UDC 657:336.7

DOI: 10.15587/2312-8372.2018.124416

ДОСЛІДЖЕННЯ ІСНУЮЧОЇ МЕТОДОЛОГІЇ ВАРТІСНОЇ ОЦІНКИ ТА МЕТОДІВ ОЦІНКИ СТАВКИ ДИСКОНТУВАННЯ

Плікус І. Й.

ИССЛЕДОВАНИЕ СУЩЕСТВУЮЩЕЙ МЕТОДОЛОГИИ СТОИМОСТНОЙ ОЦЕНКИ И МЕТОДОВ ОЦЕНКИ СТАВКИ ДИСКОНТИРОВАНИЯ

Пликус И. И.

INVESTIGATION OF THE EXISTING METHODOLOGY OF VALUE ESTIMATION AND METHODS OF DISCOUNT RATE ESTIMATION

Plikus I.

Розкрито економічна сутність справедливої й теперішньої (дисконтованої) вартості та досліджено їх використання у Міжнародних стандартах фінансової звітності. Запропоновано алгоритм вибору методів справедливою вартістю 3 використанням дисконтування. Проаналізовано існуючі підходи до оцінки ставки дисконтування запропоновано формули розрахунку ставки дисконтування для обтрунтованого відображення в обліковій політиці підприємства.

Ключові слова: алгоритм вибору методів оцінки за справедливою вартістю, оцінка ставки дисконтування, розрахунок ставки дисконтування.

экономическая сущность справедливой приведенной (дисконтированной) исследованы стоимости их использования uМеждународных стандартах финансовой отчетности. Предложен алгоритм справедливой методов оценки стоимости дисконтирования. Проанализированы существующие подходы к оценке ставки дисконтирования и предложены формулы расчета ставки дисконтирования для обоснованного отражения в учетной политике предприятия.

Ключевые слова: алгоритм выбора методов оценки справедливой стоимости, оценка ставки дисконтирования, расчет ставки дисконтирования.

1. Introduction

In the globalization and integration processes, accounting and financial reporting play a fundamental role in providing operational, tactical and strategic information management, so ensuring its reliability and reliability becomes a top priority. However, accounting systems in which elements of financial statements are valued only at historical cost, do not fully meet the needs of the business. In this regard, the

priority direction for development of the valuation of assets and liabilities of enterprises is the concept of fair value, since this estimate better reflects the actual value of assets and liabilities. It should be noted that in the international practice this assessment is sufficiently integrated, confirming its advantages, but at the same time there are difficulties in its understanding, namely, the determination of fair value by the method of current (discounted) cost and the choice of the discount rate. The importance of this issue is underscored by the 9th meeting of the Developing Council Group on International Financial Reporting Standards (IFRS), which was held on May 25–26, 2015 in Mexico City, and was devoted to the application of the present (discounted) cost in selected IFRSs and the choice of discount rates in the member countries of the Group [1].

2. The object of research and its technological audit

The object of research is the current practice of determining the fair value of assets and liabilities using discounting. According to International Financial Reporting Standards, discounting is an integral part of accounting. This process can affect the carrying amount of any asset or liability, the financial performance of the entity during the reporting period and the reliability level of the financial statements. The process of discounting is not difficult. One of the most problematic places is the determination of the discount rate, which belongs to the jurisdiction of a professional accountant's judgment.

3. The aim and objectives of research

The aim of research is substantiation of the choice of the method of estimating the discount rate in order to increase the reliability level of financial reporting.

To achieve the stated aim, it is necessary to determine the following tasks:

- 1. To propose an algorithm for choosing methods for fair value estimation.
- 2. To propose a formula for calculating the discount rate for reasonable reflection in the accounting policy of the enterprise.

4. Research of existing solutions of the problem

The problem of determining fair value, including the method of current (discounted) value and the choice of the discount rate, is engaged by many world theorists and practitioners. The paper [2] considers the concept of fair value and its measurement, and concludes that supporting fair value on the part of accountants is not enough. Some authors [3] note that «the choice between fair and historical value is the subject of long-standing disputes among accountants». In their study, they come to the conclusion that fair value will not be the main method for assessing illiquid nonfinancial assets on a voluntary basis. But other authors [4] give arguments in favor of valuation of property and equipment at fair value.

In work [5] the use of fair value in accounting from the point of view of investors is investigated, and also questions of determination of fair value of financial instruments are considered. The author of this work suggests how best to minimize the error in measuring fair value. He notes that interstate institutional differences have an important role in determining the effectiveness of fair value accounting. The

authors [6] analyze the importance of using the fair value method from the point of view of users of accounting information and conclude that there is «some concern about the reliability of the methods for fair value estimation». The study [7] notes that the present value is often the only acceptable method for fair value estimation and considers the problem of interpreting the change in the present value between the reporting dates. Some aspects of this problem are described in [8–11]. Thus, in [8] the problems of choosing the discount rate are investigated and it is noted that for most Australian enterprises the difference between the expected and actual discount rates is significant. The authors [9, 10] emphasize that when considering corporate pension plans, difficulties in choosing the discount rate. They suggest using local discount rates at fair value for nominal accrued pension liabilities. Ukrainian experts are also exploring the problem of choosing a discount rate. So, in the opinion of [11] «the issue of objective calculation of the discount rate does not find its due coverage in the Ukrainian scientific and practical literature». The author notes that this is due to the fact that the practice of discounting in Ukrainian accounting is still fragmentary and has not been widely adopted.

Thus, the results of the analysis allow to conclude that the specificity of determining the fair value using the current (discounted) cost method in terms of individual assets and liabilities, assessing the risks associated with its application, and the choice of the discount rate are still debatable and unresolved.

7 SWOT analysis of research results

Strengths. The strength in the study is the proposed scientific and methodological approaches that allow to solve a number of specific problems arising in the process of valuation of assets and liabilities in accounting using discounting.

Weaknesses. The weak side is that the discounting practice in Ukrainian accounting is still fragmentary and has not become widespread, so there is no possibility to investigate the application of the discount rate by different methods at Ukrainian enterprises.

Opportunities. Opportunities for further research are investigation of the impact of risks that may arise from owning an asset on the choice of the discount rate.

Threats. The definition of the discount rate belongs to the jurisdiction of the professional judgment of the accountant, since the rate is different for different enterprises, transactions and tasks, so an unreasonable decision about its choice affects the reliability level of financial statements.

8 Conclusions

- 1. From the author's position, an algorithm is proposed in the choice of methods for fair value estimation, which allows more reliably to determine the real value of accounting objects and elements of financial reporting. Using the proposed algorithm, it is possible to simulate the process of calculating the cost of objects by sequentially identifying the adjustment of the aggregation of value values.
- 2. The existing approaches to estimating the discount rate are analyzed and a formula for calculating the discount rate for justified reflection in the company's

accounting policy are proposed, which will minimize the impact of professional accounting judgments on the reliability level of financial reporting.

References

- 1. Official website of IFRS Foundation. URL: http://www.ifrs.org (Last accessed: 16.01.2018).
- 2. Lustosa P. R. B. The Fairness of Fair Value: SFAS 157, Irving Fisher and GECON // SSRN Electronic Journal. 2011. doi:10.2139/ssrn.1814176_
- 3. Christensen H. B., Nikolaev V. V. Does Fair Value Accounting for Non-Financial Assets Pass the Market Test? // SSRN Electronic Journal. 2012. doi:10.2139/ssrn.1269515
- 4. Herrmann D., Thomas W. B., Saudagaran S. M. The Quality of Fair Value Measures for Property, Plant, and Equipment Accounting Forum // SSRN Electronic Journal. 2005. doi:10.2139/ssrn.312150
- 5. Landsman W. R. Fair Value Accounting for Financial Instruments: Some Implications for Bank Regulation // BIS Working Paper. 2006. No. 209. doi:10.2139/ssrn.947569
- 6. Da Silva J. M., Rezende A. J., Braunbeck G. O. Judgment of the Relevance of Fair Value in Biological Assets: A Experimental Analysis on the Market Perception Versus the Academic Perception // SSRN Electronic Journal. 2016. doi:10.2139/ssrn.2803418
- 7. Analysis of Change in Present Value Measurements / Bradshaw J. H. et al. // SSRN Electronic Journal. 2005. doi:10.2139/ssrn.1286942
- 8. Ji K. Some Rates are Better than Others // Journal of Applied Research in Accounting and Finance. 2010. Vol. 5, No. 2. P. 14–25. doi:10.2139/ssrn.1535678
- 9. Swinkels L. A. P. The Case for Local Fair Value Discount Rates Under IFRS // SSRN Electronic Journal. 2011. doi:10.2139/ssrn.1762291
- 10. Anantharaman D., Henderson D. Understanding Pension Liabilities: A Closer Examination of Discount Rates // SSRN Electronic Journal. 2016. doi:10.2139/ssrn.2864447
- 11. Tereshchenko O. The discount rate: the problems of calculation and the ways of their solution // The World of Finance. 2006. Vol. 4, No. 9. P. 144–150.
- 12. International Valuation Standards. December 2016. URL: https://www.ivsc.org/files/file/view/id/812 (Last accessed: 16.01.2018).
- 13. Mizhnarodnyi standart finansovoi zvitnosti 13 «Otsinka spravedlyvoi vartosti» // Zakonodavstvo Ukrainy. 2013. URL: http://zakon0.rada.gov.ua/laws/show/929_068 (Last accessed: 16.01.2018).
 - 14. RICS Rating Standards. Moscow: Alpina Pablishers, 2011. 188 p.
- 15. Kontseptualna osnova finansovoi zvitnosti // Zakonodavstvo Ukrainy. 2010. URL: http://zakon3.rada.gov.ua/laws/show/929_009 (Last accessed: 16.01.2018).
- 16. Derun I. Vykorystannya spravedlyvoyi vartosti v bukhhalterskomu obliku neoborotnykh aktyviv // Bukhhalterskyy oblik i audyt. 2012. Vol. 12. P. 20–27.

- 17. Kharlamova E. Spravedlivaya stoimost v MSFO. 2015. URL: https://www.buh24.com.ua/spravedlivaya-stoimost-v-msfo/ (Last accessed: 16.01.2018).
- 18. Mizhnarodni standarty finansovoyi zvitnosti // Zakonodavstvo Ukrainy. 2011. URL: http://zakon2.rada.gov.ua/laws/show/929_010 (Last accessed: 16.01.2018).
- 19. Rohova N. V. Bukhhalterskyi oblik dyskontuvannia zoboviazan: problemy realizatsii v umovakh MSFZ // Naukovyi visnyk Poltavskoho universytetu ekonomiky i torhivli. 2014. Vol. 4 (66). P. 193–197.
- 20. Dvorakova D. Developments in Fair Value Measurement: Some IFRS 13 View // Recent Researches in Applied Economics. 2011. P. 151–156. URL: http://www.wseas.us/e-library/conferences/2011/Iasi/AEBD/AEBD-25.pdf (Last accessed: 16.01.2018).
- 21. Ralko A. S. Metody opredelenyya stavky dyskontyrovanyya // Naukovyi visnyk Mizhnarodnoho humanitarnoho universytetu. 2015. P. 150.
- 22. Lesnova Yu. V. Diskontirovanie kak sposob opredeleniya spravedlivoy stoimosti dlya tseley MSFO // Korporativnaya finansovaya otchetnost'. Mezhdunarodnye standarty. 2014. Vol. 10. URL: https://finacademy.net/materials/article/diskontirovanie-sposob-opredeleniya-stoimosti (Last accessed: 16.01.2018).
- 23. Liliuk K. V. Vyznachennia stavky dyskontuvannia // Visnyk NTU «KhPI». 2015. Vol. 53 (1162). P. 33–36.

References

- 1. Official website of IFRS Foundation. Available at: http://www.ifrs.org. Last accessed: 16.01.2018.
- 2. Lustosa, P. R. B. (2011). The Fairness of Fair Value: SFAS 157, Irving Fisher and GECON. *SSRN Electronic Journal*. doi:10.2139/ssrn.1814176
- 3. Christensen, H. B., Nikolaev, V. V. (2012). Does Fair Value Accounting for Non-Financial Assets Pass the Market Test? *SSRN Electronic Journal*. doi:10.2139/ssrn.1269515
- 4. Herrmann, D., Thomas, W. B., Saudagaran, S. M. (2005). The Quality of Fair Value Measures for Property, Plant, and Equipment Accounting Forum. *SSRN Electronic Journal*. doi:10.2139/ssrn.312150
- 5. Landsman, W. R. (2006). Fair Value Accounting for Financial Instruments: Some Implications for Bank Regulation. *BIS Working Paper*, 209. doi:10.2139/ssrn.947569
- 6. Da Silva, J. M., Rezende, A. J., Braunbeck, G. O. (2016). Judgment of the Relevance of Fair Value in Biological Assets: A Experimental Analysis on the Market Perception Versus the Academic Perception. *SSRN Electronic Journal*. doi:10.2139/ssrn.2803418
- 7. Bradshaw, J. H., Khanna, B. S., Roush, M., van Zijl, T. (2005). Analysis of Change in Present Value Measurements. *SSRN Electronic Journal*. doi:10.2139/ssrn.1286942
- 8. Ji, K. (2010). Some Rates are Better than Others. *Journal of Applied Research in Accounting and Finance*, 5 (2), 14–25. doi:10.2139/ssrn.1535678

- 9. Swinkels, L. A. P. (2011). The Case for Local Fair Value Discount Rates Under IFRS. *SSRN Electronic Journal*. doi:10.2139/ssrn.1762291
- 10. Anantharaman, D., Henderson, D. (2016). Understanding Pension Liabilities: A Closer Examination of Discount Rates. *SSRN Electronic Journal*. doi:10.2139/ssrn.2864447
- 11. Tereshchenko, O. (2006). The discount rate: the problems of calculation and the ways of their solution. *The world of finance*, 4 (9), 144–150.
- 12. *International Valuation Standards*. (2016, December). Available at: https://www.ivsc.org/files/file/view/id/812. Last accessed: 16.01.2018.
- 13. Mizhnarodnyy standart finansovoyi zvitnosti 13 (MSFZ 13). Otsinka spravedlyvoyi vartosti. (2013). *Zakonodavstvo Ukrainy*. Available at: http://zakon0.rada.gov.ua/laws/show/929_068. Last accessed: 16.01.2018.
 - 14. RICS Rating Standards. (2011). Moscow: Alpina Pablishers, 188.
- 15. Kontseptualna osnova finansovoi zvitnosti. (2010). *Zakonodavstvo Ukrainy*. Available at: http://zakon3.rada.gov.ua/laws/show/929_009. Last accessed: 16.01.2018.
- 16. Derun, I. (2012). Vykorystannya spravedlyvoyi vartosti v bukhhalterskomu obliku neoborotnykh aktyviv. *Bukhhalterskyy oblik i audyt, 12, 20*–27.
- 17. Kharlamova, E. (2015). *Spravedlivaya stoimost v MSFO*. Available at: https://www.buh24.com.ua/spravedlivaya-stoimost-v-msfo/. Last accessed: 16.01.2018.
- 18. *Mizhnarodni standarty finansovoyi zvitnosti*. (2011). Zakonodavstvo Ukrainy. Available at: http://zakon2.rada.gov.ua/laws/show/929_010. Last accessed: 16.01.2018.
- 19. Rohova, N. V. (2014). Bukhhalterskyi oblik dyskontuvannia zoboviazan: problemy realizatsii v umovakh MSFZ. *Naukovyi visnyk Poltavskoho universytetu ekonomiky i torhivli*, *4* (66), 193–197.
- 20. Dvorakova, D. (2011). Developments in Fair Value Measurement: Some IFRS 13 View. *Recent Researches in Applied Economics*, 151–156. Available at: http://www.wseas.us/e-library/conferences/2011/Iasi/AEBD/AEBD-25.pdf. Last accessed: 16.01.2018.
- 21. Ralko, A. S. (2015). Metody opredelenyya stavky dyskontyrovanyya. *Naukovyy visnyk Mizhnarodnoho humanitarnoho universytetu*, 150.
- 22. Lesnova, Yu. V. (2014). Diskontirovanie kak sposob opredeleniya spravedlivoy stoimosti dlya tseley MSFO. Korporativnaya finansovaya otchetnost'. *Mezhdunarodnye standarty, 10.* Available at: https://finacademy.net/materials/article/diskontirovanie-sposob-opredeleniya-stoimosti. Last accessed: 16.01.2018.
- 23. Liliuk, K. V. (2015). Vyznachennia stavky dyskontuvannia. *Visnyk NTU «KhPI»*, 53 (1162), 33–36.
- Plikus I. Formation of a scientific approach to functioning as a process of development of innovation-oriented enterprises // Technology audit and production reserves. $2018.- \frac{N}{2} \frac{1}{4}(39).-p. 21-26$