

“The bankrupt entity’s assets valuation methods: Polish approach”

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ARTICLE INFO

Krzysztof Gawron, Alina Yakymchuk and Olena Tyvonchuk (2019). The bankrupt entity’s assets valuation methods: Polish approach. *Investment Management and Financial Innovations*, 16(3), 319-331. doi:[10.21511/imfi.16\(3\).2019.28](https://doi.org/10.21511/imfi.16(3).2019.28)

DOI

[http://dx.doi.org/10.21511/imfi.16\(3\).2019.28](http://dx.doi.org/10.21511/imfi.16(3).2019.28)

RELEASED ON

Monday, 07 October 2019

RECEIVED ON

Tuesday, 25 June 2019

ACCEPTED ON

Monday, 30 September 2019

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JOURNAL

"Investment Management and Financial Innovations"

ISSN PRINT

1810-4967

ISSN ONLINE

1812-9358

PUBLISHER

LLC “Consulting Publishing Company “Business Perspectives”

FOUNDER

LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

28



NUMBER OF FIGURES

0



NUMBER OF TABLES

4

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BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine

www.businessperspectives.org

Received on: 25th of June, 2019

Accepted on: 30th of September, 2019

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THE BANKRUPT ENTITY'S ASSETS VALUATION METHODS: POLISH APPROACH

Abstract

The assets of a business entity that is subject to bankruptcy proceedings form bankruptcy estate. The correct assessment of its value is a necessary pre-condition to save time and cost effective bankruptcy proceedings. The article presents the valuation methods applied in Poland for assets consisting of real estate and movables that collectively constitute the bankruptcy estate. The main objective of this study is to assess the reliability and efficiency of the appraisals of book, market and forced sale value in relation to the possibility of correct estimation of funds obtained from the sale of individual assets in the course of liquidation proceedings. The article presents the results of a study conducted in 15 intentionally selected enterprises in bankruptcy operating on the territory of Lubelskie Voivodeship in Poland. It offers the analysis of applied valuation methods and the description of specific conditions of sale of bankrupt entity's assets in accordance with legal regulations and applied practices. In particular, it compares the differences in the value of the examined assets determined by different methods and identifies the reasons for these differences. The most important conclusion of the study is the fact that neither the market value nor the book value allow for reliable estimation of the revenues that could be obtained from the sale of the bankruptcy estate, which makes it impossible to determine the probable level of satisfaction of creditors' claims. The specific nature of sale under bankruptcy justifies the use of the forced sale value despite difficulties connected with its estimation. The basic recommendation is the necessity to supplement the valuation report with the estimation of the forced sale value along with the comprehensive description of the algorithm of its calculation.

Keywords

assets valuation, book value, market value, forced sale value, bankruptcy, liquidation

JEL Classification

G33, M41, D46

INTRODUCTION

Bankruptcy is a legal instrument, which enables creditors to jointly pursue claims against insolvent debtors. Its aim is to ensure that creditors' claims are satisfied fairly and to the highest possible degree. The main sources of bankruptcy law in Poland are the Bankruptcy Law Act as of February 28, 2003, which regulates the procedures involved in bankruptcy estate liquidation, and the Restructuring Law Act as of May 15, 2015, which regulates the restructuring proceedings. The decision to declare liquidation bankruptcy is taken by the court after examining an application filed by an insolvent debtor or one of his creditors, provided that it is not possible to effectively restructure the given entity. This procedure is aimed at obtaining funds necessary to satisfy creditors' claims by selling the enterprise, its organized part or its assets.

Bankruptcy systems worldwide are based on similar foundations and pursue similar objectives. Nevertheless, certain differences may also be observed in different countries. This results from many factors that influence the development of national bankruptcy systems. These include, among others, the applied system of law, both civil and com-

mon, the adopted principles of economic and social policy, various cultural customs and traditions, the size of the economy and the level of its development, preferences in the methods of dispute resolution in either judicial or extra-judicial proceedings, the attitude to the liquidation of an insolvent entity (Prusak, 2011, p. 122).

There are several classifications of bankruptcy systems in the world. In their research, La Porta, Lopez-de-Silens, Shleifer, and Vishny (1997) distinguished the countries in which the treatment of the debtor and his creditors developed under the influence of common law and those in which it results from the development of civil law (La Porta et al., 1997). Countries belonging to the first group, e.g. the UK, the USA, Canada, Australia or Israel, grant a greater range of rights to creditors and investors at the expense of protecting the rights of debtors. The second group includes countries, which have built their bankruptcy system on the basis of civil law, mainly of German origin (e.g. Germany, Austria), French origin (e.g. France, Belgium, Italy) or Scandinavian origin (e.g. Denmark, Sweden).

However, recent research has shown that the development of bankruptcy systems is currently less affected by the origin of law, but is increasingly affected by institutional changes in economics and politics, as well as by other approaches to law interpretation, technological progress, emerging crises and corruption (Berglof, 2001). The basic classification of global bankruptcy systems is their division into restrictive and liberal systems (Sgard, 2006). The first group is used in countries that focus mainly on attracting the investors and foreign capital. Restrictive bankruptcy systems protect first and foremost the interests of creditors. The purpose of bankruptcy proceedings is to maximize the satisfaction of their claims, most frequently through the liquidation of the debtor's entity. The systems favoring creditors are found in the UK, Germany, Japan, Italy, China and Sweden. Liberal systems are characteristic of countries focused on economic stability and job protection. The solutions adopted in this model protect the debtor's enterprise and include instruments that enable taking restructuring actions to postpone the deadline for repayment of liabilities. The countries favoring debtors include, for instance, France, Spain, countries of Latin America, the Middle East and Africa. The mixed system, which exists, inter alia, in the USA and Canada, seeks to find a balance between the protection of the interests of debtors and creditors. In recent years, many countries and international organizations have taken steps to reform their bankruptcy laws. The undertaken reforms aim at increasing the importance of reorganization and restructuring procedures and at minimizing the number of liquidation proceedings. An example of such an approach is also the implementation of bankruptcy law reforms in Poland.

In Poland, the initiation and implementation of bankruptcy proceedings is one of the basic premises for the valuation of the business entity's property. Valuation consists in appraising the value of the enterprise and its assets as well as the economic effects of the decisions made; the level of quality of such valuation should ensure that the recipients of this information are able to assess the effects of actions taken in the past and make the most advantageous decisions in the future (Kamela-Sowińska, 2006, p. 22).

Despite doubts related to the valuation reliability and the need to incur additional costs and often also to extend the time of bankruptcy proceedings, valuation is a necessary and fundamental procedure to achieve the objectives of bankruptcy as a legal instrument. Correct appraisal of the assets value is the basis for making rational decisions, which allows for effective and efficient bankruptcy proceedings, but also for taking appropriate actions related to bankruptcy proceedings both before their formal commencement and at each stage of their implementation (Ratner, Stein, & Weitnauer, 2012, pp. 13, 96, 98).

The category of value determined in the course of valuation is closely related to the type of prices applied. Pursuant to the provisions of Polish bankruptcy law, the assets composing the bankruptcy estate must be appraised based on their book value, mainly for the purpose of financial reporting, and based on the market value. The market value of the bankruptcy estate should enable the most reliable estimation of the amount of funds obtainable from the sale of this estate in the course of liquidation proceedings, and

thus enable the assessment of the anticipated degree of the satisfaction of creditors' claims. Due to the specific nature of sale under bankruptcy proceedings, in addition to the market value, some values also determine the forced sale value. The present article provides an assessment of bankruptcy assets valuation according to the above three types of value in terms of their objectivity, accuracy and usefulness in achieving the objectives of bankruptcy proceedings in Poland.

1. LITERATURE REVIEW

1.1. Bankruptcy estate as a subject of valuation

On the day of the declaration of bankruptcy, regardless of the adopted mode of its conduct, the debtor's assets become the bankruptcy estate. This consists of assets belonging to the debtor's enterprise at the moment of bankruptcy declaration by the court and assets acquired in the course of bankruptcy proceedings. Certain assets are exempt from this rule, including items necessary for the survival of the debtor and the maintenance of his family for at least two weeks and other assets excluded from the bankruptcy estate pursuant to a resolution adopted by the Creditors' Meeting (Bankruptcy Law, 2003, Arts. 63, 64, 121). The assets comprising the bankruptcy estate are determined by the receiver of a bankruptcy who makes an inventory and a list of claims. The inventory register should contain a list of all rights, movable property, real estate, cash in hand and bank deposits administered by the receiver (Bankruptcy Law, 2003, Art. 69). The inventory and the list of claims are prepared on the basis of books of account and undisputed documents.

The most common practice, especially in the case of bankruptcy of entities having significant assets, is to appoint a court expert to prepare a proper valuation of the assets comprising the bankruptcy estate. The current legal provisions do not clearly specify the criteria for the selection of such an expert. It is typically made on the basis of recommendations made by the head of the enterprise or creditors, depending on the nature of the enterprise's activity and its assets. However, if the entity's assets include real estate, which applies to a vast majority of business entities, the choice of a court expert is made from among persons having professional qualifications of a certified assets value who in such a case has no right to refuse to perform this function.

The aim of the valuation of entity's individual assets is to determine the current value of these assets. The provisions of Polish bankruptcy law do not specify the type of the estimated value or the methods and techniques of such valuation. The key issue in the dispute over the valuation of assets in bankruptcy is the choice between "going concern values" and "liquidation values". If a given entity intends to continue its operation in a substantially non-decreased scope, it is assumed that the assets held by it are adapted to the conducted business activity. Their value will be gradually transferred to the value of manufactured goods or rendered services. Therefore, the assets value of such an entity can be determined by appraising the future economic benefits of the entity generated by having and using a particular asset. The assets value of such an entity can also be determined on the basis of their prospective sale at prices that include the anticipated profit margin. "Going concern values" take into account future events and the need for discounting for risk and the time value of money (Fortgang & Mayer, 1985, pp. 1063-1064). If the going concern assumption is unjustified, the assets liquidation value is determined. It depends on how much time the seller has at his disposal and who, where and how sells. Hence, a distinction is often made between orderly and forced liquidation (IVS, 2017, IVS104 par. 80.1). In the first case, there is a reasonable time for the sale of assets under normal market conditions. In the latter case, assets are liquidated as quickly as possible and the obtained sale price is below the market value.

1.2. Book value

The book value is determined by the application of prices at which given assets are included in the balance sheet of a business entity. The currently applicable IFRS regulations and the provisions of the Polish Accounting Act allow to distinguish two basic models of balance sheet valuation, i.e. the historical cost model and the fair value model.

The historical cost model is based on historical cost measures and the prudent valuation principle. At the balance sheet date, the initial value of an asset is decreased by depreciation write-offs, if it is subject to depreciation, and write-offs for impairment losses, if any. Impairment losses arise when “it is highly probable that an asset controlled by the entity will not bring in future, in large part or entirely, expected economic benefits” (ISAP, 1994).

The fair value model, as its name suggests, uses the fair value as a valuation parameter. At the balance sheet date, the value of an asset disclosed in the books of account is revalued to its fair value through a revaluation write-down or write-up. Under this model, it can result in both a reduction and an increase in the current value of the asset.

The Polish Accounting Act indicates the dominating role of the historical cost model, although in certain situations it allows for a departure from historical costs in favor of the fair value. This is due to the fact that the prudence principle is emphasized as a decisive factor in the process of balance sheet valuation of assets. This is a general method of balance sheet valuation of assets of the going concern. It is applied to entities that are subject to restructuring procedures.

A rejection of the going concern assumption results in that the balance sheet valuation of the entity's assets is based on “the net realizable value, not higher than their acquisition price or manufacturing cost, less any previous depreciation and amortization write-offs and write-offs for impairment losses” (ISAP, 1994, Art. 29). This is a typical case of bankruptcy proceedings aimed at liquidation of the bankruptcy estate. If the net realizable value is less than the value determined on the basis of acquisition price, manufacturing cost or fair value, an adjustment should be made by way of a revaluation write-down. If the historical cost value is less than the net realizable value, the prudence principle should be applied.

In summary, valuation in accordance with the Polish accounting principles does not allow to increase the values disclosed in the balance sheet if the market value exceeds the book value, even if it was justified and documented in the valuation prepared by an assets value. From the point of view

of bankruptcy proceedings, only the information about the current value of the debtor's assets realizable in the case of forced sale is crucial, and for this purpose the balance sheet valuation cannot be entirely considered as useful, in particular in the case of fixed assets (Bauer, 2014, p. 658). The balance sheet value may constitute a starting point for the valuation of the enterprise as a whole using property methods (Ratner et al., 2012, pp. 25-27) or a basis for determining the value of real estate using the so-called accounting method (Mooya, 2016, pp. 52-54).

1.3. Market value

Market value is clearly defined globally as “the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion” (EVS, 2016, EVS1; IVS, 2017, IVS104; RICS, 2017, VPS4). An identical definition is also introduced in Polish law (ISAP, 1997, Art. 134) and Polish valuation standards (PFSRM, 2017, par. 2.1). The above definition emphasizes two basic assumptions of market value estimation. The first is to ensure proper marketing of the sold asset, in particular the length of its exposure to the market should be sufficient to attract an adequate number of potential buyers. The second premise is that both the seller and the buyer are not forced to enter into and complete the transaction. The market value is therefore the price that would appear on a hypothetical contract or equivalent document at the valuation date, reflecting all the factors taken into account in the preparation of the bids by all market participants and the highest and best use of the asset, i.e. the one that maximizes its productivity and is possible, legally permissible and financially feasible (IVS, 2017, IVS104).

An assets value that appraises the market value of the assets of the bankruptcy estate, both real estate and movable property, has, within the framework of applicable laws, exclusive rights to select the approach, method and technique of valuation. In the case of real estate, the choice of valuation method depends in particular on: the purpose of valuation, type and location of the real estate, its intended

use, the level of technical infrastructure, the state of development, available data on prices, income and characteristics of similar real estate items.

The methods of determining the market value of real estate have been described in detail and regulated by professional standards of assets values. Three basic approaches are distinguished: market, income and cost (RICS, 2017). The market approach is a set of procedures used to determine the value of a real estate object by comparing it with other similar entities sold during the given period using the appropriately selected comparative units to adjust the sale prices realized. Three valuation methods were developed within the market approach, i.e. comparison in pairs, average price adjustment and statistical market analysis, the last of which being applied much less frequently (PFSRM, 2009c). The income approach may be applied to real estate that generates or can generate reliably measurable income, assuming that the potential buyer pays a price for the real estate based on that income. The value of the real estate in bankruptcy is determined using the simple capitalization or discounted cash flows technique (PFSRM, 2009b). The cost approach is used to determine the reconstruction value of a real estate object and is used for objects that are sold very rarely or are not at all subject to market trade. The value of the object is defined as the sum of the cost of land acquisition and the cost of reconstruction of other parts of the real estate (PFSRM, 2009a).

While the valuation methods for real estate are well described in the valuation standards, in the case of other types of assets forming part of the bankruptcy estate, there are no separate, specific rules for estimating their value. Thus, when determining the market value, court experts who appraise the value of the bankruptcy estate use the approaches developed for real estate.

1.4. Forced sale value

If, for any reason, the seller is under constraints that require the sale of an asset in conditions that do not comply with the definition of the market value, the obtainable amount is equated with the forced sale value. At the same time, the European standard emphasizes that such a value does not constitute a new basis for the value, but is a type

of market value with a special marketing assumption. This usually means that the valuation is made when the sale has to be made in too short a time to get the best bid. The standard emphasizes that the value can help the seller to determine the price that should be accepted in forced sale circumstances, but this is only a commercial judgment. “Any relationship between the price achieved by such a sale and the market value is coincidental” (EVS, 2016, EVS1 par. 5.10.8).

IVS treats the forced sale value as one of the premises that may affect the determination of the liquidation value, which in this case is, in addition to the market value, one of the basic values (basis). According to this standard, a forced sale reflects the most likely price that a particular real estate item can bring in the following conditions:

- a) consummation of sale within a short time period;
- b) the asset is subject to market conditions prevailing as of the date of valuation or assumed timescale;
- c) both the buyer and the seller are acting prudently and knowledgeably;
- d) the seller is under compulsion to sell;
- e) the buyer is typically motivated;
- f) both parties are acting in the manner they consider best;
- g) a normal marketing effort is not possible due to the brief exposure time (IVS, 2017, IVS104, par. 170.3).

In such a case, the price is affected not only by the interplay between demand and supply in a given market segment, but also by other important factors affecting the sale (Renigier-Biłozor, Walacik, Żróbek, & d’Amato, 2018, p. 104).

The forced sale value was defined for Polish assets values as “the amount of money obtainable from the sale of real estate when the seller is under compulsion to sell it” (PFSRM, 2014, par. 3.1). The standard emphasizes that, while making a valua-

tion, the value should take into account important and specific circumstances relevant to the seller, and not the circumstances in which a hypothetical seller would act on an arm's length basis.

Although the concept of forced sale is quite clearly defined, there is a lack of clear procedures to determine the value to be used for this type of sale (Renigier-Biłozor et al., 2018, p. 105). The primary method of determining the value of a forced sale is to adjust the estimated market value by a discount, called the forced sales rate. There is a substantive body of literature related to the determination of this rate for forced sale of real estate. Donner, Song, and Wilhelmsson (2016) presented an overview of the research in this area in the period 1990–2012, conducted mainly in the USA. The estimated value of the discount rate in the quoted articles ranged from 3% to 36%. The authors also determined the value of this rate for flats and single-family houses in Sweden, which, depending on the type of real estate, ranged from 20.1% to 29.1% (Donner, Song, & Wilhelmsson, 2016, pp. 61-63).

Čibera and Krabec (2017) presented a study on the difference between the estimated market value of assets and the price obtained in the circumstances of a forced sale under bankruptcy proceedings in the Czech Republic. The established discrepancy between the actual and estimated price of assets fluctuated by more than 30%. The authors also identified six possible causes for this situation, i.e.:

- 1) incorrect selection of the value category in relation to the purpose of valuation;
- 2) qualitative changes in the assets from the moment of valuation until the sale;
- 3) information asymmetry and alternative costs on the part of the insolvency administrator;
- 4) behavior and the nature of potential investors;
- 5) poor quality of expert valuation;
- 6) “negative goodwill” of insolvency (Čibera & Krabec, 2017, pp. 136-135).

In Poland, the Federation of Values' Associations in cooperation with the Polish Bank Association

conducted research in 2008 into the methods of determining the forced sale ratio for real estate. The findings indicated the existence of a correlation between the discount value and the liquidity of the given property. The estimated forced sale discount rate ranged from 0.4 for the least liquid properties to 0.1 for the most attractive properties located in large urban agglomerations (Malecka-Pilujska, 2009, p. 8).

A common solution used by Polish values is to compare the forced sale value with the value obtained as a result of enforcement proceedings. In this respect, the law clearly states that the starting price of a property sold by public auction as part of enforcement proceedings, in the case of the first auction, is equivalent to 3/4 of the value estimated by the certified assets value. The starting price in the second auction, if the first auction was unsuccessful, equals 2/3 of the estimate (ISAP, 1964, Arts. 965, 983). On this basis, some court experts adopt the values of adjustment factors in the range of 20%-33%.

In the literature one may also find model proposals for forecasting the value of a forced sale based on the expected market exposure time of the sold asset and other factors. These include both the traditional models based on subjective appraisal of values and the methods based on advanced automated procedures referred to as automated valuation methods. The most popular and best known method used in this case are hedonic models using linear regression techniques (Renigier-Biłozor et al., 2018, p. 106). The use of such models is discussed, inter alia, in Donner et al. (2016), Favara and Giannetti (2017), Michaletz and Artemenkov (2018), Shabeka (2018).

2. AIMS

The aim of the study is to present the specificity of the valuation of real estate and movable property comprising the bankruptcy estate of enterprises that are subject to bankruptcy proceedings aimed at liquidation of the debtor's assets in accordance with the binding legal regulations and current practices applied in Poland. Another aim is to analyze the reliability and usefulness of the valuation using the book method, the market method and

the forced sale value for the effective implementation of the main objective of the proceedings. In particular, the study evaluates the possibility of correct estimation of the value of funds obtainable from the sale of individual assets in the course of implementing the liquidation procedures. In order to meet the above aims, three detailed research questions have been additionally formulated:

- 1) Does the balance sheet valuation of the assets make it possible to estimate the value of the bankruptcy estate?
- 2) Do the conditions for the sale of assets under liquidation bankruptcy justify the use of the market value as a parameter for the valuation of the assets comprising the bankruptcy estate?
- 3) Is it justified to estimate the forced sale value of the assets comprising the bankruptcy estate from the point of view of the purpose, conditions and limitations of such a valuation?

3. METHODS

The basic research methodology used in this article combines a critical review of the subject literature, legal acts binding in Poland, as well as Polish and international standards of valuation with a case study. Conducting the detailed analyses of bankruptcy and restructuring proceedings in Poland is currently very difficult and requires each time individual consent of the court, which conducts specific proceedings. It was supposed that the situation would improve after the establishment, in line with the EU requirements, of a Central Bankruptcy and Restructuring Register. The obligation to establish it was included in the Polish Bankruptcy Law Act and in 12 other legal acts. However, despite works lasting over 25 months and outlays amounting to PLN 10 million, the register has not been created. The Ministry of Justice has recently decided to completely abandon this project. It might be replaced by another register, the so-called National Register of Indebted, which should launch in December 2020.

The empirical research covered the enterprises operating on the territory of Lubelskie

Voivodeship in Poland that were subject to bankruptcy proceedings conducted in the District Court Lublin-Wschód with the seat in Świdnik, IX Commercial Division for Bankruptcy and Reorganization. After a preliminary analysis of the available court files, 15 business entities were selected for further in-depth examination. These entities were selected in a deliberate and non-random manner. The basic selection criterion were entities, which used the services of different certified assets values. The selected entities constitute a case study, not a random sample representative of the entire population of enterprises that went bankrupt at that time. They were selected in order to illustrate and assess the most diverse and practical solutions used by entities involved in bankruptcy proceedings to appraise the value of the bankruptcy estate within the framework of regulations commonly applicable to all business entities operating in Poland. The adopted criterion for selecting the examined entities allowed to choose entities with different legal form, size, structure of assets and level of debt.

The valuation reports drawn by certified values appointed by the court to estimate the value of the bankruptcy estate, as well as financial statements submitted to the proper court register, have been submitted to a thorough analysis. Interviews conducted with three judges presiding over the examined proceedings have been a significant contribution to the conducted analyses. Additional sources of information have been other reports prepared by receivers, administrators and court supervisors, as well as judicial and other documents collected in the examined court files.

4. RESULTS

The valuation of the book value of the assets and liabilities in the examined entities was performed in accordance with Polish balance sheet law, none of the analyzed enterprises prepared their financial statements using International Financial Reporting Standards. The valuations rejected the going concern assumption. The value of assets was established at the level of net realizable value, taking into account the prudence

Table 1. Balance sheet value of assets and liabilities of the examined entities as at the day preceding the declaration of bankruptcy

Source: Own data.

No.	Balance sheet total (EUR)	Fixed assets (EUR)	Current assets (EUR)	Equity (EUR)	Liabilities and provisions for liabilities (EUR)
1	77,020	71,038	5,982	-18,458	95,478
2	377,627	35,680	341,948	151,429	226,199
3	2,540,122	2,431,145	108,977	-398,663	2,938,785
4	4,875,226	3,534,472	1,340,754	-34,495,078	39,370,304
5	6,919,472	3,254,923	3,664,549	-1,676,181	8,595,653
6	783,602	142,396	641,206	239,809	543,793
7	2,699,567	448,471	2,251,096	-3,568,593	6,268,160
8	1,209,612	804,305	405,307	-23,491	1,233,103
9	210,773	20,762	190,011	-1,694,583	1,905,356
10	1,798,929	1,351,710	447,219	-2,033,267	3,832,195
11	627,140	500,351	126,789	-162,327	789,467
12	513,988	324,943	189,045	-544,136	1,058,124
13	374,293	360,261	14,032	187,732	186,561
14	2,605,314	27,558	2,577,756	-9,872,693	12,478,007
15	43,522,697	38,123,947	5,398,750	12,644,436	30,878,261

principle. The assets that have lost their value in use or trade as a result of the cessation of operation were written off against costs. Provisions were also made for expected additional costs and losses resulting from the discontinuation or inability to continue as a going concern, including additional costs resulting from the ongoing bankruptcy proceedings. The differences resulting from the performed valuation and related to the created provisions decreased the value of the equity. The book values of assets and liabilities of the examined entities as at the day preceding the declaration of their bankruptcy are presented in Table 1.

The estimation of the market value of the assets comprising the bankruptcy estate in the examined entities was conducted by court appointed certified values. The valuation of real property was performed in accordance with Polish valuation standards. The values used mainly the comparative method. Income methods were used mainly for the valuation of real estate objects from which the enterprises benefited through rent, lease or tenancy. The cost approach was used for specialized properties that were non-marketable. A detailed list of methods used to determine the market value of real estate is presented in Table 2.

The valuation of the market value of movable assets was carried out using a combined approach,

which included elements of the comparative and cost approach. The comparative approach made it possible to determine the market value of an asset as being equal to the average transaction price obtained for similar objects adjusted for distinguishing features and time-related wear. When estimating the value of movable fixed assets, the cost approach with an adjustment of their value to market prices was mainly used. For this purpose, the following were taken into account:

- 1) the price of new objects which are the same or similar to the ones subject to valuation;
- 2) the degree of technical deterioration and moral depreciation;
- 3) how up-to-date the structure is by comparing it with the currently produced structures;
- 4) the development of supply and demand.

When valuing inventories as a component of bankruptcy estate, much wider access to market prices of similar market items made it possible to apply the comparative approach. The estimated value of these items was determined based on the average transaction price of similar assets, including the necessary adjustments related to their physical condition, usefulness

Table 2. Methods of valuation of real estate comprising the bankruptcy estate of the examined entities

Source: Own data.

No.	Estimated value	Approach	Method/technique
1	market	comparative	comparison in pairs
2	n/a	n/a	n/a
3	market	comparative	average price adjustment
	market	cost	reconstruction cost
	forced sale	adjustment of the determined market value using the comparative method	
4	market	comparative	comparison in pairs
	market	cost	reconstruction cost/unit-in-place
5	market	comparative	comparison in pairs
	market	income	investment/simple capitalization
	market	cost	reconstruction cost
6	market	comparative	comparison in pairs
7	n/a	n/a	n/a
8	market	income	investment/simple capitalization
	market	comparative	average price adjustment
9	market	cost	reconstruction cost
	n/a	n/a	n/a
10	market	comparative	comparison in pairs
11	market	income	investment/simple capitalization
	market	comparative	comparison in pairs
	market	comparative	average price adjustment
12	market	income	investment/simple capitalization
13	market	comparative	comparison in pairs
	market	cost	reconstruction cost
14	n/a	n/a	n/a
15	market	comparative	comparison in pairs
	market	income	discounted cash flows

and marketability. For this purpose, the results of the inventory made were used.

The valuation for forced sale was made by a certified assets value appointed to prepare a valuation report on the assets comprising the bankruptcy estate in only one of the analyzed companies. The receiver attempted to sell the assets according to the estimated value, but despite the costly and aggressive exposure, including several announcements and direct reaching out to potential buyers, the procedure was not successful. In the revaluation report, the certified value determined the adjusted value for the purpose of forced sale. The adjustment factor was established on the basis of the adopted attractiveness factor and the price incentive factor. The first factor indicates an increase or decrease in attractiveness due to additional features. The second factor relates to market activity and the expected duration of market exposure. In the present case, based on market analysis and in-

formation obtained from intermediaries, the certified value established the final value of the discount rate for forced sales at 18%. It was used to determine the forced sale value of both real estate and movable property. However, the prepared valuation report did not contain a detailed description of the algorithm used for estimating the rates.

Due to the fact that the valuation reports on the assets comprising the bankruptcy estate in the analyzed entities did not contain the estimation of the forced sale value, the author of this article calculated their hypothetical, approximate value using the above-described discount rate. The use of the same forced sale rate is a substantial simplification and serves only to indicate the potential impact of such an adjustment on the final result of the valuation. Tables 3 and 4 present the comparison of the established book values, market values and hypothetical forced sale values.

Table 3. Valuation of real estate comprising the bankruptcy estate in the examined enterprises

Source: Own data.

No.	Real estate (land, buildings and structures, investment property)				
	Book value (EUR)	Market value (EUR)	Forced sale value (disc. rate. 18%) (EUR)	Relative difference between book and market value (%)	Relative difference between book and forced sale value (%)
1	2,253,596	1,640,938	1,181,475	27	48
2	n/a	n/a	n/a	n/a	n/a
3	1,266,852	3,973,714	2,861,074	-214	-126
4	2,529,703	5,532,798	3,983,614	-119	-57
5	986 866	6 987 125	5 030 730	-608	-410
6	43,891	550,000	396,000	-1,153	-802
7	n/a	n/a	n/a	n/a	n/a
8	236,507	1,427,000	1,027,440	-503	-334
9	n/a	n/a	n/a	n/a	n/a
10	2,169,163	4,526,775	3,259,278	-109	-50
11	486,324	1,098,339	790,804	-126	-63
12	214,741	385,874	277,829	-80	-29
13	357,883	370,000	266,400	-3	26
14	n/a	n/a	n/a	n/a	n/a
15	7,166,112	5,291,250	3,809,700	26	47
On average				-260	-159

Table 4. Valuation of movable property comprising the bankruptcy estate in the examined enterprises

Source: Own data.

No.	Movable property (fixed assets other than real estate, inventories)				
	Book value (EUR)	Market value (EUR)	Forced sale value (disc. rate. 18%) (EUR)	Relative difference between book and market value (%)	Relative difference between book and forced sale value (%)
1	1,703,870	250,561	180,404	85	89
2	118,533	144,237	103,851	-22	12
3	988,174	732,875	527,670	26	47
4	1,706,962	1,815,651	1,307,269	-6	23
5	2,885,765	3,448,658	2,483,034	-20	14
6	301,007	128,296	92,373	57	69
7	2,478,357	5,575,000	4,014,000	-125	-62
8	636,987	726,900	523,368	-14	18
9	20,762	14,425	10,386	31	50
10	428,355	208,047	149,794	51	65
11	59,878	205,400	147,888	-243	-147
12	128,625	131,938	94,995	-3	26
13	4,029	146,025	105,138	-3525	-2510
14	1,298,342	1,224,543	881,671	6	32
15	18,465,448	16,614,076	11,962,135	10	35
On average				-246	-149

5. DISCUSSION

The correct valuation of assets of a business entity is crucial for the effective conduct of bankruptcy proceedings. However, in this context, the role of balance sheet valuation is limited. It can form the basis for verifying the state of the debtor's insolvency or be a preliminary estimation of the bankruptcy estate. However, the value of assets determined for the purposes of the balance sheet, based on legally binding valuation models, differs significantly from the value estimated by the value. The presented study explicitly shows that the application of the prudence principle in the valuation of real estate results in a significant undervaluation of these assets in the prepared balance sheet. In the examined entities, the book value of both real estate and movable property was about 250% lower than their market value determined by certified values. Even taking into account the specific nature of the sale of the bankruptcy assets using the forced sale rate, the balance sheet value still remains significantly lower. This clearly results from the application of the prudence principle, which does not allow to increase the historical book value, even if the net sale price of the asset on the market is higher. External users of the financial statements cannot correctly estimate the value of the bankruptcy estate on that basis, in particular if real estate constitutes a significant part of the total assets of the entity. In such a case, the entity's balance sheet does not provide the information that is most desired by the largest group of interested parties, i.e. creditors, to whom the financial statements are addressed.

The choice of the price to determine the sale value of the assets of the bankruptcy estate should take into account the specific nature of sale in

bankruptcy proceedings. In order to be able to use the market value, two basic premises must be met, i.e. sufficient time of exposure of the asset to the market and no compulsion to sell. In the event of bankruptcy, the receiver is under compulsion. The main constraint is the time pressure resulting from the deadlines for bankruptcy procedures, which usually makes it impossible to negotiate the real market price. The information about being put up for sale and being submitted to market forces is insufficient compared with the exposure time and the promotional activities necessary to achieve the best price. In addition, the information about the owner's financial troubles usually reaches the market. Thus, potential buyers, despite being interested in purchasing a given asset, but knowing the seller's situation treat such a transaction as the proverbial opportunity. Furthermore, the liquidation sale procedure, which in accordance with the binding regulations must take the form of a public tender or an auction, limits the price negotiation options. As a result, the value of the obtained funds for the bankruptcy estate is significantly lower than the amount obtainable under normal market conditions.

It is surprising that the practice of establishing the forced sale value by certified values in bankruptcy proceedings is so rare. The performed valuation is the basis for determining the minimum initial sale price of assets. The receiver cannot dispose of any asset below the estimated value without the prior approval of the judge-commissioner. The overvaluation of the bankruptcy estate thus extends in time the sale procedures, which generates additional costs and further reduces the amount of funds available for the repayment of the bankrupt entity's debt.

CONCLUSION

The most important conclusion resulting from this study is the statement that in order to properly estimate the expected level of satisfaction of creditors' claims, it is necessary to determine the selling value of the assets comprising the bankruptcy estate. In particular, in relation to research questions posed in section 2, it must be claimed that:

- 1) the balance sheet valuation does not allow to estimate the value of the bankruptcy estate, which directly results from the application of the prudent valuation principle in accounting;

- 2) the specific nature of the sale of assets under liquidation bankruptcy proceedings means that the basic assumptions for determining the market value are not met;
- 3) the forced sale value is the most appropriate parameter for the valuation of the assets of the bankruptcy estate from the point of view of the purpose and conditions of valuation by certified assets value appointed by a court in the course of liquidation bankruptcy proceedings.

The basic recommendation resulting from the above conclusions is the introduction of the obligation for values to determine both the market value and the forced sale value of the appraised real estate and movable property. This obligation should be explicitly included in Polish bankruptcy law. Pending the amendment of the provisions, the court should formulate such a recommendation in its decision on the appointment of a certified assets value. Since there are no clear rules, procedures and methods of estimating the forced sale value, it is additionally recommended that the obligation to include all assumptions adopted for valuation in the prepared valuation report be introduced.

The basic limitation for use of the forced sale value is the problems related to its estimation. The presented studies are case studies, which do not show how such a valuation should be conducted. Moreover, they cannot be used as a basis to assess whether the actual price obtained at the time of the sale coincides with the estimated value. In addition, the practice of conducting a valuation by Polish certified values should not be assessed on the basis of the several cases examined here.

Taking into account the scope of the conducted analyses, their limitations and formulated conclusions, it is possible to indicate several directions of further research. Firstly, it should be verified to what extent the prices obtained in sale transactions were congruent with the estimates and, on this basis, the shaping of the forced sale value in Polish conditions should be assessed. Further research should identify the factors influencing the value of the discount on the sale of assets in liquidation proceedings for various assets comprising the bankruptcy estate, including both real estate and movable property. Consequently, a practical procedure for determining this value should be developed.

Another research problem to be addressed is the determination of the principles of market valuation of the liquidation value of the entire enterprise or its separate parts under the specific circumstances of bankruptcy. The sale of individual assets, as analyzed in the article, should be the ultimate solution. The preferred form of sale should be the sale of the enterprise as a whole. This stems from the fact that the value of an enterprise is usually higher than the total value of its assets. In addition, the execution of the transaction in this form significantly accelerates the completion of bankruptcy proceedings, which directly contributes to the reduction of the overall costs of the proceedings and ensures a higher degree of satisfaction of creditors' claims.

REFERENCES

1. Bauer, K. (2014). Fixed Assets Valuation in the Condition of Bankruptcy Risk: The Role of Estimates. *Journal of Modern Accounting and Auditing*, 10(6), 652-666.
2. Berglof, E., Rosenthal, H., & Von Thadden, E. L. (2001). *The formation of legal institutions for bankruptcy: A comparative study of the legislative history*. Background paper for the World Development Report.
3. Čibera, R., & Krabec, T. (2017). Asset Valuation in Insolvency in the Czech Republic: An Empirical Investigation. *International Advances in Economic Research*, 23(1), 135-136. <https://doi.org/10.1007/s11294-016-9627-3>
4. Donner, H., Song, H., & Wilhelmsson, M. (2016). Forced sales and their impact on real estate prices. *Journal of Housing Economics*, 34, 60-68. <https://doi.org/10.1016/j.jhe.2016.08.002>
5. EVS. (2016). *European Valuation Standards* (8th ed.). The European Group of Values' Associations.
6. Favara, G., & Giannetti, M. (2017). Forced Asset Sales and the Concentration of Outstanding Debt: Evidence from the Mortgage Market. *The Journal of Finance*, 72(3), 1081-1118. <https://doi.org/10.1111/jofi.12494>
7. Fortgang, C. J., & Mayer, T. (1985). Valuation in bankruptcy. *UCLA Law Review*, 32(6), 1061-1132.

8. ISAP. (1964). *Ustawa z dnia 17 listopada 1964. Kodeks postępowania cywilnego* [Act of 17 November 1964 Code of Civil Procedure]. Retrieved from <http://prawo.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU19640430296>
9. ISAP. (1994). *Ustawa z dnia 29 września 1994 o rachunkowości* [Accounting Act of 29 September 1994]. Retrieved from <http://prawo.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU19941210591>
10. ISAP. (1997). *Ustawa z dnia 21 sierpnia 1997 o gospodarce nieruchomościami* [Real Estate Management Act of 21 August 1997]. Retrieved from <http://prawo.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU19971150741>
11. ISAP. (2003). *Ustawa z dnia 28 lutego 2003 r. Prawo upadłościowe* [Act of 28 February 2003 Bankruptcy Law]. Retrieved from <http://prawo.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20030600535>
12. IVS. (2017). *International Valuation Standards*. London: International Valuation Standards Council.
13. Kamela-Sowińska, A. (2006). *Wycena przedsiębiorstw i ich mienia* (115 p.). Poznań: Wyższa Szkoła Handlu i Rachunkowości.
14. La Porta, R., Lopez-de-Silens, F., Shleifer, A., & Vishny, R. (1997). Legal Determinants of External Finance. *The Journal of Finance*, 52(3), 1131-1150. <https://doi.org/10.1111/j.1540-6261.1997.tb02727.x>
15. Małecka-Pilujaska, M. (2009). Wartość dla wymuszonej sprzedaży jako istotny instrument podejmowania decyzji kredytowych i oceny ryzyka związanego z zabezpieczeniem kredytu? XVIII Krajowa Konferencja Rzecznawców Majątkowych, 13. Retrieved from <https://docplayer.pl/219239-Wartosc-dla-wymuszonej-sprzedazy-jako-istotny-instrument-podejmowania-decyzji-kredytowych-i-oceny-ryzyka-zwiazanego-z-zabezpieczeniem-kredytu.html>
16. Michaletz, V. B., & Artemenkov, A. (2018). A Demand – and Supply – Side Constrained Model for Liquidation Value and Related Exposure Periods. *Real Estate Management and Valuation*, 26(2), 48-59. <https://doi.org/10.2478/remav-2018-0015>
17. Mooya, M. (2016). *Real Estate Valuation Theory A Critical Appraisal* (185 p.). Springer-Verlag Berlin Heidelberg. Retrieved from <https://www.springer.com/gp/book/9783662491638>
18. PFSRM. (2009a). *KSWP 1 Market value and reconstruction value* (KSWP 1 Wartość rynkowa i wartość odtworzeniowa) (in original language). Retrieved from <https://pfsrm.pl/storage/download/1452>
19. PFSRM. (2009b). *NI Applying the income approach to real estate valuation* (NI zastosowanie podejścia dochodowego w wycenie nieruchomości) (in original language). Retrieved from <https://pfsrm.pl/storage/download/1437>
20. PFSRM. (2009c). *NI Applying the comparative approach to real estate valuation* (NI zastosowanie podejścia porównawczego w wycenie nieruchomości) (in original language). Retrieved from <https://pfsrm.pl/storage/download/1438>
21. PFSRM. (2014). *KSWP – Other types of value* (KSWP Inne rodzaje wartości) (in original language). Retrieved from <https://pfsrm.pl/storage/download/1440>
22. PFSRM. (2017). *KSWP – Market value* (Krajowy Standard Wyceny Podstawowy KSWP Wartość Rynkowa) (in original language). Retrieved from <https://pfsrm.pl/storage/download/1427>
23. Prusak, B. (2011). *Ekonomiczna analiza upadłości przedsiębiorstw, ujęcie międzynarodowe* (340 p.). Warszawa: CeDeWu.pl.
24. Ratner, I., Steing, G., & Weitnauer, J. C. (2012). *Business Valuation and Bankruptcy* (261 p.). John Wiley & Sons, Inc.
25. Renigier-Biłozor, M., Walacik, M., Żróbek, S., & d'Amato, M. (2018). Forced sale discount on property market – How to assess it? *Land Use Policy*, 78, 104-115. <https://doi.org/10.1016/j.landuse-pol.2018.06.026>
26. Royal Institution of Chartered Surveyors (RICS). (2017). *RICS Valuation – Global Standards 2017. Incorporating the IVSC International Valuation Standards*. Retrieved from <https://www.rics.org/globalassets/rics-website/media/upholding-professional-standards/sector-standards/valuation/red-book-2017-global-edition-rics.pdf>
27. Sgard, J. (2006). Do legal origins matter? The case of bankruptcy laws in Europe 1808–1914. *European Review of Economic History*, 10(3), 389-419. Retrieved from <https://www.jstor.org/stable/41378451>
28. Shabeka, U. (2018). Theoretical and Practical Aspects of Estimation of Forced Sale Value. *Geomatics and Environmental Engineering*, 12(3), 89-99. <https://doi.org/10.7494/geom.2018.12.3.89>