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THE MODEL OF REAL ESTATE VALUATION AS AN INVESTOR-ORIENTED MODEL

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ABSTRACT

In the article, the role of demand and supply in the theory of value and valuation is discussed using the case of the real estate market. The research hypothesis tested is that demand is dominant in the valuation process. The purpose of the article is to present evidence in support of the research hypothesis and to explain why real estate valuations need the investor-oriented model of valuation. A critical analysis of the pertinent literature and legislation and the observation method were employed to this end. The need to use the investor-oriented model for real estate valuation is discussed based on: (1) the residual (development) method; (2) the valuation of properties' potential; and (3) the valuation of a subdivided property to calculate an adjacency fee. The matter under consideration is important not only for theoretical deliberations but also for the practice of real estate valuation and management.

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1. Introduction

In economics, the relative weight of demand and supply as the determinants of market value determinants has been a matter of disputes over whether one or the other market factor is more important or whether, perhaps, their interactions need to be considered (Landreth & Colander, 2005). The purpose of this article is to demonstrate that valuations seeking the market value of real estate are dominated by the demand side of the market and to explain the importance of valuers using an investor-oriented model. To accomplish this goal, a critical review of the literature, an analysis of the legislation, and the observation method were employed.

The article was designed as a review work divided into a theoretical section and an empirical section. The theoretical section provides a critical analysis of studies and legislation to demonstrate the dominant influence of demand on real estate valuations. The empirical section uses the observation method to present arguments supporting the use of the investor-oriented model in real estate valuations.

The perception of the role of demand and supply in economics has evolved in time. The early proponents of classical economics advocated the dominance of supply over demand. One of them, J. B. Say, posited that supply creates its own demand and that increasing production drives market growth. Oversupply in the markets for some products redirects purchase power and resources to other markets, which is followed by changes in supply and demand (Stankiewicz, 2007). Menger and Walras, the representatives of the neoclassical school, believed in the superiority of market demand. Jevons, another neoclassical economist, posited that the exchange value of an object depended on the demand for it (Stankiewicz, 2007). A. Marshall, who is credited with being the first one to distinguish theory of value from the process of valuation, was aware that trying to find a single determinant of value was as fruitless as trying to establish whether the upper or lower blade of the scissors does all the cutting (Landreth & Colander 2005). *"It is true that when one blade is held still, and the cutting is effected by moving the other, we may say with careless brevity that the cutting is done by the second; but the statement is not strictly accurate, and is*

to be excused only so long as it claims to be merely a popular and not a strictly scientific account of what happens" (Marshall, 1925). The factor of time that Marshall introduced improved the understanding of the role of demand and supply in the context of the theory of value and valuation. In considering the question of time, Marshall adopted the perspective of an enterprise as the main economic agent. He found time "(...) *the centre of the chief difficulty of almost every economic problem"* (Marshal, 1925). Central to his research was the distinction between 1) a market period, so short that supply was constant; 2) a short-run period, in which supply could increase but production capacity was constant; 3) a long-run period, in which production capacity could change but the level of resources available to a given industry was constant; and 4) a secular period, which was long enough for changes in resources (including labour) to take place. Marshall was critical of economists for their apparent inability to account for time in their studies of demand and supply (Landreth & Colander 2005). As he observed, there was an association between the role of supply and demand, and the length of the period under study, such as the shorter the period the greater the importance of demand, and the significance of supply increased with the length of the period. In the market period, supply is relatively unchangeable and value depends on demand (Marshall 2025). The formulation of this mechanism has earned A. Marshall recognition for defining the conditions under which either demand or supply exerts more influence on value.

As A. Marshall indicated, the above classification of periods is arbitrary, as the economic reality is a continuity that cannot be segmented. Notwithstanding, it is helpful in economic analysis because it conceptualizes time as an analytical construct unrelated to chronological (clock) time. The adopted periods do not depend on the movement of the clock's hands but on *"the partial or complete adaptation of producers and consumers to changing circumstances*" (Blaug, 2000). In the market period, supply is perfectly inelastic because producers have no time to react to changing prices, but demand can change, influencing the prices and value of commodities. The strength of its reaction depends on its price elasticity for a particular commodity. In the short-run period, an enterprise has the time to adjust its production, which increases the role of supply but not the plant. In the long-run period, supply and investments come to the fore. Supply is more elastic than in the short-run period because producers have more time to adjust their plant and cost structures to changing prices. The last of the four, the secular period, is sufficiently long for the existing technologies to be replaced and operated by new generations.

The economic aspect of time has become the topic of many studies as one of the challenges to be dealt with by economics in the 21st century (Czaja, 2011). The studies have significantly contributed to both the theory and practice of real estate valuation and management.

2. Supply and demand in real estate valuation

Depending on the context, the word "valuation" can be understood as the process of determining an asset's value or its outcome (MSW, 2011). As a process, valuation is largely an attempt at predicting how market players may behave in given market circumstances. According to the economic literature, value is not attached to objects, nor is their immanent feature or an independent characteristic that exists in its own right (Mooya, 2016). As a valuation outcome, it is only valid on the day of a hypothetical transaction and expires with it (EVS 2020). In terms of A. Marshall's classification of time, a given day's value is related to the market period in which supply is fixed. Of all the factors that influence value, current demand for goods driven by consumers' needs, aspirations, purchasing power and preferences is the most important (Real Estate Appraisal, 2000).

As there is more than one value, its meaning must be precisely understood. Many operations involving properties require not only the knowledge of their value, but also of the concept underlying it (Zróbek, 2009). In most cases, it is the market value of properties which is being sought, which should quantify the typical, i.e., most common, behaviors of the market players. The Austrian school representatives observed that, although it is not possible to remove all subjective elements from a market value, the analysis of the market players' collective behaviours increases its objectivity. Accordingly, it should be sought in the range of prices paid for comparable properties, for which the largest number of transactions is available.

In the Polish legislation (Art. 151. 1 of the Real Estate Management Act), the market value of real estate is described as "*the estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction wherein the parties had each*

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acted knowledgeably, prudently, and without compulsion." It is noteworthy that the internationally recognized definition of market value from which the Polish definition was derived also requires "... proper marketing", but this element has been omitted from the Polish translation. The requirement can, however, be found in the interpretations of the market value definition provided in the EVS (the European Valuation Standards) and the Polish valuation standards.

A market value is therefore a hypothetical (most likely) price constructed based on the market condition and circumstances on the valuation date. The term "proper marketing" indicates that the purpose of valuation (e.g., the sale of a property) should be fulfilled on the valuation date. Determining a market value for a specific day represents an attempt to avoid problems related to its variability arising from the properties' changing characteristics (due to aging, etc.), new economic and financial developments, and the instability of buyers' expectations and preferences.

The key importance of demand for real estate valuation has been confirmed by modern classifications of real estate and proposed analytical models (Renigier-Biłozor, 2017). Significant changes in culture and populations have profound consequences for specific and spatial markets, changing the volume and structure of demand for real estate and, consequently, its value (Źróbek-Różańska, 2022).

The discussion in the Polish literature on the role of demand and supply in real estate valuation gained new momentum following the release of the seventh issue of the International Valuation Standards (IVS 2005). A new element in its interpretation of the market value was the requirement to consider a property's potential existing on the valuation date, which investors and developers are already aware of. The requirement revolutionized the perception of market value and valuation by shifting valuers' focus from the asset (the property) onto a typical, moderately efficient buyer.

Because market value must be determined on the valuation date and demand is more important than supply, investors' expectations of benefits from purchasing a property must also be considered on the valuation date. Therefore, the criterion of time is essential to understanding the model of real estate valuation. However, relevant market data are not available to valuers because the relative shortage of transactions involving real estate and the process of gathering them prevent finding data from the valuation date. Still, valuers are required to find transaction data as close to the valuation date as possible.

The real estate market is a highly imperfect, with low price elasticity of supply and demand. Moreover, the market's information efficiency is low because few transactions are available from specific and spatial markets (Kucharska-Stasiak, 2016). Property prices in these markets fail to fully and promptly react to changes taking place therein (see, for instance, Case & Shiller, 1989); as a result, the rationality of market players' decisions is impaired by incomplete and uncertain data. Market players perceive them through their personal preferences; also, their decision-making is guided not only by properties' prices but also by current fashion, tradition, and emotions (Farlow, 2004; D'Alessandro et al., 2020).

3. Investor-oriented model of valuation and the principle of anticipation

As mentioned above, the value of real estate is its external rather than internal attribute, indicating its relationship with the market (Sanders, 2018). Researchers frequently refer to Richard Ratcliff's observation that "*appraisal is largely the predicting of human behaviour under given market conditions*" (ibid.). A valuer must thus consider buyers' expectations of future benefits from having a given property. Their perception of a property is influenced by its potential, of which its current owner may not be aware. This approach has been reflected in court rulings. For instance, an Australian judge has ruled that the price a willing seller can receive for land on a specific day is not important; what is important is the price that a buyer willing to purchase the land would have to pay on that day so that its owner, who might accept a fair sale price but not any price, would go ahead with the transaction (Lawson, 2008). In Australia, the interpretation was accepted as applying to all valuations regardless of their purpose. Accordingly, the investor-oriented model of valuation draws on the anticipation principle, which is commonly recognized as one of the fundamental principles of valuation[1].

[1] The concept of valuation is strongly rooted in economics, as evidenced by the so-called economic principles of valuation. Fifteen valuation principles have been created (balance, highest and best use, substitution, change, competition, externalities, and the opportunity cost). (Real Estate Appraisal. Polish Edition, 2000).

Relevant to all valuation approaches, the principle of anticipation requires valuers to use available transaction data to identify the target group of buyers (individual investors, institutional investors, developers, etc.) to determine why they purchase a given category of properties and what prices they are willing to pay. The principle holds that property buyers are similar to investors in securities, who do not buy the past or present of assets, but future dividends and capital gains. Thus, they too are likely to consider their investments in terms of the present value of future benefits, including non-tangible ones such as the right to occupy the property, earn income, obtain tax reliefs, and increase the value of their investment. Buyers' expectations as to the future benefits from a purchased property influence their preferences.

The principle of anticipation explains that property buyers' decision-making is guided by their predictions of changes in the economic environment, potential income from a property, and property prices. The past and present are only important insomuch as they help investors determine today's benefits from a property and future patterns of income. The principle of anticipation also requires considering the possibility of a property having other uses than the current one as a factor influencing its value. Like investors, valuers must also take into consideration that the projected development of competitive properties or access roads may affect demand and consequently significantly affect property values. This means that, with the introduction of time in valuation, the aspect of risk must also be addressed.

There is still controversy in valuation methodology about what influences the future competitiveness of properties: is it only related to changes in the property itself (repair and modernization works, etc.), or is it also influenced by changes in the market? In the Polish methodology of valuation, the comparative approach uses the principle of anticipation at the stage of:

- collecting data on recent market transactions (Regulation by the Minister of Development and Technology on Real Estate Valuation §5.1). It is assumed that the data reveal investors' expectations of the future (depending on whether the market is rising or falling, investors may, respectively, be willing to pay more or put purchases on hold, hoping that prices will be lower in the future);
- analyzing buyers' preferences to assign appropriate weights to the property' characteristics (An Interpretative Note on the Use of the Income Approach for Real Estate Valuation 2009,).

In the income approach, the principle of anticipation serves the purpose of determining the income stream model (this can be a stable stream of income adjusted for inflation over an infinite period or a variable stream of income) and calculating the rate of return (represented by a capitalization rate and discount rate) to estimate the risk of earning income. The principle of anticipation is used differently, depending on the model of income. Namely:

1. in the first of the models, the level of rent on the valuation date is assumed based on recent lease agreements to be at the market level and show investors' expectations of the future. The risk of obtaining this rent, determined by endogenous and exogenous factors, is quantified through the rate of return;
2. in the second model, two options are possible:
   - the first of them assumes that an income stream may only change due to endogenous factors (expiring lease agreements, no-rent periods, periodic rent reductions, rent indexation, repair works, and partial or complete change in the use of the property) and that, after the forecast period, it stabilizes at the market level prevalent on the valuation date. Changes in the market are disregarded, and expectations of the future (e.g., growing competition, changing lessees' preferences) are indirectly accounted for in the rate of return (expressing the risk of earning income from a property), for which this income stream is called an indirect stream. Summing up, recent data are collected from the markets (transaction prices in real estate and rental markets) to present market players' expectations of the future.
   - in the second option, income stream changes in successive years are linked to changes in a property's state of repair and market fluctuations (in demand, supply, rent rates, operating costs, occupancy rates, and in the property's surroundings, etc.). This income stream is called a direct stream because occurring changes are directly reflected in its level[2].

[2] Created in the USA, the concept of direct income streams attracted significant interest in Great Britain in the 1990s (Henneberry & Crosby 2015, p. 8). It was also considered

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Both income models require the expectations of changes to be legitimate. This requirement has been established in the definition of market value, which describes it as an estimate "that is obtainable..." in a future transaction and not as a predetermined or actual sale price. It is the price that, given market expectations, is likely to enable a transaction on the valuation date and meets all other definitional criteria of a market value (EVS, 2020).

In the income approach, the principle of anticipation is also used in calculating and interpreting rates of return that represent the risk of earning income from a property and a market risk. The discount rate, interpreted as the minimum rate of return a buyer may expect, can be calculated from returns on relatively safe long-term investments in securities, allowing for the risk of investing in real estate in general and the risk of investing in comparable properties. When considering available investment options, investors compare the rates of return on different assets based on the alternative (opportunity) cost of investment, which in most cases is represented by the rate of return on T-bonds[3]. There are several reasons why this specific rate has been found useful in comparing investments in real estate: (1) the T-bonds' investment risk being lower than for real estate; (2) comparable investment periods (an average of 10 years in both cases); (3) the comparability of returns (T-bonds bear fixed rates of return, for which they are similar to fixed-term lease agreements that are common in the real estate market); and (4) investments in both T-bonds and real estate require substantial funding (the market for 10-year T-bonds is dominated by institutional investors who buy them in bulk). In valuation methodology, the rate of return on T-bonds, which is derived from the secondary market rates, is called a safe rate of return. Its level is adjusted for the expectations of future inflation and not for its level on the valuation date. The discount rate expected by investors is calculated by adjusting the safe rate of return for the risk of investing in the best properties in given specific and spatial markets and the risk of investing in a specific property.

Summing up, the market value of a property is an *ex-ante* construct focused on its future situation. Market data obtained from recent transactions describe the market as it is on the valuation date, but, in fact, they reflect the market players' expectations of the future. Investors' expectations of changes in the real estate market are reflected in the rate of return, which represents the odds of earning income from a property at the expected level. This indicates that knowledge of the economic rules of valuations is crucial to valuers presenting accurate and interpretable outcomes (Kucharska-Stasiak & Źróbek, 2015, pp. 5-13).

4. Practical applications of the investor-oriented model

Case 1. Investor-oriented model in valuing land for development

Although the above discussion has provided evidence supporting the need to include the expectations of typical buyers in valuation, this requirement is not respected in most regulated areas, a case in point being the valuation of land for development[4]. If some piece of land is suitable for a specific purpose for which there is demand in the market, then there is a group of investors for which it has value. In such a situation, a valuer needs to use recent transaction data on comparable properties to identify the group in terms of who these are (individual or institutional investors, developers), why they want to buy the land, and how much they may pay for it. The level of prices is set by investors competing for a given use of the land, which may be unrelated to its current use (The Appraisal of Real Estate 2013). Because land purchases are frequently made by developers and the development business is a risky one, the residual method of valuation drawing on D. Ricardo's theory of distribution (Landreth & Colander 2005, pp. 145-146) has been created to address their problems. Of the method's several variants (Real Estate Appraisal, 2000), one aims to determine the value of an improved property (i.e., one that has been developed, repaired, modernized, and

within the Polish valuation methodology (Projekt Standard Wyceny, 2018).

[3] See, e.g., W.D. Fraser, Principles of Property Investment and Pricing, The Macmillan Press Ltd, London 1993, ch. XII Lawson J.W.W. 2008, Theory of Real Estate Valuation, School of Economics, Finance and Marketing, RMIT Business, ch. 3. Discounted cash flow for Commercial property investments, RICS Practice Standards, UK 2011.

[4] Property development purposes are provided in the interpretative note on the use of the income approach for real estate valuation PFSRM: p.3.1. The residual method can be used to determine the market value of a property for purposes such as construction, reconstruction, expansion, upward extension, redevelopment, modernization, adaptation, or repair of a building.

given a new use). The value of the completed project is diminished by the cost of improvements (such as the cost of cleaning and levelling the ground, the architect's design fee, the supervision and construction costs, brokerage fees, and the developer's profit). Also considered is the cost of funds that developers usually borrow to reduce their risk exposure, represented by interest rates on the borrowed funds. Therefore, the residual valuation method also focuses on the entity (a typical developer) and not the asset. The approach was ignored when the pertinent regulations were being enacted in Poland. The regulation on real estate valuation (Dz.U. [Journal of Laws], 8 Sept., 2023, item 1832) requires that a property value be determined using the residual method as the difference between the value of the improved property (encompassing all improvement works or interventions made), (…) and the average cost of the latter, allowing for the developer's profit (ibid.) Thus, the regulation omits the financial aspects, which are important for investors, offering only a description of the discounted cash flow technique applicable to the developed properties.

Case 2. Investor-oriented model in valuing property's potential.

Scarce goods, such as real estate, are distributed in the market through the price mechanism. In an efficient market, successful buyers in the competition for a property are those who can find its most efficient use and pay the highest price (Kucharska-Stasiak 2016). The need for valuations to consider the efficient use of a property was highlighted in the IVS published in 2005, which established that each valuation report presenting a property's market value should give an insight into its optimal use unless the law states otherwise. This approach is believed to be a fundamental and integral component of market value determination. The optimal use of a property (the most advantageous use in the Polish terminology) is understood as a use that, in addition to being legally and physically possible, reasonable, and financially feasible, ensures the highest value of the property (MSW, 2005). It is also a use that investors or developers are already aware of on the valuation date. Finding the optimal use of a property does not require any secret knowledge; it is simply the repetition in a logical order of the same actions that a typical property buyer would perform (Rattermann, 2009). The requirement to study a property's potential was indicated as early as 2012 in the European Valuation Standards (EVS, 2012), which made it possible to consider a property's use that was illegitimate on the valuation date provided that it might become legitimate in the future and the market suggested that the property's price might increase in the future. Thus, the EVS legitimized considering the potential uses of the valued property, which might become possible with the introduction of new planning permissions for infrastructure expansion, the development of the market, etc. The regulation also enabled hope value to be included in a market value, which market players perceive through anticipated changes in the market and which is different from a market value that exclusively derives from "the optimal use of a property". Because the hope value determined on the valuation date is not required to meet any legal regulations, it can show the full market potential of a property, if there is one (EVS 2020). In determining the hope value, several factors need to be considered, such as the costs of changing the current use of a property, the time necessary to complete the project, and the risk of its failure should the current use of the property prove to be the optimal one. Therefore, the optimal use of a property is the most probable use that has already attracted buyers' attention. Summing up, in the process of determining the market value of a property, not only the current zoning plans but also the likelihood that they will change (hope value) should be taken into account (Drapikovskyi et. al., 2020).

The hope value of a property is thus associated with its potential use that is not legally possible on the valuation date (due to the lack of laws that might legitimise, etc.), but there are signs that such use may become lawful in the future because properties similar to the valued one have already been purchased by investors and granted appropriate permissions. Property valuation requires analyzing the typical behaviors of buyers rather than inventing them. The price that a prospective buyer may want to pay for a property is estimated by a valuer based on findings regarding its optimal use. When such use already exists in the market but is omitted from valuation, its outcome will be a use value rather than a market value, the same as consumers assign to commodities and services based on their usefulness (Rattermann, 2008).

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Case 3. Investor-oriented model in calculating adjacency fees for subdivided land

The practical dimension of the investor-oriented model of valuation also comes forward when adjacency fees for subdivided land are being calculated. The Real Estate Management Act was the only regulation to provide valuation rules for this specific case. The rules established that a valuer should calculate the difference between a land's value before and after subdivision, but failed to explain how the value of the subdivided land should be determined, which led to interpretational inconsistencies. Court rulings present two extreme positions on this matter, one requiring the pre-division value of the land to be determined and the other instructing that the value of the subdivided land should be presented as the sum of the values of the parcels. The first of the positions was supported by the Voivodeship Administrative Court in Poznań, which ruled that presenting the value of the subdivided land as a sum of the parcels was inappropriate because they did not have the status of independent assets, and the purpose of valuation is to determine the value of a property and not of its components (ruling by the Voivodeship Administrative Court in Poznań, 21 Feb. 2013). While the ruling was based on the legal aspects of the problem, the Court failed to notice that Art. 98a of the Real Estate Management Act allowed adjacency fees to be charged from the day when the decision confirming the subdivision of a property came into effect, or when the ruling about the property subdivision becomes legally binding. Obviously, subdivision does not alter a property's area, location, or access to infrastructure and, therefore, its value, which might justify charging an adjacency fee (Małecki, 2016). Different perspectives were presented by the Arbitration Commission at the Polish Federation of Property Valuers' Associations, the Department of Real Estate Management of the Ministry of Infrastructure and Development, the Association of Real Property Valuers in Łódź, as well as courts (Małecki, 2016, pp. 141-158). According to the opinion the Arbitration Commission issued on 31 Oct. 2013, the value of the subdivided property should be determined by adding up the values of the resultant parcels, as they acquire individual market characteristics following subdivision (as quoted in Małecki 2016). The Department of Real Estate Management of the Ministry of Infrastructure and Development established that the value of the subdivided property was to be presented as the aggregate value of individual parcels seeing as how they could be traded separately, even though, in light of the Civil Code, they constituted a single property on the day subdivision was performed. This rational approach was confirmed in the amended property management act of 2017, whose art. 98.1b establishes that "*the value of a property is taken as the aggregate value of the parcels comprising the subdivided property, which can be put to use individually.*" Valuers performing valuations to calculate adjacency fees need to consider the benefits of the entity that purchased the property and subdivided it to sell individual parcels.

5. Synthesis, discussion and key conclusions

Economic theory provides convincing arguments in support of valuers using the investor-oriented model. The period they analyze is so very short that supply remains constant. Called a market period by A. Marshall (1925), it is frequently likened to the snapshot of a flying ping-pong ball, whose trajectory does not show whether it will continue to rise or start falling. A. Marshall posited that in the market period, in which the non-price factors (quality, expectations of future changes) are as constant as supply, value is a function of demand. With the investor's perspective becoming the dominant factor in property market analyses, their focus shifted from the asset to the entity, resulting in properties' values being increasingly determined by buyers' expectations. This change had a significant effect on valuation methods and practices, as it made valuers consider the usefulness of properties for investors and developers who represent the demand side of the market. Rational buyers are not interested in either the past or present performance of a property; their focus of interest is on the future of their investment. One of the valuer's responsibilities is to use recent transaction data to identify the target group of buyers for a given property and establish who they are (individual or institutional investors), why they may want to buy the property, and how much they may be willing to pay for it. According to the article's findings, the process of valuation should consider the legal, economic and technical aspects of a property at the same time, as omitting any of them leads to misleading outcomes.

The economic aspect of valuation requires allowing for the benefits of the investors who commit themselves to increasing a property's value by developing it, finding its best use, or subdividing it. Unfortunately, the requirement to determine the

property's potential arising from the interpretation of a market value, was met with harsh and ongoing criticism in Poland, mainly from the practitioners who prefer to value properties based on their current or alternative use. The opponents of the dominant role of demand, who fail to notice the role of the time factor in market analyses, appear to believe that accepting it would amount to suspending the fundamental economic law of demand and supply (Prystupa, 2010). Hence, they also question the investor-oriented model of valuation. The problem of the poor understanding of the model goes beyond professional debates; it has also revealed itself in legal regulations, such as the regulation on real estate valuation establishing the residual method issued by the Minister of Development and Technology of 5 Sept. 2023 (Dz.U. [Journal of Laws], item 1832, §17), and in court rulings on valuations performed to determine the level of adjacency fees for subdivided properties (Małecki, 2016, p.7.3).

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