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# Does the absence of share deals distort commercial real estate indicators?

CRE indicators  
and absence  
of share deals

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## Abstract

**Purpose** – Commercial real estate (CRE) indicators typically include asset deals and exclude share deals. This study aims to explore the phenomenon of real estate share deals and assess whether omitting these transactions results in indicators that do not accurately reflect the market.

**Design/methodology/approach** – Various registers in the Netherlands were used to estimate transaction volumes, total values and price developments of both share and asset deals. Share deals are company transfers and its transactions cover more than real estate. To estimate the contribution of real estate in share deals, valuations were used.

**Findings** – In the Netherlands, share deals are most prominent for rental dwellings. Adding share deals to volume and value indicators seems required. In price development estimates, significant differences were found for dwellings between share and asset deals. Price indices should, therefore, also include share deals, but in practice this is difficult and has little impact on the outcomes due to the low weight of share deals.

**Research limitations/implications** – Legislation has a major impact on choosing a share or asset deal. The significance of share deals is expected to vary amongst countries. Performing similar research in other countries will contribute in harmonising real estate indicators.

**Practical implications** – Statistical agencies face many challenges in the construction of CRE indicators. This study provides statisticians knowledge that can be used to evaluate possible data gaps.

**Originality/value** – This is the first study to estimate indicators of real estate share deals and compare these to asset deal indicators.

**Keywords** Share deal, Asset deal, Commercial property price indices (CPIs)

**Paper type** Research paper

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## 1. Introduction

In 2009, the G20 identified the lack of commercial real estate (CRE) indicators, such as volume, value and price developments, as a data gap, which led to global actions at statistical agencies to address this gap (FSB & IMF, 2009). In particular, the banking sector is highly interested in using these indicators as a tool to monitor and facilitate financial stability and macroeconomic developments (BIS, 2020; Eurostat, 2017). Compiling CRE indicators, however, appears to be difficult and much more complex than compiling similar indicators for residential property. One of the most commonly mentioned reasons that complicate the realisation of CRE indicators is a small number of observations (Eurostat, 2017). There could be several reasons for this. An obvious one is that there is less CRE to transact than there is residential real estate (for which small numbers are usually not an issue) [1]. However, there could be another cause as well: real estate can be traded in a way that prevents the transaction to enter official real estate transaction registrations (such as the land registry office). This can be achieved by accommodating real estate into a separate company that is specifically established to legally own the real estate. After that, shares of the company can be traded instead of the real estate itself (Ter Braak and Bol, 2007; Alickovic and Brauweiler, 2020).

In official real estate price statistics, it is common to consider only actual asset deals as real estate transactions (Statistics Netherlands, 2021b; Statistics Denmark, 2021). These are, for instance, transfers of real estate ownership as recorded by land registry offices or documented real estate sales in purchase agreements by real estate agents. In the case of asset deals, transfers refer to the reallocation of legal ownership of a real estate property. Whilst an asset deal is one way to trade real estate, trading shares of a company that solely owns real estate can be perceived as an alternative method. The latter is referred to as a share deal and the company that owns the real estate is referred to as a single-purpose entity (SPE). In case of a share deal of an SPE, there is no shift of legal ownership of the property. The SPE legally owns the property, both before and after a transfer of shares. The economic ownership, however, is transferred from one shareholder to another. Given that asset deals and share deals seem interchangeable, there is a surprising lack of research focussing on the contribution of share deals to commercial property price indicators.

The aim of this research is to provide more insight into share deals and their importance. Previous research has mainly focussed on the legal aspects of real estate SPEs. Motives for establishing SPEs are a well-discussed topic (Bertane, 1974; Stogel and Jones, 1976; Sewell, 2006; Kurtz and Kopp, 1969) as well as how to use it in a transaction (Seligman and Stein, 2004; Alickovic and Brauweiler, 2020). However, it is not yet clear what the effect of real estate share deals is on CRE indicators. The concern here is that the absence of share deals may cause sample selection bias in CRE indicators, resulting in statistics that do not accurately reflect market developments.

This research addresses the following question: To what extent does the absence of share deals distort CRE statistics? Three indicators for share deals are constructed and compared with their asset deal counterparts to assess their impact on CRE statistics. These indicators are as follows: (1) transactions volumes (numbers of share deals and transacted real estate properties), (2) transaction values (total value of share deals and transacted real estate) and (3) price developments (changes in real estate prices).

This research contributes to the discussion on defining and further demarcating real estate share deals. What may be considered as real estate share deals in statistics is discussed in Section 2. The data and methodology description (Section 3) may be beneficial to statisticians who aim to create similar indicators for share deals in other countries than the Netherlands. The findings (Section 4) will contribute to the assessment of whether it is important to include share deals in real estate statistics or not. A discussion is presented in Section 5 on how we could perceive and handle share deals, which leads to the conclusions in Section 6.

## 2. Background

### 2.1 Defining share deals in commercial real estate SPEs

Decomposing “share deals in SPEs that hold commercial real estate” leads to a search for definitions regarding “share deals”, “SPEs” and “commercial real estate”. The most relevant literature findings are summarised below.

In the literature, various definitions of an SPE can be found. All of these definitions share the essence that an SPE refers to a legal entity that is specifically created to satisfy a specific purpose. In the case of this study, the purpose is to own real estate. The terms that accompany the definition above come in a variety of forms. Commonly used terms are “Single Purpose Entity”, “Special Purpose Entity”, “Single Asset Entity” and “Special Purpose Vehicle” (Seligman and Stein, 2004). These terms are interchangeable in the context of the definition above. Terms that are also used to describe similar constructions are “Straw corporations” and “Nominee corporations” (Tanenbaum, 1963; Stogel and Jones, 1976; Bertane, 1974; Kurtz and Kopp, 1969). Both these terms refer to entities that legally own property and by itself are beneficially owned by a parent company. Straw or nominee corporations could be SPEs, but they do not necessarily have to be. The terms are typically used in the context of a way to circumvent property transfer tax; it is likely that straw corporations may also hold a second purpose to conceal the first purpose (and thus do not have to be SPEs).

Terms that are also common are “Bankruptcy Remote Entity (BRE)” or the more extreme “Bankruptcy Proof Entity (BPE)” (Sewell, 2006; Seligman and Stein, 2004). These terms refer to specific forms of an SPE. BREs or BPEs are always SPEs, but added legal specifications make them more resistant to bankruptcy. In this research, an SPE is defined as a legal entity that is specifically created to own real estate.

Alickovic and Brauweiler (2020, p. 233) provide a clear definition for a share deal: “A share contains the purchase of all company shares or the purchase of a certain rate of shares which empowers the buyer to exercise control over the company. Thereby all rights and obligations and with that, all assets and liabilities were transmitted to the buyer.” Combining this definition with the above-mentioned SPE definition implies that a share deal is an indirect way of transferring real estate (or “assets”, as referred to in the share deal definition).

Other terms that require further explanation are “commercial property” and “commercial real estate”. First of all, these two will be used interchangeably from now on. Second, the term is interpretable in multiple ways. In this research, the definition provided by the ESRB (2019) is used, which states that every type of real estate that is not owner occupied for residential purposes is considered CRE. Coarsely, CRE refers to property that is owned by companies (and, therefore, includes rental housing). The focus of this research is on SPEs as owners of real estate. As SPEs are organisations and not private households, the real estate owned by SPEs is by definition “commercial” real estate. Furthermore, in this research, the main focus is on offices, industrial buildings, rental dwellings and retail buildings, since these are the most common categories for commercial property (Statistics Netherlands, 2019; Eurostat, 2017). Indicators are also made for all other non-residential real estate in Section 4 (in a bundled category “other buildings”).

Combining these definitions provides the following definition: a share deal in a real estate SPE refers to a transaction of company shares in a legal entity that is specifically created to own real estate. This definition is used in this study.

### 2.2 Motives for choosing share or asset deals

There are many arguments for an investor that could be decisive in choosing an asset deal or a share deal to transfer the economic ownership of real estate. The choice of a suitable construction depends on the specific circumstances like the applicable regulations, the value of the real estate (portfolio), the number of buyers/sellers and the current organisation

structure. The most decisive reasons in choosing a transfer construction are most likely legally and financially driven.

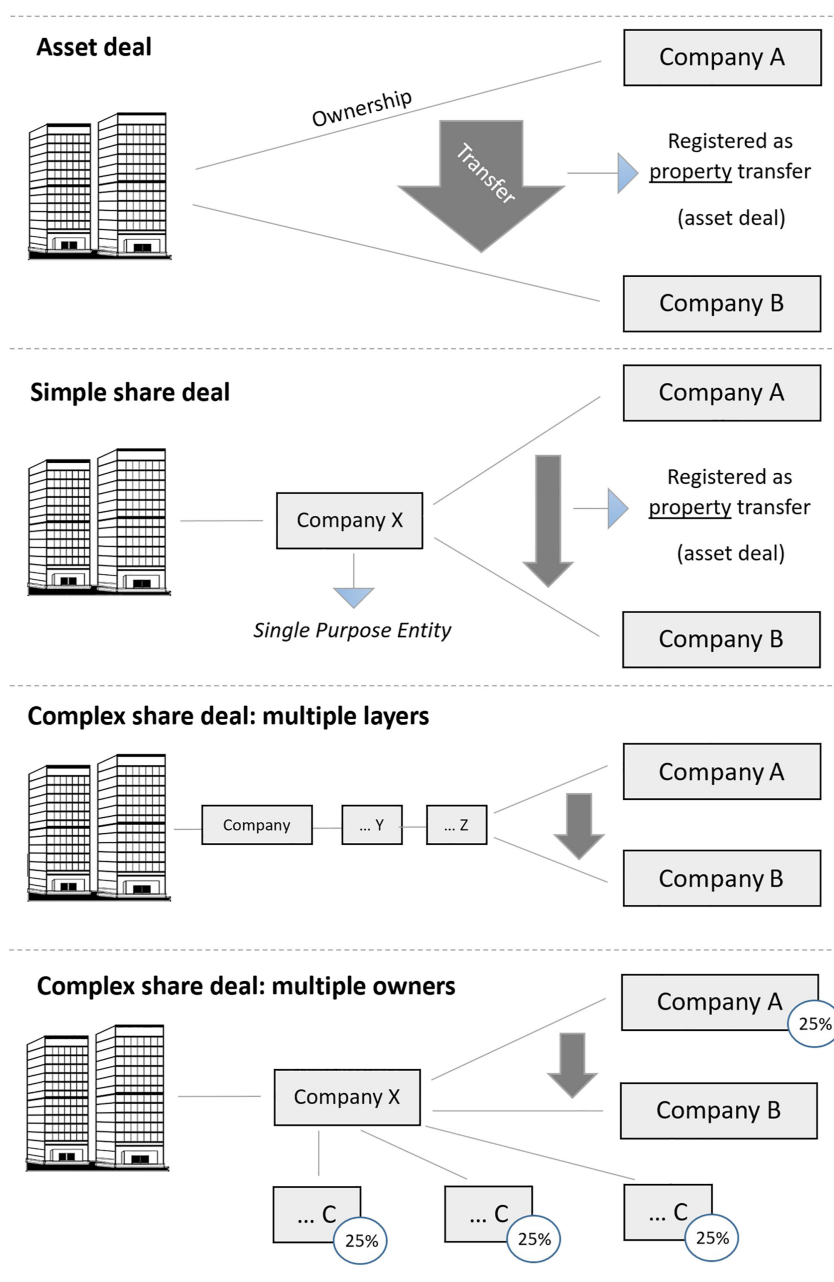
From a legal perspective, there are clear advantages for companies to put the ownership of real estate at distance in a separate entity. In the management of real estate (not in transferring), SPEs are formed to reallocate liabilities (Bridson and Flammier, 2013). The reason is that declining performances of one of the organisation entities does not harm the other(s), and therefore, SPE structures create obstacles in the path towards bankruptcy. This also causes real estate investments to be more attractive to commercial lenders (Sewell, 2006). Accommodating real estate in an SPE is a very common structure in asset management. In transacting real estate, however, selling shares instead of assets may have some negative aspects. Ter Braak and Bol (2007, p. 180) point out that purchasing an SPE implies for instance purchasing liabilities that are not related to the real estate, such as employment contracts, levies and fines. In this regard, all documentation that is required for the transaction will be more complex, especially when due diligence is conducted (Alickovic and Brauweiler, 2020) [2]. They, however, add that in the case of large real estate portfolio transfers, the documentation could actually be simpler. This is also supported by Alickovic and Brauweiler (2020, p. 233) who state that the advantage of a share deal is that “the assets don’t have to be transferred one by one, but rather in one transaction.”

From a financial perspective, buying an SPE could be very beneficial (Ter Braak and Bol, 2007; Tanenbaum, 1963). This, however, depends on the specific tax regulations and other legislations regarding real estate investment activities (Seligman and Stein, 2004). A transfer of legal ownership of real estate is typically accompanied by a property transfer tax. When the ownership of a company changes (share deal) instead of the asset itself (asset deal), other rules regarding the application of property transfer tax and other taxes may apply. Corporation tax, sales tax and income tax are examples of other possible applicable taxes (Ter Braak and Bol, 2007). In the case of share deals, it is not always clear if the intention of both parties was to economically transfer real estate. Whether transfer tax applies in situations depends on the applicable legislation and the specifics of the deal. In the Netherlands, for instance, transfer tax does apply to SPE transactions once a couple of conditions are met (*Wet op belastingen van rechtsverkeer*, 2019, January 27). One of the conditions is that a minimum percentage of the value of the SPE should relate to real estate. Given the strong dependence on applicable legislation and differences in legislation between countries, this is likely to cause incoherence between the frequencies of share-based deals amongst countries. A relaxation of tax regulations on share deals may cause investors to choose an SPE transaction more frequently. The Polish example illustrates this. Asset deals in Poland are subject to Value-Added Tax (VAT). The paid VAT (by the buyer) is recoverable once a few conditions are met. In 2016, the recoverability was limited due to an upgrade of the conditions (Accace, 2017). Since the VAT only applies to asset deals, this caused – according to Toczyska (2018) – a drop in asset deals and a rise in share deals. This shows that in the case of changes in regulations, a decline in transaction numbers for asset deals does not necessarily reflect market developments, as it could be compensated by an increase in share deals.

### 2.3 Constructions of SPE share deals

In an asset deal (top of Figure 1), the ownership of a property is not only economically transferred, but also legally. Asset deals are usually processed by a notary and subsequently by a land registry office. Asset deals are typically input in the construction of Commercial Property Price Indices (CPPIs) (e.g. CPPIs of the Bank of Portugal (Raposo and Evangelista, 2016) and Statistics Netherlands (Statistics Netherlands, 2021b)).

A share deal in its simplest form (Figure 1, part 2) is one where the SPE (company X) is the legal owner of (a portfolio of) real estate. In this situation, company X has the role of a subsidiary of company A. Company A is, as a parent company, the legal owner of company X



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of share deals

**Figure 1.**  
Illustrations of asset  
and share deals

**Source(s):** Author's own creation

and, therefore, the beneficial owner of the property. In the transfer scenario, where A intends to sell real estate to B, it will not (and is legally not able to) sell the legal ownership of the real

estate, but it will transfer the legal ownership of company X to company B. Since this concerns a company transfer, the transfer applies to the shares of company X.

Another example is a construction where there are multiple layers of entities between a parent company, A and a child company, X (Figure 1, part 3). Here, again, company A has the intention to economically transfer the property to company B. This is realised by transferring the shares of company Z, which is still three layers away of legally owning the property itself. Even though the provided example is hypothetical, the sketched organisational structure seems to be common throughout the world and is often referred to as a pyramid construction or a business group (Claessens *et al.*, 2000; Khanna and Yafeh, 2007; Fan *et al.*, 2012). Business groups are formed for a variety of reasons. These are, amongst which, exploiting scale benefits and taking advantage of established brands. Regarding the latter reason, groups can enter new businesses by expanding the pyramid whilst relying on the reputation of the group (Khanna and Palepu, 1997).

Another more complex SPE transaction is a so-called Real Estate Investment Trust (REIT). A REIT is a company that owns, operates or finances income-producing real estate. It's "a pass through entity that distributes most of its earnings and capital gains" (Geltner *et al.*, 2007, p. 586). The REIT allows multiple investors to buy and sell shares in the company and earn profits due to value increases in the owned real estate. A simplified construction is illustrated at the bottom of Figure 1. The main takeaway is that there are no longer only two beneficial companies. In fact, there could be dozens of shareholders, each owning a part of the shares and, therefore, being able to sell only a part of the SPE and underlying property.

Figure 1 shows the many forms, in which share deals exist from simple to very complex. The complexity level affects the data collection: the simpler an SPE construction is, the more likely it is that it is properly registered. The more complex an SPE construction is, the more likely it is that a registration is ambiguous and scattered amongst multiple registrations or not registered at all. Some studies have specifically focussed on these complex SPE forms and gathered REIT information from private data sources (Horrigan *et al.*, 2009; Morri and Jostov, 2018; Çelik and Arslanli, 2021). In this study, the focus is on official real estate indicators, and therefore, only official data sources were used. A consequence is that complex SPE constructions are excluded. This is further elucidated in Section 3.

### 3. Data and methodology

To gain more insight into the market of real estate SPE share deals, extensive data research was conducted in the Netherlands. The process contains collecting, cleaning and filtering data in such a way that it results in useable data to create the three indicators: transaction numbers (volume), total transactions values and price developments. Indicators for asset and share deals are constructed by using the same methods and data sources.

#### 3.1 Data collection

The research is conducted with data on share deals by Dutch investors and real estate that is located in the Netherlands. Multiple datasets from official authorities were collected to identify SPE share deals [3]. An overview of these sources and their key information for this study is provided in Table 1.

After linking and filtering of above data sources, a dataset was created that includes a selection of real estate share deal and asset deal transactions. An overview of the resulting coverage is provided in Table 2.

Transaction prices of real estate in share deals are not available (in official registers). Therefore, as shown in Table 1, valuations by the Dutch municipalities were used to value the real estate in share deals. Moreover, if transaction price data were available, using it would be troublesome, as share deal prices may not only apply to real estate but to other aspects of a



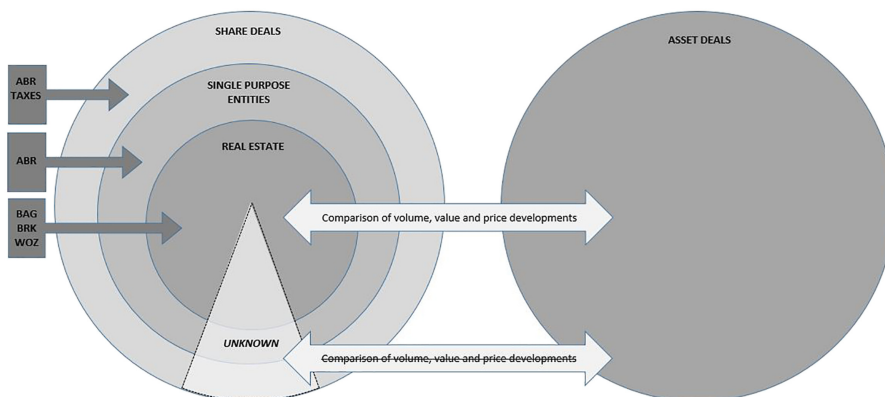
				CRE indicators and absence of share deals
Source owner	Dataset	Key information Share deals	Asset deals	
Statistics Netherlands	General Business Register (ABR)	<ul style="list-style-type: none"> <li>• Company share transfers</li> <li>• Number of employees</li> <li>• Percentage of real estate on balance sheet</li> </ul>		<hr/> <b>Table 1.</b> Overview of used data sources
Tax authorities	Property Transfer Tax	<ul style="list-style-type: none"> <li>• Tax paying companies</li> </ul>		
Land Registry Office	Key Register Kadaster (BRK)	<ul style="list-style-type: none"> <li>• Real estate owned by companies</li> </ul>	<ul style="list-style-type: none"> <li>• Real estate transactions</li> </ul>	
Municipalities	Key Register Addresses and Buildings (BAG)	<ul style="list-style-type: none"> <li>• Property types</li> </ul>	<ul style="list-style-type: none"> <li>• Property types</li> </ul>	
Municipalities	Key Register “Waardebepaling Onroerende Zaken” (WOZ)	<ul style="list-style-type: none"> <li>• Official valuations (WOZ)</li> </ul>	<ul style="list-style-type: none"> <li>• Official valuations (WOZ)</li> </ul>	
<b>Source(s):</b> Authors' own creation				

Included	Excluded	<b>Table 2.</b> Coverage of resulting dataset
Transactions between 2016–2020 Transactions involving only Dutch investors More simple share deals (Figure 1, part 2) All real estate in the Netherlands All property types as registered in the BAG Property sold within portfolio sales Existing real estate Valuations	Transactions involving at least 1 international investor More complex share deals (Figure 1, parts 3–4) Newly built real estate Transaction prices	
<b>Source(s):</b> Authors' own creation		

company transfer as well. In the case of share deals, therefore, transaction prices seem unreliable beforehand. To bypass this, official valuation data are used to estimate the value of objects. These official valuations (Waardering Onroerende Zaken: WOZ) cover 100% of real estate in the Netherlands and are annually updated. It is known that valuations in general and WOZ valuations in particular are not always accurate representations of transaction prices. Lubberink *et al.* (2018), for instance, concluded that WOZ values are not always reliable market value indicators. Yet, they see consistent patterns in market valuation biases. For instance, offices in less-promising locations are generally valued higher than the realised transaction price. Furthermore, WOZ valuations are not 100% market valuations but market value approximations under special assumptions. Unlike an actual transaction price, the WOZ value is not the result of price negotiations and is, therefore, merely an approximation. To hold these biases in prices constant between asset and share deals, WOZ valuations are used in the current study as price estimations for both asset and share deals. If there is a bias, it will occur on both sides of the comparison and this will limit the effect on the outcomes.

### 3.2 Data strategy

The aim is to assess the effect of share deals by compiling three indicators: sales numbers, total sales values and price developments. Compiling these indicators requires a process of linking data and applying filters. This is visualised in Figure 2.



**Figure 2.**  
Demarcation of CRE  
share deals in SPEs

**Source(s):** Author's own creation

First, the selection of share deals in companies is made in the General Business Register (ABR) and the property transfer tax data. In the ABR, the shares of companies in other companies were compared between consecutive periods to detect a transfer of shares (indicating a share deal). Additionally, companies that paid tax were derived from the property transfer tax data. In the latter source, the assumption was made that the share deal refers to all companies that the taxpayer owns (due to data deficiencies). However, the share may be only applicable to a selection of companies. The possible consequence of this is an overestimation of selected share deals. This potential overestimation is further elucidated and visualised in [section 4.1](#).

Second, an indication was made as to whether the deals could be seen as an economic transfer of only real estate. After all, many share deals occur without the intention to trade real estate (company takeovers, mergers, intracompany reallocations and so on). In other words, it was determined whether the company, whose shares were traded, functions as a SPE for owning real estate. From the ABR, three filters were applied to indicate SPEs: (1) an SPE has a maximum of two employees in the organisation, (2) an SPE has a minimum of 30% of real estate on the balance sheet and (3) the owning company has a minimum of 33% of shares in the SPE. Multiple filter parameters – very strict to very loose versions – were tested, but the alternative results did not lead to different research conclusions. The last two filters were chosen in accordance with the law on property transfer taxes, in which the same limits are applied ([Wet op belastingen van rechtsverkeer, 2021](#)).

Third, it was retrieved for SPEs whether and which real estate it legally owns (as registered in the BRK: Key Register Kadaster). In legal transfers, it is very common to see multiple real estate properties to be part of a single transfer ([Seymour and Akers, 2019](#); [Statistics Netherlands, 2019](#)). A company can own multiple real estate properties, and therefore, a single share deal can involve more than one real estate property (presented in [section 4](#)). Given this one-to-many relationship between transactions and sold properties, a comparison between the numbers of sold properties is more useful than a comparison between the numbers of transactions. In this step, there is, therefore, a switch in unit of measurement from transactions to transacted real estate properties. Furthermore, in this step, the property type of real estate is retrieved from the Key Register Addresses and Buildings (BAG) and the valuations are added from the WOZ data. A drawback of valuation prices is that they typically lag market prices ([Shimizu et al., 2012](#)), which is also the case in the Netherlands ([Waarderingskamer, 2020](#)). In this study, valuations are used to assign a value to property in both types of deals. As such, indicators for asset and share deals are comparable.

The part in [Figure 2](#) containing “unknown” is a visualisation of the data limitations. These cases are omitted from the comparison and most likely lead to an underestimation of the real estate counted in share deals.

CRE indicators  
and absence  
of share deals

### 3.3 Calculating price developments

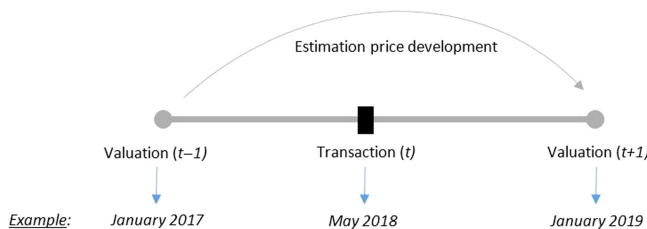
Once the selection of share deals has been made and the appraisal values have been assigned, the price indices – or actually, valuation indices – were calculated. The downside of working with appraisals as an approximation for prices in pricing developments is that the appraisals could be influenced by transaction prices of comparable buildings. Asset deal transactions could, therefore, influence share deal appraisals and the other way around. The use of appraisals is, therefore, unlikely to provide insight into the contribution of share deals to price indices. Yet, appraisal-based price indices may provide insight into the differences between share and asset deals. If share deals and asset deals are primarily found in different market segments, their (appraisal-based) price developments may also differ.

The upside of working with official valuation data is that for most real estate properties, there are appraisals every year for a longer period of time. An index can, therefore, simply be constructed by calculating the ratios of paired appraisals. In this research, the ratios are aggregated by calculating the arithmetic mean as shown in the formula below. This formula resembles a Carli index as described by [Van der Grient and De Haan \(2008\)](#). For a price index, a geometric mean (the Jevons index) is actually preferred. In the analyses, however, comparisons are made that require arithmetic averages (*T*-tests). Therefore, the Carli index is used in this study.

$$I^{t+1,t-1} = \frac{1}{n} \sum_{i=1}^n \left( \frac{A_i^{t+1}}{A_i^{t-1}} \right) \quad (1)$$

In this formula, *I* denotes the price change between periods *t* + 1 and *t* – 1. *A* denotes the appraisal value of property *i* and *n* equals the number of observations.

Besides the index method, data choices regarding the reference moment of the appraisals are also essential. Appraisals are assumed to be estimates of actual selling prices. One difference between the two is the moment of activity. The transaction date could be anytime during a year. The valuations are always set at the beginning of the year (1st of January). By definition, the appraisal is from before or after but never on the actual transaction date [\[4\]](#). Where this may be a downside in considering appraisals as an estimate, in this case it is an advantage. In pairing appraisals of period *t* – 1 and *t* + 1, the periods adjacent to the transaction date (period *t*) are chosen. This is illustrated in [Figure 3](#). By doing this, the development of the selling price compared to the previous year is estimated. This is possible because the valuations are updated every year by municipalities ([Waarderingskamer, 2022](#)).



Source(s): Author’s own creation

**Figure 3.**  
Time span for choosing  
valuation pairs

The final step is to repeat the process for asset deals. The process for asset deals is, however, more straightforward. The selection of asset deals, prepared by the Land Registry Office and Statistics Netherlands, is used as a starting point. The BAG is linked to obtain more real estate information (classification into property types), and the WOZ is linked to obtain comparable values. After that, [formula \(1\)](#) is used to construct similar indicators (based on appraisals) for asset deals.

4. Findings

4.1 Investors, SPEs and involved real estate

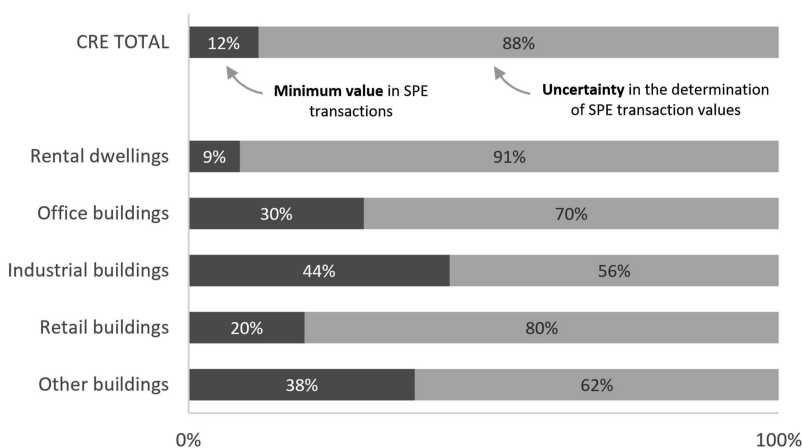
In the data, there are 493 distinctive buyers of SPEs (many buyers purchased SPEs more than once). These buyers are categorised by number of employees (indicating the size of the company) in [Table 3](#). The results show that SPEs are not only utilised by larger companies. In fact, there are many owners of SPEs with zero employees. This is an indication of an SPE construction illustrated in [Figure 1](#) (part 4), where there are multiple layers of SPEs. At the end of the chain of ownership, there might be larger companies, but this cannot be derived from the data. A closer analysis, however, does show that companies with zero employees generally own larger SPEs. In the data, there are 1,566 distinctive SPEs (many SPEs were sold more than once). On the right side of [Table 3](#), these SPEs are categorised by the number of properties owned (indicating the size of the SPE). The results show that whilst most SPEs hold a limited number of properties (ten or less), there are also very large SPEs containing more than 1,000 properties.

Within the data, there is a certain degree of uncertainty. When the buyer of an SPE already possesses other SPEs, the data do not allow us to determine whether the acquisition applies to all of these SPEs, a few or just one. [Figure 4](#) illustrates the degree of uncertainty caused by this data limitation. Around 12% meet the minimum value of SPEs. This percentage refers to the very minimum where only one SPE is transacted in all transactions, which is also the least valuable SPE within the owner’s portfolio. The minimum has a deliberate strict setting to show the potential uncertainty in data regarding share deals as opposed to the straightforward registration of asset deals. This illustrates the ambiguity in share deal registrations. Around 88% meet the maximum value of SPEs. In this scenario, the transactions include all possible SPEs within the owner’s portfolios. A part of these SPEs were not part of the share deal transactions. This part could not be determined and creates uncertainty in the output. In the remainder of the findings, the uncertain observations are included in the indicators for share deals because manual inspection of multiple random cases indicates that the minimum is too strict (but could not be determined with certainty). Besides, a larger issue is an anticipated underestimation due to data loss (after linking multiple data sources) and limitations of the data sources (described in [Section 3.1](#)).

**Table 3.**  
Size of SPE investors  
and size of SPEs

Number of employees (categorised)	Number of SPE investors	Number of properties (categorised)	Number of SPEs
0	245	1	542
1–10	178	1–10	669
11–100	27	11–100	279
101–1,000	14	101–1,000	69
>1,000	29	>1,000	7
Total	493	Total	1,566

**Source(s):** Authors’ own creation



CRE indicators  
and absence  
of share deals

**Note(s):** Other buildings refer to all unmentioned property types. This includes the following usage types that are typified within the BAG: meeting, healthcare, cell, accommodation, sports, education and other

**Source(s):** Author's own creation

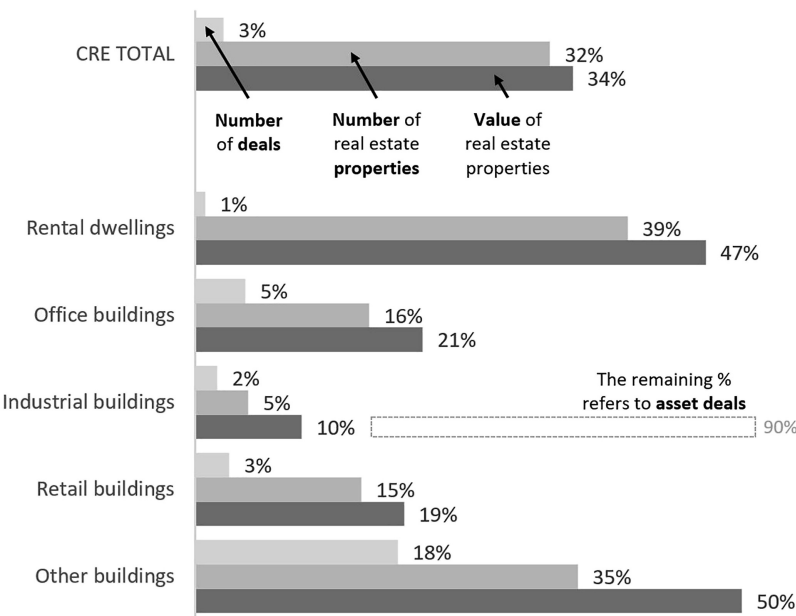
**Figure 4.**  
Uncertainty in  
determining the real  
estate value in share  
deal transactions

#### 4.2 Volume and value indicators

To assess whether share deals form a significant part of the real estate trading market, volume and value indicators were calculated. These figures are added to the asset deal volumes and values. The resulting contribution of share deals in the market (in %) is presented in Figure 5. Volume figures are distinguished in number of deals and the number of real estate properties. In the number of deals, the numbers of SPE transfers were counted (regardless of the size of the SPEs). In the number of real estate properties, the total number of real estate properties in SPEs transfers was counted [5]. The total value of all deals is equal to the total value of all SPE transfers as well as the total value of all real estate properties.

Figure 5 shows that overall, the value of SPE share deals accounts for 34%. From Figure 5, it also becomes clear that buildings other than rental dwellings, industrial, office and retail buildings are most popular in share deal trading. This high percentage of 50% is caused by a specific group within the category, namely those buildings with an accommodation function. The official definition for this accommodation function is "providing accommodation or temporarily shelter to persons" (Bouwbesluit, 2012). In practice, this category involves hotels and resorts. Whilst share deals in rental dwellings appear to be less common, the share deals are quite common in traded properties and total value too. The contribution of SPE share deals in the market is lower in number of properties than in values. This finding is consistent over all property types and indicates a higher average property value for share deals than for asset deals. After checking all average prices per year and per property type, this turns out to be consistently the case: real estate properties that are sold through SPE share deals are on average more valuable than real estate properties that are sold through asset deals. Figure 6 shows that real estate in share deals is on average valued higher than real estate in asset deals.

This image does not change when the average values are broken down into more periods [6]. Based on this finding, one might say that share deals tend to be focussed on properties that are more expensive. This suspicion is confirmed as the lower and higher quartiles of share deal prices are consistently higher compared to the same quartiles of asset deals. A possible explanation is that share deal investors tend to lean more towards low-risk and more secure investments, which is more often found in the higher segment of the market.



**Figure 5.**  
Contribution of share  
deals to the total  
market, period  
2016–2020

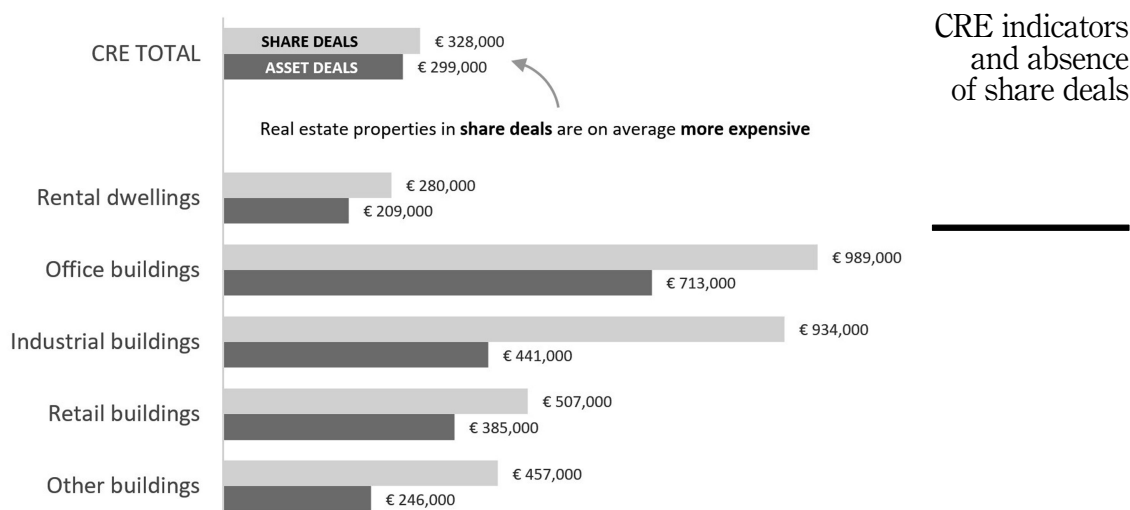
**Note(s):** Other buildings refer to all unmentioned property types. This includes the following usage types that are typified within the BAG: meeting, healthcare, cell, accommodation, sports, education and other

**Source(s):** Author’s own creation

A clarification may also be found by looking at different investment strategies. [Geltner et al. \(2007, p. 125\)](#) distinguish between the “growth objective” and the “income objective”. Others also refer to these strategies as the buy-and-hold strategy ([Hui et al., 2014](#)) and the buy-and-sell strategy ([Brown, 1996](#)). The growth objective, or buy-and-hold, strategy implies holding real estate for a longer period of time. The investment does generate income (whilst held), but there is no fixation on making profit in the short term. It aims at a long-term value increase and a direct return on investment over a long period. The income objective or buy-and-sell strategy, on the other hand, is aimed at making profit in the short term through buying, adapting and selling real estate for a higher price. A link between the above strategies and another research provides a possible explanation for the higher-valued properties in share deals. The research of [Lim et al. \(2013\)](#) shows that the lower segment of the CRE market displays greater volatility compared to the higher segment when it comes to investment returns. Ergo, an explanation that is in line with the figures is that share deal investors lean more towards the growth objective and asset deal investors lean more towards the income objective. This is also plausible since share deals involve more administrative hassle (such as due diligence) and are less attractive for a quick buy and sell.

4.3 Analysis of price developments

To assess whether the absence of share deals distorts price indices, price developments were estimated for share and asset deals. The aim is to investigate whether share and asset deals represent different groups in the population of real estate transactions. If share deals are primarily found in a different segment from asset deals, the price developments may also



CRE indicators  
and absence  
of share deals

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**Figure 6.**  
Average value of share  
deal properties vs.  
asset deal properties,  
period 2016–2020

differ. The absence of share deals in CPPIs may, therefore, distort CRE indicators. Figure 7 shows estimations of price developments for rental dwellings, industrial buildings, offices and retail buildings for the years 2016, 2017 and 2018. The estimated price developments are valuation developments for specific selections of real estate sold as a share deal or asset deal. Figure 7 also contains robustness indicators. For each development, 95% confidence intervals are presented. These intervals are calculated according to the bootstrap method as described by Efron and Tibshirani (1994). In essence, the intervals are obtained by simulating variations using the variability in the data. The developments are calculated 500 times, and in each calculation, the original input is altered by sampling with replacement until the original sample size is reached. Furthermore, *T*-tests were performed on each comparison between share deal and asset deal developments to assess whether the differences were significant.

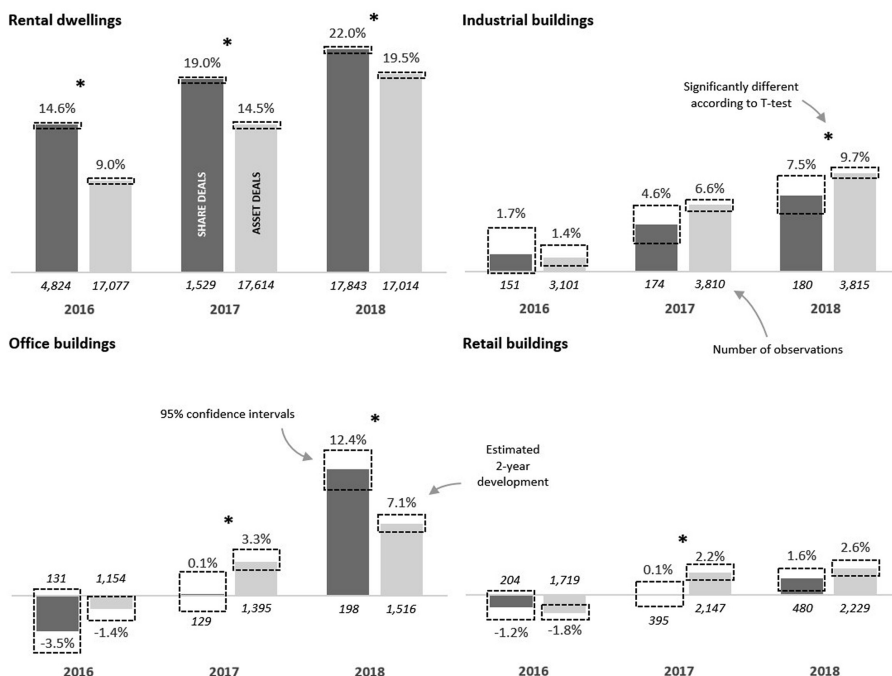
The results in Figure 7 show significant differences in price developments for rental dwellings. Both share deals and asset deals display price increases, but the price increases for share deals appear to be consistently higher. For offices, the last two years show significant differences, but share deals' price developments are not consistently higher or lower. Industrial and retail buildings, on the other hand, show no significant difference in price developments in most periods. Apart from rental dwellings, the exclusion of share deals is not likely to distort price indices based on asset deals, as they will have a minimum weight in CPPIs.

## 5. Discussion

### 5.1 Defining precedes measurement

There will probably not be a lot of discussion about whether a simple share deal (Figure 1, part 2) should be included in CRE indicators. There is a clear intention of selling real estate and to quote Lynn (1962, p. 73): "it would only seem logical that entities engaging in essentially the same activities should be taxed essentially the same – that the choice of business form should not affect taxation and, in reverse, taxation should not affect the choice of business form". In this





**Figure 7.**  
2-year price  
developments per  
property type

**Source(s):** Author's own creation

statement, the emphasis is on tax treatment, but there is a strong similarity in compiling real estate statistics. The more complex SPE constructions (Figure 1, part 3–4) become, however, the more a grey area emerges between two extremes. On one side, there is “transacting legal ownership”, and on the other side, there is “transacting economic ownership”. Transacting legal ownership excludes SPEs by definition and transacting economic ownership includes everything up until very complex forms of share deals. The optimal choice for CPPI input selection is most likely somewhere in the middle. Furthermore, as far as harmonisation is desired, these thresholds should be aligned between countries to increase comparability.

## 5.2 Comparison of CRE indicators

The analysis in Section 2 shows that financial arguments are the most decisive in choosing between a share or asset deal. The differences in tax regulations amongst countries affect investors' strategies. Simplified: a country without tax restrictions regarding share deals will probably show a larger portion of share deals than a country with tax restrictions. Comparing volume and value figures of CRE between countries may, therefore, be distorted depending on the differences in tax regulations.

Changing tax regulations may also affect the use of SPEs (compared to asset deals) within a country. In the Netherlands, for example, share deals have only been taxed since 1995 with the adoption of new legislation (*Staatsblad van het Koninkrijk der Nederlanden*, 1995). Time series of CRE indicators that would cover the years before and after 1995 are thus likely to suffer from a structural break. An observed change would not be due to a change in market activity but due to a shift in favoured transaction constructions.



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### 5.3 Feasibility to enrich commercial property price indicators

The construction of CRE indicators for share deals proves to be very difficult. Regarding the construction of transaction volumes, a clear-cut selection of real estate share deals is not available. Many datasets have to be linked, which introduces data loss, and many assumptions have to be made to approach the pre-set definition. The potential uncertainty is visualised in [Section 4.1](#). Regarding value indicators and price developments, the use of valuations seems inevitable. Using actual prices seems problematic for two reasons. First, retrieving share deal prices is very difficult since price information is not always registered. This especially accounts for smaller share deals, transacting less than 100% of the shares. Second, even when retrieving the data would be successful, interpreting the price would be an obstacle. A share deal remains, after all, a transfer of a company's share and the price does not merely have to reflect the transfer of real estate. Price indicators for share deals seem, therefore, only feasible when valuations are used instead of real prices. Even then, the construction would be very costly and time-consuming. Scanning the market every now and then (as conducted in this study) to ensure that share deals do not distort commercial property price indicators may be a more pragmatic way to go.

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of share deals

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## 6. Conclusions

This study increases our understanding of share deal transactions in the domain of CRE. In particular, this study investigates to what extent the absence of share deals leads to CRE indicators that do not accurately reflect the market. Comparisons of the total monetary values show that real estate share deals in the Netherlands cover up to approximately 34% of the CRE trading market. The popularity varies per property type. The measured number and total value were the highest for rental dwellings and other buildings (other than industry, office and retail). The role of other properties appears to be limited. This is likely due to the Dutch legislation regarding property transfer tax, which does not safeguard share deals from paying tax. This tax applies to both asset deals and share deals (under a few conditions) and, hence, does not benefit share deals. Nevertheless, the results indicate that adding share deals would increase volume and value indicators. In terms of financial stability, the calculated risks would be larger, and thus, volume and value indicators for commercial property transactions would benefit from an addition of share deals.

As for price indices, some estimations show different developments for various property types. In this regard, CPPIs should include share deals. Given that reliable and valid actual prices are hard to get and the contribution of share deals in a CPPI aggregate would be minimal (due to low weighting), including share deals in price indices is less obvious than including them in volume and value indicators.

### 6.1 Limitations and directions for future research

Legislation has a lot of influence on the choice between share and asset deals. Legislation differs amongst countries, and the significance of share deals is, therefore, expected to vary in each country's real estate market. Performing similar research in other countries will provide useful insights because it will not only enable a comparison of the magnitude of share deals, but also a comparison of the legislation. This consequently enables investigating the effect of legislation on the magnitude of share deals.

This study shows that using administrative data sources to capture the complete market of share deals has its limitations, at least for the Netherlands. Especially complex share deals, for instance, where there is an involvement of foreign entities, are hard to grasp in figures.

The findings show that real estate traded in share deals is overall more expensive. A few possible explanations were provided, but giving an actual explanation requires additional research.

## Notes

1. Over 87% of the real estate stock in the Netherlands is residential property (Statistics Netherlands, 2021a) and 57% of all residential property in the Netherlands is owner occupied (Statistics Netherlands, 2021c). This fact, combined with research findings that the moving of households (and thus sales of residential property) strongly relates to a family life cycle (McAuley and Nutty, 1982), supports the belief that owner-occupied residential property is transacted more than commercial property (as a family life cycle is absent or at least very different for companies).
2. Due diligence is a form of document research aimed to assist the management in justifying an acquisition by verifying and analysing data (Spedding, 2009).
3. In the Netherlands, there are a few key registers or base registers. The government has officially instated these registers as mandatory data registration sources for public institutions (Digital Government, 2021).
4. An exception would be if a transaction occurred on January 1st. In the Netherlands, this is impossible since January 1st is a national holiday. Notaries do not record transactions on this day.
5. The unit of measurement of real estate, for both asset and share deals, is a single occupational unit as defined in the BAG.
6. An independent sample's *t*-test confirms that the average value of share deal properties is significantly different (and higher) from the asset deal counterpart.

## References

- Accace (2017), "Overview of real estate transaction in 5 CEE countries" [Online] available at: <https://accace.com/wp-content/uploads/2017/11/2017-11-Overview-of-Real-Estate-CEE-compressed.pdf>
- Alickovic, V. and Brauweiler, H. (2020), "Mergers and acquisitions: share deal vs. Asset deal – risks and impediments", in *Digitalization and Industry 4.0: Economic and Societal Development*, Springer Gabler, Wiesbaden, pp. 233-243.
- Bertane, L.G. (1974), "Tax problems of the straw corporation", *Villanova Law Review*, Vol. 20 No. 4, pp. 735-763.
- BIS (2020), "About property price statistics", [Online] available at: <https://www.bis.org/statistics/pp.htm?m=6%7C288%7C640>
- Bouwbesluit (2012), "Hoofdstuk 1. Algemene bepalingen, Artikel 1.1 Begripsbepalingen", s.l.s.n.
- Bridson, J.L. and Flammier, H.-P. (2013), Europe Asset Isolation and Special-Purpose Entity Special-Purpose Entity, S&P Global Ratings Japan, [Online] available at: <https://www.maalot.co.il/Publications/MT20161220145533.pdf>
- Brown, G. (1996), "Buy-sell strategies in the Hong Kong commercial property market", *Journal of Property Finance*, Vol. 7 No. 4, pp. 30-42.
- Çelik, E. and Arslanli, K.Y. (2021), "The idiosyncratic characteristics of Turkish REITs: evidence from financial ratios", *Journal of European Real Estate Research*, Vol. 15 No. 2, pp. 192-207.
- Claessens, S., Djankov, S. and Lang, L.H. (2000), "The separation of ownership and control in East Asian Corporations", *Journal of Financial Economics*, Vol. 58, pp. 81-112.
- Digital Government (2021), "Base registers and system standards", [Online] available at: <https://www.nldigitalgovernment.nl/dossiers/base-registers-and-system-standards/>
- Efron, B. and Tibshirani, R. (1994), *An Introduction to the Bootstrap*, Chapman & Hall, Boca Raton, FL.
- ESRB (2019), "Recommendation of the European Systemic Risk Board of 21 March 2019 amending Recommendation ESRB/2016/14 on closing real estate data gaps (ESRB/2019/3)", *Official Journal of the European Union*, Vol. C271, pp. 1-42, [Online] available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019Y0813%2801%29>
- Eurostat (2017), *Commercial Property Price Indicators: Sources, Methods and Issues*, Publications Office of the European Union, Luxembourg.

- 
- Fan, J.P.H., Wong, T.J. and Zhang, T. (2012), "Institutions and organizational structure: the case of state-owned corporate pyramids", *The Journal of Law, Economics, and Organization*, Vol. 29 No. 6, pp. 1217-1252.
- FSB & IMF (2009), *The Financial Crisis and Information Gaps*, FSB, IMF, Basel.
- Geltner, D., Miller, N., Clayton, J. and Eichholtz, P. (2007), *Commercial Real Estate Analysis and Investments*, Cengage Learning, Mason.
- Horrigan, H., Case, B., Geltner, D. and Pollakowski, H. (2009), "REIT-based property return indices: a new way to track an trade commercial real estate", *Journal of Portfolio Management*, Vol. 35 No. 5, pp. 80-91.
- Hui, E., Yam, P., Wright, J. and Chan, K. (2014), "Shall we buy and hold? Evidence from Asian real estate markets", *Journal of Property Investment and Finance*, Vol. 32 No. 2, pp. 168-186.
- Khanna, T. and Palepu, K. (1997), "Why focused strategies may be wrong for emerging markets", *Harvard Business Review*, Vol. 75 No. 4, pp. 41-51.
- Khanna, T. and Yafeh, Y. (2007), "Business groups in emerging markets: paragons or parasites", *Journal of Economic Literature*, Vol. XLV, pp. 331-337.
- Kurtz, J. and Kopp, C.G. (1969), "Taxability of straw corporations in real estate transactions", *Tax Lawyer*, Vol. 22 No. 3, pp. 647-657.
- Lim, L.C., Berry, J. and Sieraki, K. (2013), "Prime versus secondary real estate: when to buy and sell", *Journal of Property Investment and Finance*, Vol. 31 No. 3, pp. 254-266.
- Lubberink, A., Van der Post, W. and Veuger, J. (2018), "Valuation of real estate market values as an indicator", *Real Estate Finance*, Vol. 34 No. 4, pp. 159-167.
- Lynn, T. (1962), "Real estate investment trusts: problems and prospects", *Fordham Law Review*, Vol. 31 No. 1, pp. 73-110.
- McAuley, W.J. and Nutty, C.L. (1982), "Residential preferences and moving behavior: a family life-cycle analysis", *Journal of Marriage and Family*, Vol. 44 No. 2, pp. 301-309.
- Morri, G. and Jostov, K. (2018), "The effect of leverage on the performance of real estate companies: a pan-European post-crisis perspective of EPRA/NAREIT index", *Journal of European Real Estate Research*, Vol. 11 No. 3, pp. 284-318.
- Raposo, I.G. and Evangelista, R. (2016), A Transactions-Based Commercial Property Price Index for Portugal, Banco de Portugal, Lisbon.
- Seligman, W. and Stein, J. (2004), "Single-purpose entities in US real estate transactions: are they worth the hassle?", *Briefings in Real Estate Finance*, Vol. 4 No. 3, pp. 231-241.
- Sewell, D.J. (2006), *Effective Use of Special Purpose Entities*, The University of Texas School of Law, Austin, TX.
- Seymour, E. and Akers, J. (2019), "Portfolio solutions, bulk sales of bank-owned properties, and the reemergence of racially exploitative land contracts", *Cities*, Vol. 89, pp. 46-56.
- Shimizu, C., Diewert, W., Nishimura, J. and Watanabe, T. (2012), *The International Conference on Commercial Property Price Indicators*, Ripess, Frankfurt, pp. 1-39.
- Spedding, L. (2009), *The Due Diligence Handbook*, Elsevier, Oxford.
- Staatsblad van het Koninkrijk der Nederlanden (1995), Wet van 18 december 1995 tot wijziging van de Wet op de omzetbelasting 1968, de Wet op belastingen van rechtsverkeer en enkele andere belastingwetten in verband met de bestrijding van constructies met betrekking tot onroerende zaken, *Staatsblad 1995, 659*, Ministerie van Financiën, 's-Gravenhage, [Online] available at: <https://zoek.officielebekendmakingen.nl/stb-1995-659.html>
- Statistics Denmark (2021), "Sales of real property - statistical processing", [Online] available at: <https://www.dst.dk/en/Statistik/dokumentation/documentationofstatistics/sales-of-real-property/statistical-processing>
- Statistics Netherlands (2019), *Methodebeschrijving Prijsindices Commercieel Vastgoed*, Centraal Bureau voor de Statistiek, Den Haag.

- Statistics Netherlands (2021a), “Dwellings and non-residential stock; changes, utility function, regions”, [Online] available at: <https://opendata.cbs.nl/statline/#/CBS/en/dataset/81955ENG/table?dl=50EB8>
- Statistics Netherlands (2021b), “Measuring commercial property prices”, [Online] available at: <https://www.cbs.nl/en-gb/over-ons/innovation/project/measuring-commercial-property-prices>
- Statistics Netherlands (2021c), “Voorraad woningen; eigendom, type verhuurder, bewoning, regio”, [Online] available at: <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/82900NED/table?dl=50EB9>
- Stogel, S.J. and Jones, D.L. (1976), “Straw and nominee corporations in real estate”, *Washington University Law Review*, No. 3, pp. 403-427, available at: [https://openscholarship.wustl.edu/law\\_lawreview/vol1976/iss3/2/](https://openscholarship.wustl.edu/law_lawreview/vol1976/iss3/2/) (accessed 31 August 2023).
- Tanenbaum, M.H. (1963), The ABC technique of financing real estate acquisitions: the tax motivated leasehold, *University of Pennsylvania Law Review*, pp. 161-182.
- Ter Braak, G. and Bol, R. (2007), “Enige overwegingen bij de keuze tussen directe en indirecte onroerendgoedtransacties”, *Vennootschap and Onderneming*, Vol. 10, pp. 178-181.
- Toczyska, S. (2018), “Share deal vs. asset deal – how to choose?”, [Interview] (27 september 2018).
- Van der Grient, H. and De Haan, J. (2008), *Indexcijfers*, Centraal Bureau voor de Statistiek, Den Haag/Heerlen.
- Waarderingskamer (2020), “WOZ-tijddlijn”, [Online] available at: <https://www.waarderingskamer.nl/hulpmiddelen-gemeenten/woz-tijddlijn/>
- Waarderingskamer (2022), “Waarderingsinstructie”, [Online] available at: <https://www.waarderingskamer.nl/hulpmiddelen-gemeenten/waarderingsinstructie/> (accessed 31 05 2022).
- Wet op belastingen van rechtsverkeer (2021), “Hoofdstuk II”, *Overdrachtsbelasting*, Artikel 4. s.l.s.n.

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