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Revised Revisited Sector Paper on:

ISIC 6810 Real estate activities with owned or leased property

ISIC 6820 Real estate activities on a fee or contract basis

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Introduction

The Voorburg Group first studied price indices for real estate activities in 1996 with a report on an experimental index produced by the Australian Bureau of Statistics.[1] Additional work and reports from Japan, the United States, ONS, and China at the 2000 Voorburg Group Meeting in Madrid and the Orebro meeting in 2001 resulted in a draft principal paper on Producer Price Indices for Real Estate Services.[2] The Voorburg Group reviewed the first version of this revisited sector paper during the 23rd session in Aguascalientes, Mexico. That was the first paper that addressed the collection of turnover data for real estate activities. The turnover information was based on the weighting issues identified in the prices papers as well as country specific information identified.

This expanded version of the revisited sector paper identifies the challenges associated with classification of real estate activities, collection of turnover data, and developing producer price indices of various real estate activities. The paper provides some options and notes the implications of the choices that must be made when endeavoring to develop or revise turnover statistics and price deflators for real estate activities.

References are included throughout this revisited Sector paper to previous work of the Voorburg Group. The specific conditions of real estate markets are dynamic but the basic practices identified and detailed in past efforts remain largely unchanged. This revisited sector paper presents that previous work in combination with new developments in the consistent framework of the Sector Paper adopted by the Voorburg Group in 2006 with the adoption of the content development framework.

1.0 Classification

Classification of real estate activities and products in both industry and product classifications generally focuses on two primary groups of products or activities: the first is the renting or leasing of residential or nonresidential space; and the second is the provision of associated or intermediary real estate services on a contract or fee basis. As noted above, most industry practices and methods of operation have remained fairly consistent over the years. One growing development is the presence of time-share property. It is important to note that the term time-share is sometimes used to refer to a deeded partial ownership but other times used to refer to a prepaid authorization for use of accommodation services. The ISIC and CPC classifications include the partial deeded

[1] Experimental Producer Price Indexes for Services Industries – Real Estate Agents' Fees, Russell Rogers, ABS, Voorburg Group 1996, http://www4.statcan.ca/english/voorburg/Documents/1996%20newport/papers/008005.pdf

[2] Price Indices for Real Estate Services, Draft Principal Paper, Nick Palmer and Keith Jones, UK Office for National Statistics, Voorburg Group 2001, http://www4.statcan.ca/english/voorburg/Documents/2001%20orebro/papers/2001-026.pdf. Note: This paper includes the reports from Japan, Australia, United States, and Sweden as appendices.

ownership and related services in real estate but the prepaid accommodations services are with accommodations and time share exchange services are included in travel agency services.

2.1 Industry Classification

Most industrial classifications used by Voorburg Group participants are relatively comparable in the area of real estate activities at some level of aggregation. ISIC Revision 4 identified two separate industries: 6810, Real estate activities with owned or leased properties; and 6820, Real estate activities on a fee or contract basis. This industrial classification scheme separates out the two major types of activities. The first is the provision of space and the second are associated and intermediary services that are generally performed on a fee for service basis.

Beyond the basic split identified in ISIC, other regional and national industry classifications make finer delineations. For example, NACE Revision 2 identifies separate classes for Buying and selling of own real estate (68.10), Renting and operating of owned or leased real estate (68.20), Real estate agencies (68.31) and Management of real estate on a fee or contract basis (68.32). NAICS, as configured for the United States and Canada, identifies separate industries for lessors of residential buildings and dwellings, lessors of nonresidential buildings (except miniwarehouses) and lessors of miniwarehouses and self storage units as well as industry for real estate agents' services, separate residential and non-residential property management, and a single industry for all real estate appraisal services. ANZSIC also identifies separate classes for residential and nonresidential lessors.

The identification of a separate class for buying and selling of own real estate in NACE revision 2 creates challenges for both turnover and price programs.[3] This appears to be a major difference in industrial classifications. ISIC Revision 4 excludes the development of property for sale as a construction activity. NACE Rev. 2 appears to include own account development for sale and buying and selling of owned real estate in 68.10.

Regardless of the specific details, all of the industrial classifications reviewed separate out the renting or leasing of space from the associated or intermediary services that are performed on a fee basis. This is an important for both turnover collection and price index development because of the different methods and practices that each type of service requires in implementation.

[3] NACE Rev. 2 Class 68.10 – Buying and selling services of own real estate. ISIC excludes own account development for sale to the construction sector as is done for NAICS and other classifications. At this time, it is unclear what the unit of measure would be for the asset transfers that are defined as a primary activity of class 68.10. Turnover could be measured by gross selling or purchase price or alternatively as capital gains or losses associated with the transfer of an asset from one party to another. This class is includes activities that appear to be outside of the production boundary of the System of National Accounts. The focus of the Voorburg Group is improvement of service data for use by national accounts so this paper will focus on the more universal aspects of measuring turnover and prices for rental of space and associated services provided on a fee or contract basis.

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 industries.

2.2 Product Classification

Product classifications in use throughout the world also have very comparable structures and details. In general, 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 separately identified in most product classifications. The following is a brief presentation of the details used in the CPC, Version 2.0, the Provisional NAPCS work, and the CPA 2008 used in European countries.

CPC 2.0 Product Structure[4]

72 – Real estate services

721 – Real estate services involving own or leased property

7211 – Rental or leasing services involving own or leased property
72111 – Rental or leasing services involving own or leased residential property
72112 – Rental or leasing services involving own or leased nonresidential property

722 – Real estate services on a fee or contract basis

7221 – Property management services on a fee or contract basis
72211 – Residential property management services on a fee or contract basis except of time-share ownership properties
72212 – Non-residential property management services on a fee or contract basis
72213 – Time-share property management services on a fee or contract basis

7222 – Building sales on a fee or contract basis
72221 – Residential building sales on a fee or contract basis except of time-share properties
72222 – Non-residential building sales on a fee or contract basis
72223 – Sale of time-share properties on a fee or contract basis

7223 – Lands sales on a fee or contract basis
72230 – Land sales on a fee or contract basis

7224 – Real estate appraisal services on a fee or contract basis

[4] Accessed 5/29/2008 http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=25&Lg=1

72240 – Real estate appraisal services on a fee or contract basis

The sale of buildings covered in class 7222 includes the sale of buildings and associated land. The sale of land covered in class 7223 is for vacant land only.

The North American Product Classification System products identified for real estate are comparable to the CPC products. Aggregates are included for:

1.1 Rental of land
1.2 Rental of residential space in buildings or other facilities for principal residence
1.3 Rental of non-residential space in buildings or other facilities
2.1 Real estate brokerage services
2.2 Real estate agent services
3.0 Real estate consulting services
4.1 Residential building property management
4.2 Non-residential building property management
4.3 Land property management
5.1 Urban real estate appraisal services
5.2 Rural real estate appraisal services
6.0 Real estate listing services

There are over 50 detailed products separating out types of residential and non-residential real estate services identified in the NAPCS work to date. A full list of products is available at: http://www.census.gov/eos/www/napcs/papers/531_11_17_06.pdf.

The CPA used in European Countries also follows the same general breakdowns.

68.20.11 – Rental and operating services or own or leased residential real estate
68.20.12 – Rental and operating services of own or leased non-residential real estate
68.31.11 – Real estate sales agency services, residential buildings
68.31.12 – Real estate sales agency services, time-share properties
68.31.13 – Real estate sales agency services for vacant residential land
68.31.14 – Real estate sales agency services for non-residential buildings
68.31.15 – Real estate sales agency services for vacant non-residential land
68.31.16 – Real estate appraisal services
68.32.11 – Residential property management services
68.32.12 – Time-share property management services
68.32.13 – Non-residential property management services[5]

As practices in real estate vary across countries, to the extent possible, it is recommended that product classifications be developed that will map to the generally accepted breakdowns included above. This will increase international comparability but also

[5] Full CPA 2008 available at: http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=ACT_OTH_CLS_DLD&StrNom=CPA_2008&StrFormat=HTML&StrLanguageCode=EN. The titles used in the table are not exact CPA product titles but have been abbreviated in this presentation.

separate products and product groups based on different measurement variables and practices.

2.0 Turnover Statistics – Recommended Development Options

As noted in the Introduction, the Voorburg Group is addressing turnover statistics for the first time with this revisited sector paper. The recommended development options presented here are based on an independent review of practices in a variety of countries that reported industry or product level turnover programs in the Voorburg Group status report in advance of the 2008 meeting in Aguascalientes, Mexico.

Collection of turnover data for real estate will differ for revenues received for rental of space and revenues for the provision of agency and other fee or commission based services.

One problem with collection of turnover statistics is the availability of a frame that reasonably covers the entirety of the activities. The availability of business registers and similar frames is generally adequate for businesses that are primarily engaged in providing real estate services or owning and renting property. However, many buildings are owned and rented by establishments with a different primary activity. For example, a law firm might own a building that houses their offices but rent out a minority part of the building to other tenants. The business is a law firm and the primary source of receipts is from legal services. The establishment would show up on a business register as a law firm rather than lessor of nonresidential property. Overall product coverage can be truncated if secondary production is excluded from consideration.

There are several ways that this can be addressed. First, a general question on secondary products including rental of space can be included on other industry surveys as needed. Another option is to sample the products of real estate agents to get the rental of space for buildings. Often when rental of space is a secondary activity, real estate agents act on behalf of the owner in rental transactions. A combination of establishments primarily engaged in rental of space and real estate agents may improve the coverage of rental product collections. Each country will need to review and analyze ownership patterns to determine the most appropriate sampling frame for product turnover statistics.

Rental of Space and Other Specific Fee Based Services (e.g., appraisal services)

One common group of services is fee for service real estate activities. These include separate appraisal services, property management services, and rent for space. Each has separate issues for turnover.

The appraisal and property management services are either based on a specific fee for service model or a fee as a percentage of rent, sales, or other variable such as area of the property being managed. In both cases, turnover data should collect the revenues received for the provision of the appraisal or property management services. Often, units

that perform property management also provide real estate agency services or other real estate related services. Attempts should be made to collect those revenues separately.

In the case of rental of space, the service defined as allowing others to use space on a fee basis and is measured by the gross rents received. It is important to note that units primarily renting space to others on a fee basis often have income from a variety of sources. These sources 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. If collecting total income from a unit, all of the revenue sources should be included. It is important to separate out the sources of income to identify the revenue received in the form of rent. If other income components are collected, the Voorburg Group strongly recommends a separation of the revenue received for rental of space from other sources of operating revenue or other income.

Beyond the separate identification of gross rents, the Voorburg Group also recommends separate breakouts for residential rents and non-residential rents. This recommendation is made for two reasons: 1) 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; and 2) residential rents are a component of final demand while commercial or other non-residential rents are a component of intermediate demand.

Commission Real Estate Agent Services

In turnover statistics, the measurement of commission based real estate agency services is rather straight forward – the target is the revenue received for the provision of assistance in the buying, selling, or leasing of residential space, non-residential space, or vacant land. In all of the previous Voorburg Group presentations, the authors noted that the real estate agency services for the sale or purchase of property were generally valued using two major components – a commission rate and the price of the real estate being sold. The same pattern holds for agency services when leasing a property. The revenue is normally based on a commission rate and the total value of the lease. In both cases, the collection of revenue for real estate agency services is straightforward.

Table 3.0: Options for Developing Turnover Statistics – Real Estate Services

Category	Data Source	Level of Detail Collected	Frequency	Cost	Comments
Best	Survey/Census	Industry turnover and product turnover detail;	Sub-annual collection (monthly or quarterly)	- Most expensive - Largest response burden	- Allows greatest flexibility to identify specific revenue streams, residential and non-residential allocations can be collected directly. - Timely data
Good	Survey/Census	Industry detail only	Sub-annual	- Expensive - High response burden	- Industry detail may not be sufficient to delineate sources of revenue or important residential/non-residential components using ISIC. - Timely data
Minimum	Administrative (tax data, industry association data etc.,)	Industry detail only	Annual	- Least expensive - Little or no respondent burden	- Income and production definitions can differ adding imprecision to estimates using tax data in place of actual revenue received for services - Least timely

3.1 Other Considerations

If the primary reason for collecting turnover data is to assist the national accounts, there are a variety of methods that can be used to determine constant dollar output. Many countries have listing services or national associations that provide aggregate data on the prices of real estate based on recent transactions and the number of transactions during a period of time. The turnover data from statistical agencies is important for standardizing the definitions. In the absence of a price index for real estate agency services, secondary source data on the number of transactions can be used to develop an implicit price deflator. If this practice is used, it is important for the turnover data to have similar definitions and breakdowns to those used in the secondary source transaction data. Alternatively, associations may have information about average commission rates that can be used to develop implicit quantity indexes. Again, comparability with the structure and organization of the secondary source data are important for the best results.

Turnover data collections also provide the opportunity to collect additional information that is not product related. It is fairly common to collect employment levels, payroll data, and other variables as part of turnover surveys. It might be useful to collect data on average commission rates as part of a turnover survey. This will become more apparent in the section discussion price indices.

Communication between national accountants and turnover statisticians about the methods being used in national accounts will help ensure that efforts are in line and the resulting statistics will be as applicable as possible. However, national accounts is not the only user of turnover data so it is important to ensure that other needs are met as they are identified as important.

3.0 SPPI Recommended Development Options

Rather than present a tabular set of recommendations for the development of service price indices, a review of the common practices and recommended methods of addressing those practices will provide a more thorough set of development options. Because of variations in the practices within industries and even within firms, the actual practices and availability of data will determine the most appropriate method(s) of estimating price change.

Commission based Real Estate Agency Services

Prices for commission based real estate agency services for the buying, selling, or leasing of real estate have two primary components of price that must be accounted for when developing price indices. The commission rate for the service must be known and the value of the real estate or total value of the lease must be known. Unless both are accounted for in repricing, the resulting index will be biased.

As is generally the case, tracking prices for repeated transactions of constant quality services is the preferred method for real estate agency services. In reality, no two real estate transactions are the same. Because the price is a function of both the commission rate and the value of the real estate being sold, a constant quality real estate service and constant quality property need to be identified for repricing.

If it can safely be assumed that the service is the same and only the property being sold changes, a commission rate should be combined with an actual property sale or lease to determine the actual selling price of the service. Over time, the real estate being sold should be held to constant quality (in terms of location, size, etc.) with the price of the real estate and the commission rate charged allowed to fluctuate with market conditions. Once beyond the initial price collection, the commission rate and an estimate of the selling value of the base period property should be obtained. This will estimate the actual revenue received for the provision of the intermediation services.

Using unique transactions each period would result in the need to quality adjust the value of the underlying real property being sold each period. This is impractical.

The development of an implicit price index can be done without analyzing the value of the real estate that changes. If there is good data available on the number of transactions, an average commission rate in the base period combined with the number of transactions in the base and future periods would be sufficient for developing an implicit price deflator and constant dollar output. However, a price index that only tracked average commission rates would not necessarily track in direction or magnitude with the actual revenue being received for the services performed.

The following is an example set of calculations showing these relationships.

Period	Transactions	Commission Rate	Asset Price	Revenue for service per transaction (price)	Total Revenue	Constant $ output
t	10	6%	$100,000	$6,000	$60,000	$60,000.00
t+1	10	6%	$120,000	$7,200	$72,000	$60,000.00
t+2	10	6%	$150,000	$9,000	$90,000	$60,000.00
t+3	10	6%	$200,000	$12,000	$120,000	$60,000.00

	Commission rate Price Index	Total Price index
t	100	100
t+1	100	120
t+2	100	150
t+3	100	200

As long as the base period commission rate and number of transactions in the base and subsequent periods are available, constant dollar output can be calculated. If in the example above, the number of transactions fell to three in period t+3, the constant dollar output would be $18,000 using the base period average commission rate.

The best method for tracking prices of commission-based services that also depend on the value of the underlying asset being sold will depend on the availability of other information. Simply tracking commission rates might be acceptable for developing constant dollar output. Estimating the current market price of real estate and then applying the current commission rate will reflect the actual change in revenue received for the provision of real estate services. Creating estimates of the current market value of real estate can enter bias in the index if the respondent is overly optimistic when estimating market value.

There are many ways to estimate the value of an underlying asset in an attempt to ensure constant quality. In the United States, the current plans are to use outside real estate price

indexes to escalate the underlying asset price. Existing third party indices of residential and commercial asset prices (Case-Shiller for residential, and MIT transactions index for commercial) will be used to estimate price changes in the underlying assets when respondent estimates of the asset value are not available for commission sales. Respondents are asked to confirm the estimated property values derived from secondary escalation sources. Existing US PPI indices for leases will be used to escalate the total cost of a lease when that is not available from the respondent. This option is only available because of the existence of high quality secondary data sources.

In Finland, a different approach is being studied. Work has begun on hedonic price indices for constant quality rents of shops and offices. Variables impacting price include size, age, and location. The results of this work could be used to estimate the constant quality price change of leases. Commission rates could then be applied to estimate the actual revenue received for commission based leasing services by real estate agents.

The UK CSPI reported using a "representative" commission rate to avoid an average covering all transactions. The UK approach then combines the representative commission rate with capital value or rental value indices to develop appropriate price relatives. Weights are derived from turnover data.

Other Commission or Percentage Fee Services

Often, leasing commissions are based on a percentage of the total value of the lease or for a certain period, such as the first year. Alternatively, in some countries, such as Germany, the practice appears to be a fee based on one to three months rent paid to a real estate agent. As with the real estate sales commissions, the pricing method should address both the commission rate and the value of the contract. The recommended method requires the price survey to collect the commission rate and reprice an estimated market value for the underlying lease. Price programs should also be aware of various incentives that are used in leasing. These can include "free" months of rent, moving or outfitting allowances, and other incentives that should be accounted for in the current estimate of the lease value. These methods will work well when the fee is paid in a lump sum at lease signing. As is the case with all real estate, constant quality is a problem because each transaction in unique. For leasing, substitutions should be as constant as possible so as not to show price changes for changes in underlying quality.

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

Fee Based Real Estate Services

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.

Rental of space is also generally addressed as a fee service. However, the service can also be combined with a percentage of sales or revenue. Leasing terms and practices also differ. When pricing Rents, there are several pricing mechanisms that will require different pricing methods. The easiest to address is a lease based on a price per square foot. This can be treated as a net transaction price and will only vary based on the terms of the lease (set for the period of the lease or set annually with an agreed upon escalation clause for example.)

Rents that are based on a minimum amount plus a percentage of sales or revenues are more complex. In these cases, estimates can become tricky if the respondent cannot provide current period receipts for the lease.

The lease terms can also impact the cost of space. A gross lease generally has no additional charges for maintenance, utilities, repairs, taxes, etc. A net lease leaves the tenant responsible for a portion of expenses possibly including taxes or insurance. In a triple net lease the tenant is responsible for all operating expenses including maintenance of the property.

It is important to note that the cost of rents for the consuming unit can be greater than the actual rent paid. In other words, reported gross rent receipts from an owner/lessor of real estate do not always equal the actual cost of space for a client. A net lease can vary with changes in operating expenses for the property. A triple net lease is the most variable. This can come into play if a consumption price based index is used to escalate values of property for sales or to estimate the value of a new lease. This fact can also impact the decision to use a consumer price index in place of a SPPI for residential housing. This can also be a problem if expense data from renters is used to weight a price index rather than industry or product revenue data.

There are then two basic pricing methods that will apply to most transactions tracking rents. Net transactions are probably most appropriate for gross leases while a mix of percentage fees that includes the fixed rent plus additional payments based on actual business results will be most appropriate in other cases.

Lease contracts can also be modified with incentives such as a “free” months rent or other inducements to clients. If that is the case with a particular lease, an average rent on an accrual basis evens out the variability in the reported or collected rent. The accrual basis also avoids variability that is due to late payments or sales based percentages being reported in a time period after the occupancy month priced.

A summary of the important issues surrounding pricing mechanisms and pricing method is that while there are norms, pricing mechanisms are negotiable and can vary by transaction. For example, in the US, there are real estate agencies that work on a fixed

fee basis, those who price on a commission tied to the selling price, and those who use a mix for various clients. Commission rates are negotiable and can vary across transactions. The proper pricing method is not based on the product but rather the pricing mechanism used for the transaction. One size might fit most but one size does not fit all. A balanced, reflective, accurate price index will account for these variations in sampling and collection.

4.1 Other Considerations

There is a wide range of payment practices in the real estate industries. It is important to ensure that all relevant price components are considered during repricing. Fixed fee services are relatively straight forward but variable fee services can require significant additional information including data for variables such as commission rate, class of space, length of lease, total cost of lease, actual building revenues, potential building revenues, hourly rates, asset price, etc. The pricing method can vary within industries and even within survey units. Individual price quotes must contain all of the relevant information for the pricing method used.

Real estate industry price indices are complex and costly undertakings. Price programs should consult with national accountants if only partial coverage is going to be obtained. In many cases, the residential rental rates could be extremely important because of their potential use in developing the implicit rental value of owner occupied housing. In other cases, the existence of a rental housing CPI may reduce the importance of an SPPI for residential rentals. GDP by industry (or gross product originating) will require satisfactory coverage of entire industries either through official statistics or other sources of data.

There does appear to be a trend of choosing to only cover nonresidential rental and leasing. Based on the responses to the 2009 Revisited Status Report, the main problem with coverage of prices was partial coverage because only nonresidential rental and leasing were covered currently. This was the case for three of the five countries reporting price indices for rental of real estate. One country covered both residential and nonresidential. One country reported development of a house price index for NACE 68.10.1. A complete summary of responses is included in the Overview of International Progress in Appendix A.0. The progress report was updated to include details from the 2009 Aggregate Status survey.

Finally, a more technical discussion of the factors directly impacting price index development is available in, *Price Indices for Real Estate Services – As used in the corporate services prince index produced by the UK Office of National Statistics*, Voorburg Group Draft Principal Paper, September 2001, http://www4.statcan.ca/english/voorburg/Documents/2001%20orebro/papers/2001-026.pdf.

5.0 Summary and Further Suggestions

Although market conditions can change drastically in the real estate industries, the practices and methods used to provide and price services remain fairly constant. The constant practices and methods do vary greatly across providers within the industries. These variations create challenges to both turnover and price programs.

On the classification front, most industry and product classifications reviewed include similar breakouts and are relatively comparable. The existing structures of the CPC and ISIC provide a sound basis for the development of turnover and price statistics. No important distinctions were missing when looking at both the industry and product classification together.

Collection of turnover data if using surveys or censuses provides the opportunity to collect additional variables that might prove useful to national accountants. In addition, the existence of secondary source information from trade associations or financial data providers (such as number of transactions, average price per square foot for leases, and even average commission rates) presents the opportunity to harmonize definitions so that all of the data can be used in analysis.

Prices programs face the greatest hurdles because of the variety of practices that exist. It is not possible to recommend a single best pricing method. In some cases, actual transactions for repeated services are appropriate. In other cases, hourly charge out rates might be the best choice. In still other cases, complex mixes of actual commission rates and asset price estimation methods may be necessary to develop the most appropriate price.

The fact that national accountants rely not only on official statistics but also on many secondary source data providers requires that turnover statisticians and price statisticians work closely with national accounts when planning or revising methods. It is possible that national accounts will switch from a method based on secondary source data to official statistics if the relevance and accuracy are high.

References

Experimental Producer Price Indexes for Services Industries – Real Estate Agents' Fees, Russell Rogers, ABS, Voorburg Group 1996, http://www4.statcan.ca/english/voorburg/Documents/1996%20newport/papers/008005.pdf

Price Indices for Real Estate Services, Draft Principal Paper, Nick Palmer and Keith Jones, UK Office for National Statistics, Voorburg Group 2001, http://www4.statcan.ca/english/voorburg/Documents/2001%20orebro/papers/2001-026.pdf.

NACE Revision 2 accessed at: http://epp.eurostat.ec.europa.eu/portal/page/portal/product_details/publication?p_product_code=KS-RA-07-015

Central Product Classification Version 2.0 accessed at: http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=25&Lg=1

North American Product Classification accessed at: http://www.census.gov/eos/www/napcs/papers/531_11_17_06.pdf

CPA 2008, Eurostat, accessed at: http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL&StrNom=CPA_2008&StrLanguageCode=EN&IntPcKey=&StrLayoutCode=HIERARCHIC&CFID=2378695&CFTOKEN=51e1cd3cb0fdab40-49728D92-E775-C825-8A2EB4CF4033739E&jsessionid=f90089d754e52f6c7549

Price Indices for Real Estate Services – As used in the corporate services prince index produced by the UK Office of National Statistics, Voorburg Group Draft Principal Paper, September 2001, http://www4.statcan.ca/english/voorburg/Documents/2001%20orebro/papers/2001-026.pdf.

Some new perspectives on price aggregation and hedonistic index methods: Empirical application to rents of office and shop premises, Antti Suoperä, Statistics Finland, Prices and Wages. http://tilastokeskus.fi/org/tut/dthemes/papers/survey_on_the_rents_of_office-business_premises.pdf

Industry Synopses, NAICS 531 industries, Producer Price Index Program, Bureau of Labor Statistics, United States.

Case-Schiller Housing Indexes http://www2.standardandpoors.com/spf/pdf/index/SP_CS_Home_Price_Indices_Factsheet.pdf

Federal Housing Finance Agency (previously Office of Federal Housing Enterprise Oversight) http://www.fhfa.gov/

NCREIF Property Index (http://www.bis.org/publ/bppdf/bispap21zc.pdf)

MIT Transaction based index (http://web.mit.edu/cre/research/credl/tbi.html)

APPENDIX

A.0 Overview of International Progress

In advance of the 23rd Voorburg Group meeting in Aguascalientes, Mexico, countries were asked to provide a progress report for a selected group of industries to be revisited. As of August 5, 2008 usable results were received from 18 countries. The survey asks for progress on collecting turnover data for industries and products, price data for industries and product classes, and the alignment of their turnover and price data. Table A.0 is a summary of the information received to date.

ISIC 6810	a. PPI details >= CPC	1
	b. PPI details >= CPC soon	0
	c. Turnover details >= CPC	6
	d. Turnover details >= CPC soon	0
	e. Industry prices calculated	5
	f. Industry turnover collected	9
	1. Detailed turnover and prices well aligned	1
	2. Detailed turnover and prices well aligned soon	0
	3. Industry level turnover and prices aligned	2
	4. Industry level turnover and prices aligned soon	1
	5. Other - no industry coverage for prices and/or turnover, etc.	14
ISIC 6820	a. PPI details >= CPC	3
	b. PPI details >= CPC soon	0
	c. Turnover details >= CPC	6
	d. Turnover details >= CPC soon	0
	e. Industry prices calculated	6
	f. Industry turnover collected	9
	1. Detailed turnover and prices well aligned	2
	2. Detailed turnover and prices well aligned soon	0
	3. Industry level turnover and prices aligned	2
	4. Industry level turnover and prices aligned soon	
	5. Other - no industry coverage for prices and/or turnover, etc.	13

For real estate activities with owned or leased property, nine countries reported that industry turnover was collected and only 5 countries reported price index coverage. This number is somewhat misleading because only 1 of the five countries covered both residential and nonresidential real estate renting and leasing. Real estate activities on a contract basis had similar results. 75% or more of the responding countries did not have enough information to provide turnover and deflator data to national accounts.

The results of the informal Voorburg Group survey are very similar to the results of the OECD-Eurostat 2005 Inquiry on National Collection of Services Producer Prices.[6] Thirteen countries reported price indexes or development efforts for real estate activities. Of those, seven reported product level information, primarily in the non-residential areas and only three reported that the price indices were being used as deflators.

For 2009, the country progress report was repeated at a more aggregate level. In this survey, questions were only asked about the calculation of price indices and the availability of turnover data. As of June 1, 2009:

		SPPI	Turnover
6810	Real estate activities with owned or leased property	6	11
6820	Real estate activities on a fee or contract basis	8	12

There was some inconsistency in reporting between the two periods. The inconsistency applied to countries that reported in both surveys as well as different countries responding. The countries identified in bold reported consistently in both surveys:

6810

2008 Responses: **Czech**, Finland, **Japan**, New Zealand, **US**, Germany, Korea
2009 Responses: **Czech**., UK, **Japan**, Mexico, Australia, **US**

6820

2008 Responses: **Czech**, **Sweden, Netherlands,** New Zealand, **US**, Germany, Korea, **UK**
2009 Responses: Finland, **Czech**. **Netherlands, Sweden, UK**, Mexico, Australia, **US**

There is very little practice and experience on developing and calculating price indices for real estate rents and real estate agency services. Japan calculates indices based on products rather than industries. Germany reported using an experimental CPI for real estate services and reported tracking house prices. Australia has historically reported working with real estate prices (see previous VG work) but did not report in both periods.

With that in mind, there are only two countries that consistently reported price indices for 6810 and five that reported prices for real estate services on a fee or contract basis (ISIC 6820).

[6] OECD_Eurostat 2005 Inquiry on National Collection of Services Producer Prices, http://www.oecd.org/dataoecd/0/37/27257808.pdf accessed June 10, 2008, table 2, page 28.