



# ***Challenges of constructing commercial property price (and associated) indicators***

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# Structure of the presentation

1. Introduction
2. Price and associated indicators
  - a) Price index
  - b) Rent and yield indices
  - c) Vacancy rates
3. Other economic indicators
  - a) 'Construction and building'
  - b) Transactions
4. Summary
5. Way forward

# 1. Introduction

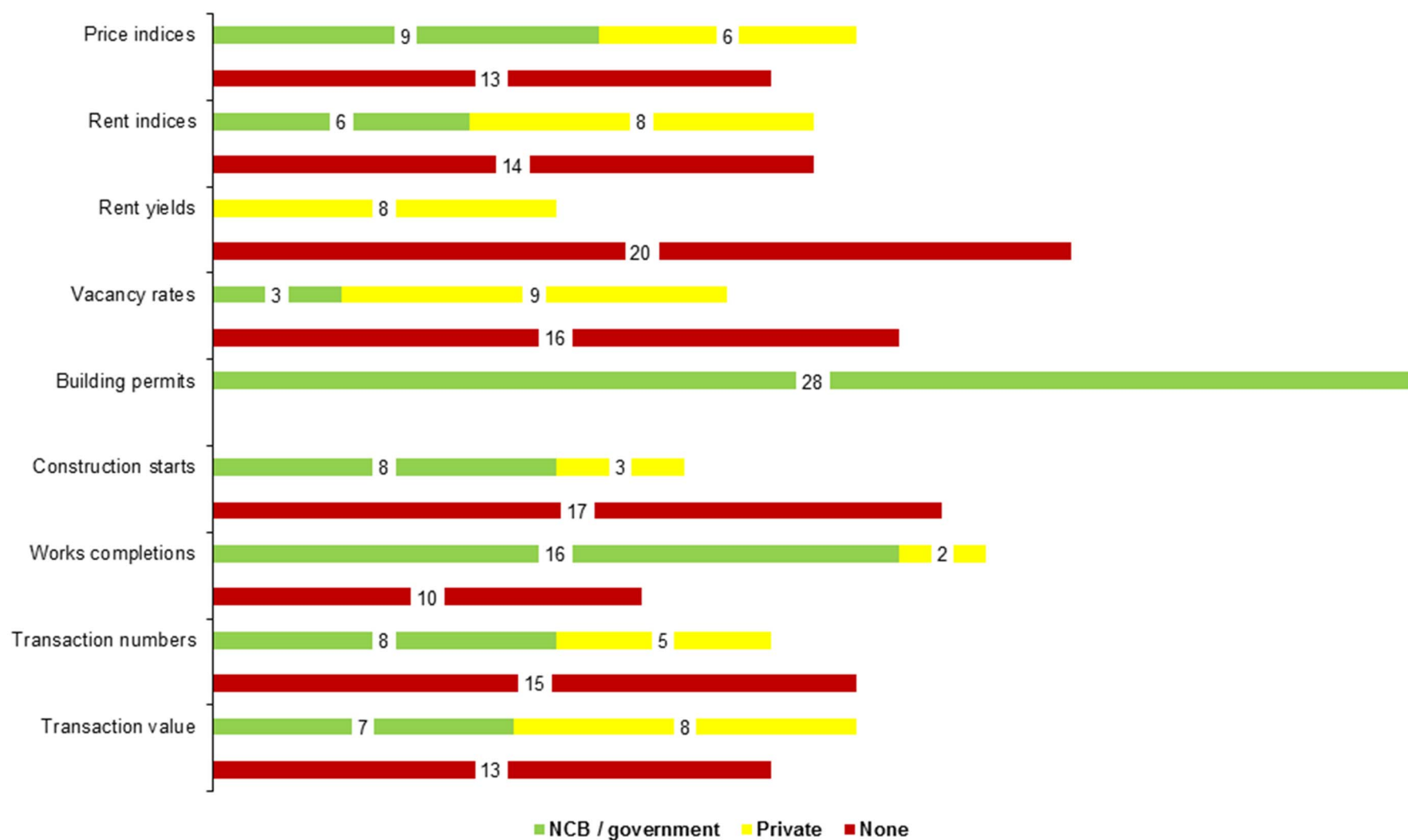
- While several countries, G20 and non-G20 alike, have built and are continually expanding their experience in housing price statistics, the **availability of data from official institutions** – NCBs or government (such as NSIs) – on **commercial property is scarce**.
- If available at all, the published information is mostly to be considered of **experimental nature** and comes at **varying frequencies** from monthly to annual and with **very different length** of the time series.

# 1. Introduction

- As a result of increasing user demand for commercial property price indicators, **the European Commission and the ECB** established a **joint expert group** to explore the further development of commercial property price and associated indicators.
- In order to ascertain **which data sources exist both within the EU and internationally**, the JEG jointly approached the central bank and administration of each EU Member State and, via the BIS, selected members of the G20.

### EU-28 country coverage by indicator<sup>(\*)</sup>

Number of Member States by data source



(\*) A country is included as soon as anything for any sub-sector and at any frequency is available. The chart, therefore, overstates the actual coverage.

Source: European Commission / European Central Bank Joint Expert Group

## 2. Price and associated indicators

### a) Price index

- Even when official sources are available they are **not derived by a harmonised methodology**:
  - national **definitions** differ;
  - **breakdowns** (according to property location and type) are often missing;
  - the **coverage** varies considerably between countries;
  - the **timeliness and desired frequencies** are limited; and
  - several **more quality issues** remain.
- With **private data sources** the situation further deteriorates.
  - On top of the already mentioned drawbacks, **reliability** and, not least, **lack of methodological transparency** are further issues.

## 2. Price and associated indicators

### a) Price index

- In no case are designed surveys set up but all EU countries use **administrative data such as land registries and tax records.**
- While this is certainly an effective (albeit not necessarily efficacious) approach in terms of both production costs and reporting burden, it may generate **problems with a view to the measurement target.**
  1. In general, **no meta information** is available from such sources as regards the quality characteristics of the properties transacted. Yet, these are *sine qua non* for the derivation of **(pure) price indices.**

## 2. Price and associated indicators

### a) Price index

- (cont'd)
  2. It is common practice in many countries **for tax reasons to hive off special purpose entities** (SPEs), whose only operation is the ownership of the (commercial) property in question. In case of a transaction – of the SPE –, no property taxes are due and **no property transaction is recorded in either of the administrative sources** since the owner of the property itself has not changed.
  3. Several small and large countries alike have reported that the **population of transactions is so low** that a **quarterly frequency** at the national level is **unfeasible**.



## 2. Price and associated indicators

### a) Price index

- (cont'd)
  4. From time to time the **use of valuations** is suggested as an alternative instead. There are, however, **two decisive caveats**, which render this endeavour questionable. First, **valuations tend to lag and smooth** the corresponding results from transactions. Second, valuations are thought to be **based on similar actual transactions**.
  5. The International Property Measurement Standards Coalition (IPMSC) has found that for office buildings the **current terminology used internationally to describe 'floor area' results in an up to 20% difference** between countries.

## 2. Price and associated indicators

### a) Price index

- *Digression: Application to financial stability*
  - Here, the **change in values of financed objects** needs to be tracked over time – from newly granted loans to properties in the credit stock.
  - This is because, from the banks' perspective, the **residual value of a property** is of interest only should the debtor default, since then the bank would have to sell the property on the market (possibly in a forced sale).
  - A **(pure) price index** can be used after application of a suitably chosen **mark-down to account for the net depreciation** (and obsolescence) of the building.
  - Hence, for macro-prudential purposes we need something like the **age-price profile** in the System of National Accounts.

## 2. Price and associated indicators

### b) Rent and yield indices

- The **situation for rent indices is significantly worse** than for price indices in the EU.
- **Yield indices are virtually non-existent.** There are no official data at all in any Member State.
- The difficulties faced here are partly an expression of a **fundamentally different notion of measurement targets** between official statisticians and the real estate industry. Following the well-reasoned tradition of measuring other economic phenomena, **official statistics measures prices** (and volumes). In contrast, the **real estate industry is more interested in investment performance indicators.**

## 2. Price and associated indicators

### b) Rent and yield indices

- The concept closest to a **price index** in the investment performance domain would be the **capital growth**, which measures the change in a portfolio value. But an index based on the growth of capital values introduces quality aspects in the form of (net) **depreciation** that, in turn, may lead to a **biased measure of pure price change**.
- Likewise, the concept closest to a **yield (index)** would be the **income return** that links the cash flow, or net income, to the portfolio value of an earlier period.
- The picture drawn from price indices and performance indicators can be **fundamentally different**. Eventually, this may lead to the **wrong conclusions** being drawn in analyses and for policy making.

## 2. Price and associated indicators

### b) Rent and yield indices

- The **interrelationship between price, rent and yield** would be **lost if only prices** would be taken into account.
- Indeed, the **yield** is just the **ratio of (annual) rent to price**; and as such the inverse of the well-known valuation indicator price-to-rent ratio.
- By the same token, the **income approach** directly capitalises an income stream (of the real estate) into a value indication.

## 2. Price and associated indicators

### b) Rent and yield indices

- To this end, the **basic identity** below is employed.

$$\text{Market value} = \frac{\text{Net operating income (annual)}}{\text{Capitalisation rate (\% p.a.)}}$$

- It implicitly assumes that the **cash flow is a perpetuity** and the **capitalisation, or 'cap', rate is a constant**. Loosely speaking – and at the aggregate level, only –, the **numerator** is said to be proportional to the **rent**, while the **denominator** is equivalent to the **yield**.

## 2. Price and associated indicators

### b) Rent and yield indices

- Thus, the **nexus of this trio of indicators** needs to be exploited in property price statistics.
- To this end, **not only meta information on the property** would be needed but **also on the transaction itself**, i.e. the link between the price on the one hand and the rent as well as the yield on the other.

## 2. Price and associated indicators

### c) Vacancy rates

- Data on **vacancy rates** from official providers are available in only three EU countries, where both **administrative and public sources** are used. **Private data** can be found in nine more EU countries.
- A major drawback is that the **coverage both of property types and geographical breakdowns is limited**; if at all, to **mainly offices in the largest cities**.
- There are **no data at all** for 16 Member States.



## 3. Other economic indicators

### a) 'Construction and building'

- The second set of indicators is related to the **economic activity**. Unlike the price and associated indicators these indicators are **flows**.
- The natural **process flow of production** is:  
Building permit → Construction start → Works completion.
- For **building permits all 28 EU countries collect official data** at quarterly or even monthly frequency under the Short-Term Statistics Regulation. Breakdowns by property type and geographical area are available in many cases and the time series have a good length mostly.

## 3. Other economic indicators

### a) 'Construction and building'

- While the administrative procedures, thus, give an excellent overview of building permits, the **situation for construction starts and construction work completed is considerably worse.**
- While **construction starts** are, in international discussions on residential property, seen as the **best leading indicator**, it appears that in most Member States there is **no recording mechanism** of the progress of production in place **once the permit is granted.**

### 3. Other economic indicators

#### a) 'Construction and building'

- The **picture for construction work completed is similar.**
- **Official statistics** are, in general, at a **lower frequency than building permits.**
- If countries have data, they exploit **basically the same sources.**

# 3. Other economic indicators

## b) Transactions

- **Transactions data** are not only **at the heart of price measurement** but also have a right as **stand-alone indicators regarding market activity**.
- Notwithstanding this, the **coverage of transaction numbers is limited**.
- **Official sources** use **administrative data** such as from land registries, tax records or valuation offices.
- The **situation for transaction values is similar** with Member States using **basically the same official sources**.

# 3. Other economic indicators

## b) Transactions

- A **central dilemma** is that **transactions might be scarce**, in particular **in times of market stress**, where **such evidence would be most needed** by policy-makers. Furthermore, there might be a **considerable time lag between the transaction and the administrative recording**, negatively affecting the timeliness of the thus derived indicators.
- This caveat needs to be underlined for the reason that **property prices are much harder to measure than consumer prices**. Property prices have to be compiled from **infrequent transactions on heterogeneous properties**.

# 3. Other economic indicators

## b) Transactions

- To date it has **not been possible** to make even a **rough estimate of the potential impact of the effect of a transaction of an SPE not being recorded** as a property transaction.
- The tendency of **valuations to lag and smooth** the corresponding results from transactions is rather unfortunate as **turning points tend to be of high importance** to analysts.
- Also **when transactions are scarce**, there is nothing an appraiser can base her assessment on and, thus, **structural effects might prevail in valuations.**

## 4. Summary

- Since **data sources** for some of the indicators are absent, international consensus on **appropriate methods** is lacking, and **resources** at national level in general, as well as **experts** in this domain in particular are scarce, the collection of data is, in conclusion, **technically difficult and in its infancy** both in the EU and around the world.
- The stock-taking exercise also revealed that there are **no 'quick wins'** that would allow comparable and reliable data to be supplied.
- Not least because of this, the **short to medium-term solution** is likely to rely on the already available price and associated indicators from **private sources**.

## 5. Way forward

- An increased need over recent years to have **better and more complete measures of changes in real estate prices** led to the publication in 2013 of a *Handbook on Residential Property Price Indices (RPPIs)*.
- At the same time, **interest increased in commercial property price indicators** from public institutions, policy makers, analysts, and market investors.
- Against this background and **in the context of the G20 Data Gaps Initiative, Eurostat took the lead, under the auspices of the Inter-secretariat Working Group on Price Statistics (IWGPS)**, in coordinating the drafting of this text.



## 5. Way forward

- The primary aim of the *CPPI Statistical Report* is to **outline concepts, methods, data sources and key issues** for the compilation of commercial property indicators. The report makes a first attempt at **setting out the wide range of challenges** linked to the measurement of commercial property.
- The text **covers the conceptual framework, the purposes and uses of CPPIs** – as well as other indicators.

## 5. Way forward

- The **text is not prescriptive** for three reasons.
  - Firstly, it is **not always possible to give practical guidance** as some of the **solutions to conceptual problems are not clear-cut** and there are choices to be made about precisely how a practical solution is implemented.
  - Secondly, **what is applicable and what can be achieved will depend on the data and resources available** to the institute compiling the CPPI.
  - Thirdly, the **concepts and methods for CPPIs are less well developed than for RPPIs** and there has been less practical experience. Recommended practices are likely to evolve and be supplemented by further advice with the accumulation of more practical experience on the compilation and use of CPPIs.

## 5. Way forward

- The **text is aimed, in particular, at government institutions, compiling or planning to compile CPPIs for official purposes**, whilst not ignoring the wide-ranging uses of CPPIs outside of official statistics.
- Although not all of the chapters are self-contained, the **text is not designed to be read from cover to cover**.
- Further details on the **contents of the text** are given in **Chapter 2**.
- **Chapter 3** catalogues the **main uses of CPPIs**.
- **Chapter 4** outlines **conceptual issues**.

## 5. Way forward

- **Chapters 5 to 7** review the different **concepts and methods for compiling CPPIs** (transaction-based, appraisal-based, and stock market-based).
- **Chapter 8** reviews **additional indicators for commercial property** (rent indices, vacancy rates, construction starts and building permits).
- **Chapter 9** reviews the **advantages and disadvantages of different sources of information**.
- **Chapter 10** catalogues the **commercial property price indicators currently available in a number of countries**.