.76	2.53	2.37	2.25	2.17	2.10	2.04	1.99	1.92	
120	3.92	3.07	2.68	2.45	2.29	2.17	2.09	2.02	1.96	1.91	1.83	
∞	3.84	3.00	2.60	2.37	2.21	2.10	2.01	1.94	1.88	1.83	1.78	



15	20	24	30	40	60	120	∞
245.9	248.0	249.1	250.1	251.1	252.2	253.3	251.3
19.41	19.45	19.45	19.46	19.47	19.48	19.49	19.50
8.70	8.66	8.64	8.62	8.59	8.57	8.55	8.53
5.06	5.00	5.77	5.75	5.72	5.69	5.66	5.63
4.62	4.56	4.53	4.50	4.46	4.43	4.40	4.36
3.94	3.87	3.84	3.81	3.77	3.74	3.70	3.67
3.51	3.44	3.41	3.38	3.34	3.30	3.27	3.23
3.22	3.15	3.12	3.08	3.04	3.01	2.97	2.93
3.01	2.94	2.90	2.86	2.83	2.79	2.75	2.71
2.85	2.77	2.74	2.70	2.66	2.62	2.58	2.54
2.72	2.65	2.61	2.57	2.53	2.49	2.45	2.40
2.62	2.51	2.51	2.47	2.43	2.38	2.34	2.30
2.53	2.48	2.42	2.38	2.34	2.30	2.25	2.21
2.48	2.39	2.35	2.31	2.27	2.22	2.18	2.13
2.40	2.33	2.29	2.25	2.20	2.16	2.11	2.07
2.35	2.28	2.24	2.19	2.15	2.11	2.06	2.01
2.31	2.23	2.19	2.15	2.10	2.06	2.01	1.96
2.27	2.19	2.15	2.11	2.06	2.02	1.97	1.92
2.21	2.16	2.11	2.07	2.03	1.98	1.93	1.88
2.20	2.12	2.00	2.04	1.99	1.95	1.90	1.84
2.18	2.10	2.05	2.01	1.96	1.92	1.87	1.81
2.15	2.07	2.03	1.98	1.94	1.89	1.84	1.78
2.13	2.05	2.01	1.96	1.91	1.86	1.81	1.76
2.11	2.03	1.99	1.94	1.89	1.84	1.79	1.73
2.09	2.01	1.96	1.92	1.87	1.82	1.77	1.71
2.07	1.99	1.95	1.90	1.85	1.80	1.75	1.69
2.06	1.97	1.93	1.88	1.84	1.79	1.73	1.67
2.04	1.96	1.91	1.87	1.82	1.77	1.71	1.65
2.03	1.94	1.90	1.85	1.81	1.76	1.70	1.64
2.01	1.93	1.89	1.84	1.79	1.74	1.69	1.63
1.92	1.84	1.79	1.74	1.69	1.64	1.59	1.53
1.84	1.76	1.70	1.65	1.60	1.55	1.50	1.44
1.76	1.68	1.61	1.56	1.51	1.46	1.41	1.35
1.67	1.59	1.53	1.48	1.43	1.38	1.33	1.27

TABLE E.5 (Continued)



Denominator df ₂	Numerator df ₁											
	1	2	3	4	5	6	7	8	9	10	12	15
1	4052	4999.5	5103	5625	5764	5859	5928	5982	6022	6056	6106	6157
2	98.50	99.00	99.17	99.25	99.30	99.33	99.38	99.37	99.39	99.40	99.42	99.43
3	34.12	30.82	29.46	28.71	28.24	27.91	27.67	27.49	27.35	27.23	27.05	26.87
4	21.20	18.00	16.69	15.98	15.52	15.21	14.98	14.80	14.68	14.55	14.37	14.20
5	16.26	13.27	12.06	11.39	10.97	10.67	10.46	10.29	10.18	10.05	9.89	9.72
6	13.75	10.92	9.78	9.15	8.75	8.47	8.26	8.10	7.98	7.87	7.72	7.58
7	12.25	9.55	8.45	7.85	7.46	7.19	6.99	6.84	6.72	6.62	6.47	6.31
8	11.28	8.65	7.59	7.01	6.63	6.37	6.18	6.03	5.91	5.81	5.67	5.52
9	10.58	8.02	6.99	6.42	6.06	5.80	5.61	5.47	5.35	5.26	5.11	4.96
10	10.04	7.56	6.55	5.99	5.64	5.39	5.20	5.08	4.94	4.85	4.71	4.56
11	9.65	7.21	6.22	5.67	5.32	5.07	4.89	4.74	4.63	4.54	4.40	4.25
12	9.33	6.93	5.95	5.41	5.06	4.82	4.64	4.50	4.39	4.30	4.16	4.01
13	9.07	6.70	5.74	5.21	4.88	4.62	4.44	4.30	4.19	4.10	3.96	3.82
14	8.86	6.51	5.56	5.04	4.69	4.46	4.28	4.14	4.03	3.94	3.80	3.66
15	8.68	6.36	5.42	4.89	4.56	4.32	4.14	4.00	3.89	3.80	3.67	3.52
16	8.53	6.23	5.29	4.77	4.44	4.20	4.03	3.89	3.78	3.69	3.55	3.41
17	8.40	6.11	5.18	4.67	4.34	4.10	3.93	3.79	3.68	3.59	3.46	3.31
18	8.29	6.01	5.09	4.58	4.25	4.01	3.84	3.71	3.60	3.51	3.37	3.23
19	8.18	5.93	5.01	4.50	4.17	3.94	3.77	3.63	3.52	3.43	3.30	3.15
20	8.10	5.86	4.94	4.43	4.10	3.87	3.70	3.56	3.46	3.37	3.23	3.09
21	8.02	5.78	4.87	4.37	4.04	3.81	3.64	3.51	3.40	3.31	3.17	3.03
22	7.95	5.72	4.82	4.31	3.99	3.76	3.59	3.45	3.35	3.26	3.12	2.98
23	7.88	5.66	4.76	4.26	3.94	3.71	3.54	3.41	3.30	3.21	3.07	2.93
24	7.82	5.61	4.72	4.22	3.90	3.67	3.50	3.36	3.28	3.17	3.03	2.89
25	7.77	5.57	4.68	4.18	3.85	3.63	3.46	3.32	3.22	3.13	2.99	2.85
26	7.72	5.53	4.64	4.14	3.82	3.59	3.42	3.29	3.18	3.09	2.96	2.81
27	7.68	5.49	4.60	4.11	3.78	3.56	3.39	3.26	3.15	3.06	2.93	2.78
28	7.64	5.45	4.57	4.07	3.75	3.53	3.36	3.23	3.12	3.03	2.90	2.75
29	7.60	5.42	4.54	4.04	3.73	3.50	3.33	3.20	3.09	3.00	2.87	2.73
30	7.56	5.39	4.51	4.02	3.70	3.47	3.30	3.17	3.07	2.98	2.84	2.70
40	7.31	5.18	4.31	3.83	3.51	3.29	3.12	2.99	2.89	2.80	2.66	2.52
60	7.08	4.98	4.13	3.65	3.34	3.12	2.95	2.82	2.72	2.63	2.50	2.35
120	6.85	4.79	3.95	3.48	3.17	2.96	2.79	2.68	2.58	2.47	2.34	2.19
∞	6.63	4.61	3.78	3.32	3.02	2.80	2.64	2.51	2.41	2.32	2.18	2.04

20	24	30	40	60	120	∞
6209	6235	6261	6207	6313	6339	6366
99 45	99 46	99 47	99 47	99 48	99 49	99 50
26 69	26 60	26 50	26 41	26 32	26 22	26 13
14 02	13 93	13 84	13 75	13 65	13 55	13 46
9 55	9 47	9 38	9 29	9 20	9 11	9 02
7 40	7 31	7 23	7 14	7 06	6 97	6 88
6 16	6 07	5 99	5 91	5 82	5 74	5 65
5 36	5 28	5 20	5 12	5 03	4 95	4 86
4 81	4 73	4 65	4 57	4 48	4 40	4 31
4 41	4 33	4 25	4 17	4 08	4 00	3 91
4 10	4 02	3 94	3 86	3 78	3 69	3 60
3 86	3 78	3 70	3 62	3 54	3 45	3 36
3 66	3 59	3 51	3 43	3 34	3 25	3 17
3 51	3 43	3 35	3 27	3 18	3 09	3 00
3 37	3 29	3 21	3 13	3 05	2 96	2 87
3 26	3 18	3 10	3 02	2 93	2 84	2 75
3 16	3 08	3 00	2 92	2 83	2 75	2 65
3 08	3 00	2 92	2 84	2 75	2 66	2 57
3 00	2 92	2 84	2 76	2 67	2 58	2 49
2 91	2 86	2 78	2 69	2 61	2 52	2 42
2 88	2 80	2 72	2 64	2 55	2 46	2 36
2 83	2 75	2 67	2 58	2 50	2 40	2 31
2 78	2 70	2 62	2 54	2 45	2 35	2 26
2 74	2 66	2 58	2 49	2 40	2 31	2 21
2 70	2 62	2 54	2 45	2 36	2 27	2 17
2 66	2 58	2 50	2 42	2 33	2 23	2 13
2 63	2 55	2 47	2 38	2 29	2 20	2 10
2 60	2 52	2 44	2 35	2 26	2 17	2 08
2 57	2 49	2 41	2 33	2 23	2 14	2 03
2 55	2 47	2 39	2 30	2 21	2 11	2 01
2 37	2 29	2 20	2 11	2 02	1 92	1 80
2 20	2 12	2 03	1 94	1 84	1 75	1 65
2 03	1 96	1 86	1 77	1 67	1 57	1 47
1 86	1 78	1 70	1 60	1 50	1 40	1 30

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APPENDIX Q

THE INDEPENDENT VARIABLES

It was shown in section 6.5 that there is a link between the Irish economy and the output of the P.S.I. but the exact nature of the link is yet to be established. This section outlines the macro-economic variables (independent variables) which will be used in the statistical analysis to quantify the relationship between the economy and the output of the P.S.I.

In total 24 variables have been outlined. Of this total, seven are to be used solely for analysing the property investment market and not the property indicators which represent the various occupation markets.

The independent variables listed in this appendix are potential proxy variables also (like the property indicators) representing the demand and supply forces which operate in the investment and occupation markets.

The variables are chosen to represent the best data currently available. For example, data that are only available from 1988 to 1991 would be of no real use no matter how well it represented occupation demand as the period of time for which it is available is too short for the purposes of statistical analysis. There are notes on pages 7 to 9 of this appendix relating to each of the variables.

LIST OF INDEPENDENT VARIABLES USED IN THE STATISTICAL ANALYSIS

	NOTES->	**1	**2	**3	**4
YEAR		UNEMPLOYMENT	GNP	PERSONS	BUILDING
			CURRENT	EMPLOYED	SOCIETY
			PRICES	FINANCIAL	MORTGAGE
				SERVICES	RATE
				SECTOR	
		('000)	IR&M.	('000)	%
1970		64865	1648.5	172	9
1971		61988	1882.1	172	9
1972		71527	2284.3	173	9
1973		66785	2741.5	174	10.625
1974		72304	3040.6	175	11.25
1975		103234	3796.3	182	12.5
1976		107800	4617.2	174	13.95
1977		106400	5595	188	9.5
1978		99200	6528.6	178	14.15
1979		89600	7633.9	198	14.15
1980		101500	9002.6	201	14.15
1981		127900	10854.4	207	16.25
1982		156600	12454.6	210	13
1983		192700	13595.3	212	11.75
1984		214200	14767.8	212	11.75
1985		230600	15824.2	210	9.75
1986		236400	16920	212	12.5
1987		247300	18305.7	213	9.75
1988		241400	19273.1	222	8.25
1989		231600	21268	222	11.6
1990		224700	22911	225	11.35
1991		254000	24252	229	11.1
1992		282000			14.1

**5	**6	**7	**8	**9
PERSONS EMPLOYED MANUFACTURING INDUSTRY	PERSONAL DISPOSABLE INCOME	PERSONAL SAVINGS	TOTAL PERSONAL EXPENDITURE ON GOODS AND SERVICES	3 MONTH INTERBANK INTEREST RATE
('000)	IR£M.	IR£M.	IR£M.	%
	1281.1			5.25
	1433.3			5.25
	1751.9	171.9	1109.2	9.25
324	2156.2	177.8	1255.5	16.5
349	2532	302.8	1449.1	13.94
315	3237.1	418.1	1738.1	11.06
304	3791.2	491.3	2040.7	14.69
336	4565.7	803.2	2433.9	7.06
350	5403.5	787.3	3003.9	12.81
365	6330.2	904.9	3660.8	18.5
371	7505.2	1094.6	4308.9	13.56
360	8970.3	1159.8	5170.4	18.75
352	10037.4	1347.6	6157.6	15.5
331	10857.8	1480.4	7489.9	12.25
320	11794.3	2036.4	8001	15
306	12597.7	2044	8813.8	12.25
307	13312.3	2142.6	9651.7	13.88
300	14273	2000.1	10597.6	8.81
300	14674.4	2001.2	11311.1	8.38
306	15736	2273.7	11999.3	12.12
320		1912.3	12762.1	11.5
322		2008	13728	10.69
316			14231	17.5

**10	**11	**12	**13	**14
ALL LICENSED BANKS ADVANCES TO PROPERTY COMPANIES	ALL LICENSED BANKS ADVANCES TO BUILDING AND CONSTRUCTION	PERSONAL CREDIT LEVEL	OFFICE SPACE COMPLETED IN DUBLIN	JLW OVERALL INDEX
IR£M.	£IRM.	£IRM.	SQ.FT.	1973=100
			228935	52
			543565	62
29.674	46.104		756995	74
		198	670695	100
59.6	73.4	206.6	586145	108
76.3	83.3	242	775315	104
67.4	90.4	336.6	178700	116
69.7	104.5	476.5	335350	145
73.1	129.3	638.9	343140	199
72.2	170.8	682.9	613200	266
95.6	183	858	502044	348
133.3	234.1	991	624448	424
200.8	292.1	1350	916124	467
167.5	312.6	1368.2	535653	487
206.3	332.2	1511.9	562909	505
195	288.4	1530.9	265146	517
192	252.5	1698.3	155299	538
195.8	239.4	2092.2	245299	587
248.8	255.3	2526.8	140397	656
351.1	360.2	3330	155310	862
450.1	442.5	3991.3	870000	975
502.8	425.3	4124.4	1260200	977
619.9	373.4	4340.3	130000	970

**15	**16	**17	**18	**19	**20	**21
DAVY GROSS	GILTS	PRIME	PRIME	PRIME	JLW	NEW
TOTAL	G.R.Y.	RETAIL	OFFICE	INDUSTRIAL	ERV	HOUSE
RETURNS		YIELD	YIELD	YIELD	INDEX	COMPLETIONS
EQUITY						
INDEX						
1973=100	%	%	%	%	1973=100	
	9.78	7.5	7	10	64	10120
	8.76	7	6.75	9.5	77	10591
	9.77	6.5	6.5	9.5	87	15670
100	12.39	6.25	6	9	100	18588
53	17.4	6.75	6.5	10	121	19510
108	15.12	7.5	7	10.75	124	18098
97	15.49	7.25	6.75	10.25	135	16737
193	10.97	6.75	6.5	9.5	149	18215
249	13.14	6.5	6	8.5	180	19371
238	15.94	6.25	5.5	8	234	20330
276	15.24	6	5.5	8.25	289	21801
277	17.57	5.5	5.5	8.5	332	23236
269	14.35	5.75	5.5	9.25	353	21200
491	13.74	5.75	6	9.5	348	19948
487	13.83	6	6.25	9.75	339	17942
761	12.42	6	6.5	9.75	325	17425
1195	12.82	6	6.75	11	311	17164
1093	10.48	6	6.75	11	321	15376
1602	8.28	5.75	6.5	10	341	14204
2146	8.87	5.75	6.5	9.5	395	17300
1532	9.75	9.75	5	6	438	18536
1879	9.1	9.1	6	6.5	442	18472
1719	9.89	9.89	6.25	7	438	20982

**22	**23	**24
NEW	RETAIL	RETAIL SALES
SHOPPING	SALES	VALUE
CENTRE	VALUE	INDEX
SPACE	INDEX	PUBLIC HOUSES
COMPLETED		OFF-LICENSES
IN DUBLIN		
SQ.FT.	1980=100	1980=100
	37.5	103.1
40000	44.1	97.7
60000	52.7	89
210000	63.1	93.5
220000	75	99
95000	87.2	101.5
20000	100	100
390000	118.3	91.8
60000	129.4	85.7
105000	137.4	79.5
280000	145.8	78.1
20000	155.9	78.3
70000	158.8	72.7
80000	161.4	69.8
250000	169.1	69.9
464000	184.6	71.3

NOTES ON INDEPENDENT VARIABLES

****1** - Source of data: *Quarterly and Annual Reports, Central Bank.*

****2** - Gross National Product (G.N.P.) at current prices is the total of incomes earned by residents of a country, regardless of where the assets are located.

Source of data: *National Income and Expenditure tables, Central Statistics Office.*

****3** - Persons employed in finance services sector: this represents the total number of persons that work in the commerce, insurance and finance sectors of the economy.

Source of data: *Labour Force Survey, Central Statistics Office.*

****4** - This is a representative rate for all Irish building societies.

Source of data: *Quarterly and Annual Reports, Central Bank.*

****5** - Source of data: *Quarterly and Annual Reports, Central Bank.*

****6** - Personal income is the aggregate income from all sources in cash or kind at the disposal of individuals permanently resident in the State. Personal income less income tax leaves personal disposable income.

Source of data: *National Income and Expenditure tables, Central Statistics Office.*

****7** - Personal savings is that portion of personal income which is not expended on current goods and services or on payment of taxes on income and wealth.

Source of data: *National Income and Expenditure tables, Central Statistics Office.*

****8** - This represents the total expenditure of Irish residents in satisfying consumption needs. It excludes the purchase of dwellings but includes the purchase of all durable (e.g. motor cars, furniture) and non-durable (e.g. food) goods as well as gross rent and services.

Source of data: *National Income and Expenditure tables, Central Statistics Office.*

****9** - This represents the 3 month Dublin Interbank Interest rate for the Punt.

Source of data: *Quarterly and Annual Reports, Central Bank.*

****10 and 11** - These data relates to credit extended to property companies and the building/construction sector by the within the State offices of licensed banks.

Source of data: *Quarterly and Annual Reports, Central Bank.*

****12** - Personal credit levels represent the level of personal advances or borrowings.

Source of data: *Quarterly and Annual Reports, Central Bank.*

****13** - Office space completed in Dublin represents the amount of new office space completed in square foot terms in Dublin in a given year.

Source of data: *Hamilton Osborne King.*

****14** - The JLW Overall Index calculates the overall return from the property portfolio by combining capital value changes (in the portfolio) and income received from rent roll.

Source of data: *Jones Lang Wootton Irish Property Index.*

****15** - Davy Gross Total Returns Equity Index represents the return from equities quoted in the Dublin Stock Exchange.

Source of data: *Jones Lang Wootton Irish Property Index.*

****16** - This represents the gross redemption yield on Irish Government security, 6.5% Exchequer stock (27 - 6) 2000 - 2005.

Source of data: *Quarterly and Annual Reports, Central Bank.*

****17/18/19** - Prime property is the best quality property in any sector of the market. Yield is the percentage relationship between current rental income and market value.

Source of data: *Hamilton Osborne King.*

****20** - The JLW ERV Index is calculated from rents achievable upon rent review for properties in the portfolio.

Source of data: *Jones Lang Wootton Irish Property Index*.

****21** - New house completions represents the number of new private houses completed in a given year.

Source of data: *Bulletin of Housing Statistics, Department of the Environment*.

****22** - New shopping space completed in Dublin represents the amount of new shopping space in square foot terms completed in retail developments (of over 20,000 sq.ft.) in Dublin in a given year.

Source of data: *Dublin Shopping Centres - Statistical Digests, Centre for Retail Studies*.

****23** - The retail sales value index estimates the total value of retail sales for all categories of retail outlets.

Source of data: *Economic Series, Central Statistics Office*.

****24** - The retail sales value index for public houses and off-licences estimates the value of retail sales for that particular category of retail outlet.

Source: *Economic Series, Central Statistics Office*.

APPENDIX R

Notes on Regression Analysis

Re: Dependent Variables - JLW ERV Indices/Value of Loan Approvals for Houses

1. R-Square values were obtained for all independent variables (against each of the dependent variables). However only the variables with the highest r-square values are included in this appendix. There was little point in including independent variables of very low r-square values, say 0.31, as any explanatory power (re: the movement of the dependent variable) would be negligible.

2. The observed F-value associated with X1 means the contribution of X1 to the regression model given that X2 is already in the model. Likewise the observed F-value associated with X2 relates to the contribution of X2 to the model given that X1 is already in the model.

Re: Dependent Variables - Turnover of the Property Investment Market/Public House Property Market

1. In the case of these two dependent variables r-square values for all independent variables turned out to be generally very low and very few of the variables proved to be statistically significant. So in fact the highest r-square values associated with these two dependent variables are much lower than for the other four dependent variables.

DEPENDENT VARIABLE: JLW ERV OFFICE INDEX

Simple Regression

Independent Variable	R- Square Value	Sample 't' at 5%	Test Statistic at 5%
Financial Services Sector Employment	0.948	19.16	2.086
Personal Savings	0.914	13.81	2.101
Advances to Building & Construction	0.95	18.06	2.11
GNP at current prices	0.896	13.11	2.086
Personal Disposable Income	0.883	11.66	2.101
Total Personal Expenditure on Goods & Services	0.883	11.97	2.093

Multiple Regression

Independent Variables	R-Square Value	Contribution of	Variables	't'-test: does sample 't' exceed test statistic?
		Observed F-value at 5%	Critical F-value at 5%	
X1.Financial Services Sector Employment X2.Personal Savings	0.952	X1. -119.2	4.45	X1.Yes
		X2. 13.5		X2.Yes
X1.Financial Services Sector Employment X2.Advances to Building & Construction	0.97	X1. 11.4	4.54	X1.Yes
		X2. 26.2		X2.Yes
X1.Advances to Building & Construction X2.Personal Savings	0.95	X1. 66.4	4.54	X1.Yes
		X2. 0.96		X2.No

DEPENDENT VARIABLE: JLW ERV RETAIL INDEX

Simple Regression

Independent Variable	R-Square Value	Sample 't' at 5%	Test Statistic at 5%
Financial Services Sector Employment	0.975	27.76	2.086
Personal Disposable Income	0.948	18.14	2.101
Total Personal Expenditure on Goods & Services	0.943	17.77	2.101
GNP at current prices	0.942	17.95	2.086
Personal Savings	0.929	15.37	2.101
Advances to Property Companies	0.877	7.99	2.262
Unemployment	0.837	10.4	2.08

Multiple Regression

Independent Variables	R-Square Value	Contribution of Variables		't'-test: does sample 't' exceed test statistic?
		Observed F-Value at 5%	Critical F-Value at 5%	
X1. Financial Services Sector Employment X2. Total Personal Expenditure on Goods & Services	0.97	X1. 139.8 X2. 92	4.41	X1. Yes X2. Yes
X1. Financial Services Sector Employment X2. GNP	0.979	X1. 35.35 X2. 4.53	4.38	X1. Yes X2. Yes

DEPENDENT VARIABLE: JLW ERV INDUSTRIAL INDEX

Simple Regression

Independent Variable	R-Square Value	Sample 't' at 5%	Test Statistic at 5%
Financial Service Sector Employment	0.91	14.16	2.086
Advances to Building & Construction	0.90	13.01	2.11
Personal Savings	0.891	12.11	2.101
GNP	0.834	10.03	2.086
Total Personal Expenditure on Goods & Services	0.82	9.29	2.093
Personal Disposable Income	0.817	9	2.101
Unemployment	0.706	7.11	2.08

Multiple Regression

Independent Variables	R-Square Value	Contribution of Variables		't'-test: does sample 't' exceed test statistic?
		Observed F-Value at 5%	Critical F-Value at 5%	
X1.Advances to Building & Construction X2.Financial Services Sector Employment	0.922	X1. 3.7 X2. 10.1	4.54	X1. Yes X2. No
X1.Advances to Building & Construction X2.Personal Savings	0.874	X1. 35.6 X2. 0.1	4.67	X1. Yes X2. No
X1.Finance Service Sector Employment X2.Personal Savings	0.912	X1. 22.3 X2. 0.14	4.45	X1. Yes X2. No

DEPENDENT VARIABLE: VALUE OF HOUSE LOAN APPROVALS

Simple Regression

Independent Variable	R-Square Value	Sample 't' at 5%	Test Statistic at 5%
Personal Credit	0.945	17.62	2.101
GNP	0.932	15.34	2.11
Total Personal Expenditure on Goods & Services	0.911	12.82	2.12
Personal Disposable Income	0.873	10.16	2.131
Advances to Building & Construction	0.871	10.73	2.11
Finance Service Sector Employment	0.833	9.2	2.11
Unemployment	0.79	8.25	2.101

Multiple Regression

Independent Variables	R-Square Value	Contribution of Variable		't'-test: does sample 't' exceed test statistic?
		Observed F-Value at 5%	Critical F-Value at 5%	
X1. GNP X2. Total Personal Expenditure on Goods & Services	0.922	X1. 0.5 X2. 0.1	4.41	X1. No X2. No
X1. GNP X2. Personal Credit	0.953	X1. 7.9 X2. 6.9	4.49	X1. Yes X2. Yes
X1. Personal Credit X2. Total Personal Expenditure on Goods & Services	0.952	X1. 12.5 X2. 6.4	4.41	X1. Yes X2. Yes

DEPENDENT VARIABLE: PUBLIC HOUSE PROPERTY MARKET

Simple Regression

Independent Variable	R-Square Value	Statistically Significant?	Sample 't' at 5%	Test Statistic at 5%
GNP	0.874	Yes	5.88	2.57
Total Personal Expenditure on Goods & Services	0.869	Yes	5.15	2.78
Personal Disposable Income	0.817	Yes	3.66	3.18
Personal Credit	0.461	Yes	2.64	2.45
Financial Services Sector Employment	0.34	No	2.14	2.45

DEPENDENT VARIABLE: TURNOVER OF THE PROPERTY INVESTMENT MARKET

Simple Regression

Independent Variable	R-Square Value	Statistically Significant?	Sample 't' at 5%	Test Statistic at 5%
Financial Services Sector Employment	0.413	Yes	2.52	2.262
Total Personal Expenditure on Goods & Service	0.321	No	1.94	2.306
GNP	0.312	No	2.02	2.262
Davy Gross Returns Equity Index	0.268	No	1.25	2.262
JLW Overall Index	0.236	No	1.93	2.306
JLW ERV Index	0.221	No	1.68	2.228