

## Chapter 10. Real estate activities

*This chapter presents practical guidance as well as main issues and challenges for compiling SPPI for Real estate activities (ISIC 68).*

## **10.1. Real estate activities with own or leased property (Aspasia Papa, Office for National Statistics United Kingdom)**

### ***10.1.1. Industry description (ISIC 68)***

Real estate activities encompass a range of services relating to the provision of property, *i.e.* buying, selling and renting of commercial and residential properties or land. This division also includes the activities of real estate agents intermediating in buying, selling, letting or managing real estate.

### ***10.1.2. Classification aspects***

#### ***10.1.2.1. Industry classification***

The ISIC classification identifies separately two main industry groups, namely 681 - Real estate activities with own or leased property, and 682 - Real estate activities on a fee or contract basis. The former includes buying, selling, and operating of self-owned or leased property whereas the latter encompasses the provision of real estate activities on a fee or contract basis.

The other international industry classifications provide further delineations. Indeed, ANZSIC identifies separate classes for 6711 - Residential property operators and 6712 - Non-residential property operators. NACE distinguishes 68.10 - Buying and selling of own real estate, from 68.20 - Renting and operating of own or leased real estate. In addition, NACE divides the provision of real estate activities into 68.31 - Real estate agencies, and 68.32 - Management of real estate on a fee or contract basis. Finally, NAICS identifies separate industries for lessors of residential buildings and dwellings, lessors of non-residential buildings (except mini warehouses) and lessors of mini warehouses and self-storage units. It also makes a distinction between residential property management and non-residential property management and identifies a single industry for all real estate appraisal services.

#### ***10.1.2.2. Product classification***

The CPC classification follows closely the industry classification and includes two groups, namely 721 - Real estate services involving own or leased property and 722 - Real estate services on a fee or contract basis. The former includes rental or leasing of residential and non-residential property. This group also encompasses trade services, where the property, either residential or non-residential, is treated as sales of trading stock by the seller as opposed to disposals of fixed assets of the selling unit. The second group consists of residential and non-residential property management and real estate appraisal services. In addition, this group includes building as well as land sales on a fee or contract basis.

One area of growing importance is that of time-share properties. Indeed, the CPC classification identifies time-share property subclasses in each of the two groups. It should be noted that the term time-share has a dual meaning, since it can refer to both a deeded partial ownership as well as a prepaid authorisation for use of accommodation services. In this context, the CPC refers to the deeded partial ownership and related services; whereas the prepaid accommodations and time share exchange services are included in groups 855 - Travel arrangement, tour operator and related services and 631 - Accommodation services for visitors.<sup>1</sup>

CPA and NAPCS have structures and details comparable to CPC. The commission sales activities for residential and non-residential property, the fee based property management services for residential and non-residential property, and other fee based products, such as appraisal services, are also separately identified in each of these product classifications. NAPCS consists of more than 50 detailed products which separate residential and non-residential real estate services. It also provides a further delineation of rental of real estate by purpose of use (*e.g.* commercial, industrial, manufacturing, mini warehouses, etc.) and breaks down the appraisal services by opinion of value and quality of real estate and taxation appraisal services.

### 10.1.3. *Scope of the survey*

The ideal survey would track constant quality price change for the full range of output to all end users (such as business, household and government etc.). It is important that compilers consider the extent to which different service activities, and even similar activities provided to different end users, may follow comparable or different price development over time. The pricing mechanisms employed for different service activities, their relative size in output terms, and the availability of data, should also be considered in setting the scope of the survey.

The survey should cover both the provision of real estate activities with own or leased property and the provision of real estate activities on a fee or contract basis as they are likely to have different drivers of price development.

The 2009 Voorburg Group “Revisited Status Report” for the industry, highlighted a problem of partial coverage of the industry arising in the majority of reporting countries because only non-residential rental and leasing were covered.

The U.K. SPPI publishes two indices, distinguishing between the provision of services to property owners and purchasers, and the letting of non-residential property, and provision of associated services, by property owners namely:

- An index for Real Estate Agency services covering selling, letting and acquisition activities and act as a proxy for all real estate agency activities (including property management services). The services are mainly provided to the property owners although some are to prospective purchasers.
- An index for Property Rental relating to the renting or leasing of self-owned non-residential property. In practice, this can also include other services, such as use of utilities, ground leases, maintenance changes and business rates.

It should be noted that whilst the selling and buying of self-owned real estate is included in the classification, it is not listed here on the basis that it does not contain a corporate element. Similarly, price changes in dwellings are often proxied by CPI information, although a number of countries (*e.g.* Australia) include the price change of residential properties in the compilation of their SPPI for real estate.

The development of building projects for sale is classified under construction activity and therefore falls outside the scope of the SPPI survey for this industry.

The services related to real estate generally do not cover all of the activities that are associated with real estate ownership transactions. Activities classified elsewhere including the activities of surveyors, title researchers, and attorneys are not included in real estate service activities.

#### *10.1.4. Sample design*

The source data for the sampling frame, the sample structure and size and sampling techniques must be considered in the context of the availability of data and resources, the overall importance of the industry and the level of homogeneity or otherwise of price development.

Typically, the national business register will provide a potential sample frame. However, consideration must be given to the extent to which the frame covers the entirety of real estate activities. Many buildings are owned and rented by business enterprises with a primary activity other than the provision of real estate services. For example, a law firm might own a building that not only accommodates its offices but also provides additional office space that the firm rents out to other tenants. The establishment would therefore appear on a business register as a law firm rather than a lessor of non-residential property. Compilers need to review and analyse property ownership patterns in their country to determine the most appropriate sampling frame.

##### *10.1.4.1. Real estate agency services*

The U.K. sample of real estate agency service providers is structured so as to take account of:

- Region;
- The type of property - office, retail, industrial and other;
- The type of primary estate agency activity – selling, letting and acquisition.

The population frame is obtained from the business register. The sample selection follows a multi-stage process where the population is stratified according to employment band and the number of questionnaires sent is determined by the turnover share. Establishments with less than 10 employees are not included in the sample. For each component of the sample structure two elements are surveyed separately, namely a commission rate and a rental or capital value index.

##### *10.1.4.2. Property rental payments (non-residential)*

The data used to compile this index is derived from a sample of over 1,000 properties which are independently valued each month. The sample is designed to include representative coverage of office, retail, industrial and other property types. Properties included have been purchased for investment purposes - mainly relating to insurance and pension funds. The index is compiled from valuation and management records for individual buildings in complete portfolios, collected directly from investors. Valuations are conducted on the sample of properties by qualified valuers working according to industry guidelines and reflect the value that each of the properties would attract if put on the market for rent or sale.

#### *10.1.5. Collection of information and specification of the service*

The U.K. Real Estate Agency Services index requires data on commission rates which are collected from real estate agents via a quarterly survey. A paper questionnaire is sent every quarter to those real estate agents included in the panel. Most of the data are returned by telephone using the Telephone Data Entry system. Contributors dial a given number and, using the touch-tone facility, input their individual identifier and supply data

for each of the index reference numbers on their questionnaire. Voice messages can be left to explain any changes or to provide details of any new information. Input data are stored in a database which can then be loaded into the main SPPI database.

Capital values and rental values are provided by a third party data supplier, namely the Investment Property Databank - IPD. The same supplier also provides an index of the rental income from investment properties. These data are obtained on a monthly basis, as part of a continuing agreement, and are sent in a spreadsheet format.

### 10.1.6. Main pricing methods

There is a variety of pricing mechanisms used within the real estate services industry giving rise to a requirement for different pricing methods.

Prices for commission based real estate agency services, including buying, selling, leasing or renting of real estate have two primary components, the commission rate and the value of the real estate or total value of the lease or the rental value of price. Both these parameters must be accounted for when developing price indices to avoid bias. Indeed, a price index only capturing average commission rates, would not necessarily fluctuate in the same direction or magnitude as the actual value being received for the services being provided. This rationale is in line with the recommendations of the National Accounts Working Party's Task Force on *Price and volume measures for real estate, renting and business services* which indicate that: "Monitoring estate agents' margins only could produce misleading results, *e.g.* if margins remained constant at 5% say, the index would remain constant. However, if property prices are increasing then the income earned would be increasing - and so this needs monitoring too to enable a true measurement of estate agents' charges."

An example follows of an index of estate agents' margins (average commission rates) with an index of average property prices (for selling property):

**Table 10.1.1. Index of estate agents margins**

Period	Average property price	Property price index	Estate agents' margins
1	£70,000	100.0	5.0%
2	£74,000	105.7	5.1%
3	£78,000	111.4	5.2%
4	£82,000	117.1	5.3%
5	£86,000	122.9	5.4%

**Table 10.1.1. Index of estate agents margins, *continued***

Period	Index of agents' margins	Estate agents' charges	Index of estate agents' charges
1	100.0	£3,500	100.0
2	102.0	£3,774	107.8
3	104.0	£4,056	115.9
4	106.0	£4,346	124.2
5	108.0	£4,644	132.7

In the above example, both the average property prices and estate agents' margins are rising, so the increase in estate agents' charges would be underestimated if only one of the component indices was used.

Index compilers should also be aware of various incentives that are used in leasing and renting. These can include "free" months of rent, moving or outfitting allowances, and other incentives given in lieu of discounts that should be accounted for in the current estimate of the lease value.

In order to avoid collecting average commission rates, data can be collected on representative commission rates. "A representative commission rate" is defined as a rate which reflects as far as possible any movement in commission rates for the sector as a whole. Where there is a range of rates for a market sector then the predominant or median rate can be provided.

Property management contracts tend to be fixed fee based, with the fee and specific duties and responsibilities explicitly listed in the management contract. Alternatively, property management fees can be based on a percentage of the lease amount, building revenue, or other variables. For these variable fee contracts, the price program should track the commission rate and the current value of the variable component, either rent or building revenues.

Fee based real estate services pose less of a problem. Certain activities, including valuations, escrow contracts, and listing services are generally repeated services and can be tracked periodically using actual transaction prices. For services provided on an hourly basis, such as real estate consulting (*e.g.*, zoning studies, market studies, expert witness services, etc.), hourly charge-out rates can be tracked

#### **10.1.7. Quality issues**

As is generally the case, any fluctuation in the price index should be free from quality changes. As such, the quality of real estate services and property rentals should remain constant over time. Problems can be caused by respondents misinterpreting what constitutes a representative commission rate. For example, a respondent might take an average of 10 transactions for each market sector and calculate the average commission rate for each of the selected properties. However, quarter on quarter changes could be caused by changes in the mix of properties in those samples rather than market pressures. The respondent should therefore be asked to select representative and specific transactions for each market sector and should report on these each quarter. Transaction specifications may include the type, size, location and fit-out quality of property.

An alternative approach used to overcome quality issues is to apply a hedonic model. In Finland, hedonic price indices for constant quality rent of shops and offices have been developed to decompose changes in arithmetic mean prices into quality adjustment factors and price change standardised for quality. The variables impacting price include floor area and location. Commission rates could subsequently be applied to estimate the actual revenue received for commission based leasing services by real estate agents.

#### **10.1.8. Weighting and aggregation**

The sources of weight data vary between countries. Most countries use data from annual surveys like Structural Business Surveys or Annual Sectoral Surveys. In some countries, weight data are collected by a specific SPPI Survey.

For the U.K. real estate agency services index, price relatives for each component for each contributor are derived by combining the commission rate figure with the appropriate capital value or rental index value. The index values as provided are used which means the actual capital or rental values do not need to be used in the calculation. Price relatives for each component across all contributors are then calculated. The weights used to aggregate the price relative are obtained from a turnover survey exercise which is carried out quinquennially. Indices for each region and the country overall are also calculated using the relevant weights for each component, also derived from the turnover survey.

#### *Property rental payments (non-residential)*

The capital value index is derived from figures for capital growth: the change in capital value from one valuation to the next, net of any capital flows, divided by capital employed. In this context, capital employed is defined as the capital value at the start of the year plus half of any net capital flow, and half of income receivable, *i.e.* flows of capital and reinvested income are assumed to be spread evenly throughout the year. The rental value index is based on estimates of rental growth which are the percentage changes in the rental value used in the valuations from one year to the next. The gross income index used for property rental payments is derived from calculating the changes in gross rent receivable.

### **10.1.9. Specific aspects**

One of the issues to be addressed in the compilation of an SPPI for the industry is the bundling of services which can affect both prices and turnover data. Indeed, there is an increasing tendency for larger business enterprises to diversify, both horizontally and vertically, and expand the scope of their activities to include a number of services ranging from conveyancing, facilities and asset management, to financial and legal services and project management. In a similar vein, units primarily renting space to others on a fee basis often have income from a variety of sources. This can include the gross rents received for the provision of space, as well as net capital gains from the sale of real estate, interest, dividends, royalties, and other sources of revenue. It is strongly recommended to separate out the sources of income so as to facilitate the identification of the revenue received from primary real estate agency activities as opposed to other activities.

Beyond the separate identification of gross rents, separate breakdowns for residential rents and non-residential rents are also recommended. The reason is twofold. First, rents charged in residential and non-residential rental markets often move in different directions or with different magnitudes based on local and national market conditions. Second, residential rents are a component of final demand while commercial or other non-residential rents are a component of intermediate demand.

### **10.1.10. Overview of national methods**

#### *Australia*

In Australia, non-residential property operators consist of units mainly engaged in renting or leasing non-residential properties. Primary activities include:

- Agricultural land renting or leasing;
- Commercial or industrial property renting or leasing;

- Commercial property body corporation;
- Commercial property strata corporation;
- Factory renting or leasing;
- Office Space renting or leasing;
- Self-storage renting or leasing;
- Shopping centre renting or leasing;
- Warehouse renting or leasing;

Potential respondents are selected by non-probability sampling (based on market share or turnover) and then interviewed to establish whether they are suitable for inclusion in the survey and to determine which of their service activities are most representative for on-going pricing. Locations sampled include capital cities in all Australian states and territories.

Respondents report a price for one or more specified service products on a quarterly basis. Reasons for reported changes in prices are also provided at this point. This information is valuable to the process of validation of prices by the compiler. Each specification for non-residential property operators has its own weight. These weights are based on the amount of turnover and market share of the business, which is established during the respondent initialisation process.

Non-residential property operators provide basic prices. The survey questionnaire specifies that the price should exclude goods and services tax. Pricing of services provided by non-residential property operators is carried out with reference to full day rates or provided by price per square metre.

On occasion, inadequate reasons for a price change are provided. In these instances further investigation and follow up with the provider is undertaken. When suitable, or supporting, evidence for a price change cannot be obtained the observation may be imputed if it does not correlate with other data collected.

The ABS compiles an SPPI for real estate services (ANZSIC class 6720, ISIC 6820), which measure changes in the prices of services offered by real estate agents to their clients. This class consists of units mainly engaged in valuing, purchasing, selling (by auction or private treaty), managing or renting real estate for others. Primary activities include:

- Broking service (real estate);
- Real estate agency service;
- Real estate auctioning service;
- Real estate management service;
- Real estate rental agency service;
- Time share apartment management service;
- Valuing service (real estate).

The measurement of real estate agency services requires a different approach to that used for other services within this class. The commission rate is estimated and then



applied to an estimate of the value for a sample of houses, which is calculated using a regression model. The model is developed each quarter and uses real estate data on the sale price and location of property. By applying the commission rate to the value of property, a dollar amount representing the price charged for the service activity is calculated and used to measure price change for each capital city.

Respondents for the real estate agency service sample are selected by non-probability sampling, taking into account factors such as their location and the representativeness of the services they provide. Once selected, respondents undergo a telephone interview to confirm their willingness to participate in the survey. The sample of houses used to estimate property price change is randomly selected, by the House Price Index (HPI) team from property transactions which took place over a 12 month period. A similar approach is taken for the other real estate services in this class measured by the Australian Bureau of Statistics (ABS), with data obtained for the most representative services offered in every capital city in the current quarter.

Real estate agency services data is collected from respondents on a quarterly basis through a quarterly survey questionnaire (Survey of Producer Prices). These questionnaires are tailored specifically for real estate respondents. All real estate respondents have the option to provide 1 to 6 property sales per month, over a three month period. The different sections of the real estate questionnaire consists of the month, post code of the property, price of a particular property, fees for services excluding advertising and total amount charged for advertising costs. Data on other services provided by real estate agents, in respect of both retail and residential properties, is provided separately for both retail and commercial properties along with any changes in the value of these properties.

The prices collected for real estate agency services relate to the amount received by respondents for the provision of specified services exclusive of any advertising fees. These prices obtained from a sample of properties in the same location every quarter are then analysed using a regression model where estimates of the commission rates are obtained. These commission rates are then applied to the prices of this sample of properties to get the dollar figures for the current quarter. For other real estate services prices are collected for residential and commercial properties. Respondents provide information on any changes or reasons for price movements from the previous quarter.

#### *Finland*

In Finland, rents on residential space have been published since 1964. The statistics are produced as a combination of a register and a sample survey. Data is collected in a rather unique way; the data of the annual statistics on rents of residential space are compiled from the interview data collected in connection with the Labour Force Survey for the quarterly statistics on rents as well as from the data in the Social Insurance Institution's Housing Allowance Register. The pricing method combines stratification and hedonics. In regional regression models variables impacting price include area of dwelling and its square root, age of dwelling and its square root, type of building and number of rooms, as well as a dummy variable indicating the time the data relate to.

Apart from the annual statistics on rents of residential space, Statistics Finland also publishes quarterly statistics on rents. The main difference between the two sets of statistics is that in addition to interview data, the annual statistics utilize data from the Housing Allowance Register, which are not used in the quarterly statistics.

Work began on the compilation of hedonic price indices for constant quality rents of shops and offices in 2005, although the time series goes back to 1996. The results of this work can be used to estimate the constant quality price change of leases. The data is provided by a private organisation. Variables impacting price include size, age after basic renovation, and location. The actual age of a shop or an office was found to be a poor indicator of the quality of the space as older buildings are often renovated to meet modern demands (e.g. ICT capacity, lighting).

### *Japan*

Japan compiles price indices on real estate services including Office Space Rental, Sales Space Rental, Hotel Rental, and Parking Space Rental. Japan mainly uses the unit value method. Average monthly rents per square meter for specified real estates are used for the unit value method. For Office Space Rental, a new quality adjustment technique that allows for correction of time-dependent service deterioration due to aging of equipment is applied. Samples are stratified into four categories, namely Tokyo, Nagoya, Osaka, and Other Areas to account for geographical heterogeneity.

### *United States*

In the U.S., information on the lessors of non-residential buildings industry is collected from property management business enterprises. These business enterprises serve as proxy reporters for the building owners. This strategy was enacted because many of the private investors, insurance companies, pension funds, and other investment pools that own non-residential buildings are often unable to provide regular updates on the detailed rents for their owned properties. The property managers are responsible for compiling and maintaining this information. Industry samples are drawn from a universe of all leased non-residential properties clustered by property management firms, with units selected based on their total leasable area managed. The measure of leasable area is adjusted based on aggregate turnover statistics from the U.S. Census Bureau to give a greater chance of selection to those properties that typically generate larger amounts of turnover per occupied area.

Unit value prices are collected. These prices are calculated by dividing the total rents received for all leased areas with similar characteristics within a property by a measure of the physical size of these occupied areas. Vacant areas are excluded from the price calculations. Total rents include base rents plus all billed operating expenses and common area maintenance charges. It is preferable that rents are provided on an accrual basis reflecting when services are rendered rather than when payments are actually collected. This can avoid data volatility associated with delinquent tenants, tenants on distinct payment schedules, and periodic operating expense charges. Reporting of unit values is often delayed since final calculated data are not available until the month following the reporting period. When it is not possible to collect unit values, a contract price for a single leased area is collected.

For real estate brokerage services, model prices are collected. In the initial data collection period, a specific property transaction is selected. In subsequent periods, respondents are asked to estimate the amount they would receive if they were to assist with the purchase or sale of the property specified in the original transaction. Since prices are typically set as a percentage of the value of the transacted property, respondents must estimate both the current market value of the real estate and the percentage commission fee they would charge. Many respondents had difficulty in providing updated estimates, particularly for the property market values. To assist respondents with this effort, the U.S.

introduced a procedure to update the market value of each property based on statistics published by private real estate data providers. These estimates are then presented to the respondents on the survey forms and they are asked to either confirm the estimates or update them based on their knowledge of local market conditions. This procedure has led both to an increased survey response and an increase in the number of respondents that actively engage in updating property values.

## *Bibliography*

Eurostat, (2000), *Report of the task force price and volume measures for real estate, renting and business services*, meeting of the Working Party on National Accounts, Luxembourg.

Nieminen, S., and Murphey, J. (2009), *Revised Revisited Sector Paper on: ISIC 6810 Real estate activities with owned or leased property and ISIC 6820 Real estate activities on a fee or contract basis*, Voorburg Group meeting, Oslo, Norway available at:

<http://www.voorburggroup.org/Documents/2009%20Oslo/Papers/2009%20-%2068.pdf>

Palmer, N., and Jones, K., (2001), *Price Indices for Real Estate Services, Draft Principal Paper*, Office for National Statistics, Voorburg Group meeting, Örebro, Sweden available at

<http://www.voorburggroup.org/Documents/2001%20orebro/papers/2001-026.pdf>

Suoperä, A., (2009), *Some new perspectives on price aggregation and hedonistic index methods: Empirical application to rents of office and shop premises*, Statistics Finland, Prices and Wages, available at:

[http://tilastokeskus.fi/org/tut/dthemes/papers/survey\\_on\\_the\\_rents\\_of\\_office-business\\_premises.pdf](http://tilastokeskus.fi/org/tut/dthemes/papers/survey_on_the_rents_of_office-business_premises.pdf)

## **Notes**

1. Namely, subclasses 85522 -Time-share exchange services and 63113 - Room or unit accommodation services for visitors, in time-share properties.





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