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SPECIAL ASPECTS OF FINANCIAL INSTRUMENTS VALUATION FOR TRAINING SPECIALISTS OF ECONOMIC MAJORS

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Abstract. *Nowadays financial instruments market is the high-priority area of economic development in Belarus, where important place is given to creation the variety of corporate financial instruments, which requires prompt response from economic sciences. However, fundamentals of financial instruments valuation and ways of reflecting them in financial statements are complex issues that require special approach in the process of instruction economic disciplines, related to these topics. Therefore, the purpose of this study is to form systematic understanding the basics of financial instruments valuation based on the study their economic essence and the development of practical guidelines for valuation methods application. In the study have been proposed new, different from existing, questions that should be considered in the course structure when studying financial instruments by students of economic majors; have been offered practical guidelines on the ways of financial instruments valuation in the form of applied models that contribute to further understanding their economic essence, creating essentials for effective usage these instruments in future. In the study the following scientific methods were used: analysis, synthesis, generalization, induction, deduction, observation, formalization. The research is based on the provisions of IFRS, works of domestic and foreign economists, current Belarussian legislation on the considered issue.*
Keywords: *amortized cost, corporate securities, derivatives, fair value, financial instruments, valuation.*

Introduction

One of the distinctive features in current development in Belarus is the social orientation of its economic transformations in combination with the further development of market mechanisms, which implies the integration of Belarussian organizations into the world economic community. In this regard, the market of financial instruments is one of the most priority areas of economic development, which is not possible without the presence of highly qualified specialists with a sufficient level of knowledge in this field. Therefore, the course on financial instruments should contribute to deeper understanding theoretical framework of

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the financial instruments market, its regulatory features and peculiarities of practical issues connected with financial instruments usage, which should have positive impact on the investment activity in Belarus.

In turn changes in the state economy require timely responses from all economic sciences that study real economic processes, both at the micro and macro levels. Information about the availability and volume of transactions with corporate securities (which in reporting standards considered as financial instruments) in the financial statements of business entities, requires, from one side, special knowledge and skills from employees to prepare and present this information array in reporting, and, from the other side, understanding of the essence and content of the reporting indicators by external users, including financial analysts, economists and public employees. Valuation and accounting treatment of corporate securities that are regarded in reporting standards as financial instruments represent a specific area of economic knowledge, which require separate approach for teaching this for students of economic majors. Therefore, the purpose of this study is to form systematic understanding the basics of financial instruments valuation based on the study their economic essence and the development of practical guidelines for valuation methods application. To do this, the following tasks will be solved:

- review the composition of corporate financial instruments (securities) and the main regulatory legal acts governing their valuation;
- separately consider the nature of derivatives and the features of their valuation in comparison with the valuation of underlying assets;
- systematize financial instruments according to possible ways for their valuation for the purpose of teaching this topic to students of economic majors, including general and specific questions for different directions.

Within the framework of this research, general scientific methods of research were used: analysis, synthesis, generalization, induction, deduction, observation. Methods of theoretical research: idealization, formalization, method of logical analysis. The research is based on the norms of International Financial Reporting Standards (IFRS), the works of domestic and foreign economists, the current legislation of the Republics of Belarus on the topic of the study.

Literature Review

In the current conditions of the formation of Belarussian financial instruments market an important place is given to the creation the variety of corporate securities in order to provide conditions for the redistribution of temporarily free funds, speed up the process of issuing borrowed capital and attract additional investment resources. Corporate financial instruments play a significant role in the mobilization of free funds for the needs of organizations, which in turn requires unification the methodology for their accounting with the

generally accepted world practice. In this regard it is necessary to form and develop students' knowledge and abilities in the field of activity in the market of financial instruments, the use of financial information in accordance with the needs of the management system, the identification of factors of the final results in business activity, innovative style of thinking. These aspects justify the relevance and practical importance of the study the economic nature of corporate securities. Based on the conducted research, it should be noted that only some authors, studying the essence of the category "securities", mention the concept of "corporate securities", but at the same time do not give their clear definition. It should be noted that nowadays the remark of Russian professor Shershenevich (1914) that "the concept of securities isn't clearly understood neither in life nor in science..." is still timely and fair. Regarding the interpretation of their essence, there are 4 approaches:

- corporate securities are securities that are issued by issuers that are not related to state and municipal management bodies (Mammanovich, 2006; Mahovikova & Selishchev & Mirzazhanov, 2010);
- corporate securities are securities issued by joint-stock companies and limited liability companies (Endovitsky & Ishkova, 2009);
- corporate securities – are securities, which are issued by companies other than banks and investment company (Sosnauwskene, 2008);
- corporate securities are securities that are issued by business entities of various organizational and legal forms of ownership, including banks, investment companies and funds (Beletskii, 2009; Kolesnikov & Torkanovsky, 1998; Kovaleva & Hisamudinov, 2008).

These approaches are unified in the following definition of corporate securities: corporate securities are securities of shared-ownership legal entities, which collectively own property (capital) and united by common professional and other interests in achieving goals that doesn't contradict the law. In turn, the following types of corporate securities can be distinguished: shares, bonds, promissory notes; if they are divided into groups, then debt, equity and derivative securities can be distinguished (Masko et al., 2020).

It should be noted that the question of whether derivatives can be classified as derivative securities remains debatable, while in training economic specialists many programs combine the use of ordinary securities and derivatives in one course. In our opinion, the key difference between these two categories is the purpose of the application: attracting financing for the issuance of securities and transferring risk for derivatives. Despite this difference, corporate securities and derivatives are grouped under the general category of financial instruments for the purposes of reporting and valuation, and the procedure for reflecting the results of transactions with these instruments is regulated by a single reporting standard: IFRS 9 "Financial Instruments" at the international level, and National Accounting Standard № 74 "Financial Instruments" for the Republic of Belarus.

The study of financial instruments, determination of their economic nature, valuation and presentation in the financial statements considered in the works of the following authors: Butler (2009) and Ramirez (2015) examine the characteristics of financial instruments, including derivatives, for the purposes of financial reporting on many examples; Rashad Abdel-Khalik (2019) focuses on the failing faithful representations connected with derivatives valuation; also there are a number of studies on the actual use and disclosure of financial instruments by various companies, for example, Birt et al. (2013) consider the financial instruments usage by Australian companies from the extractive sector; also, a number of studies consider further improving reporting standards, for example, Fargher et al. (2018) focus on possibilities for improving the valuation of equity and debt financial instruments in accordance with international standards, Holzmann & Munter (2016) according to US Accounting Standards.

All these aspects related to the valuation of corporate securities and derivatives for the purposes of reporting complicate the process of studying this topic in the training of economic specialists, which in future causes errors, misunderstandings and unwillingness of employees to use a wide range of financial instruments to achieve the company's goals. Therefore, the specifics of the valuation of corporate securities and derivatives in accordance with the current reporting standards will be discussed further.

Research Results

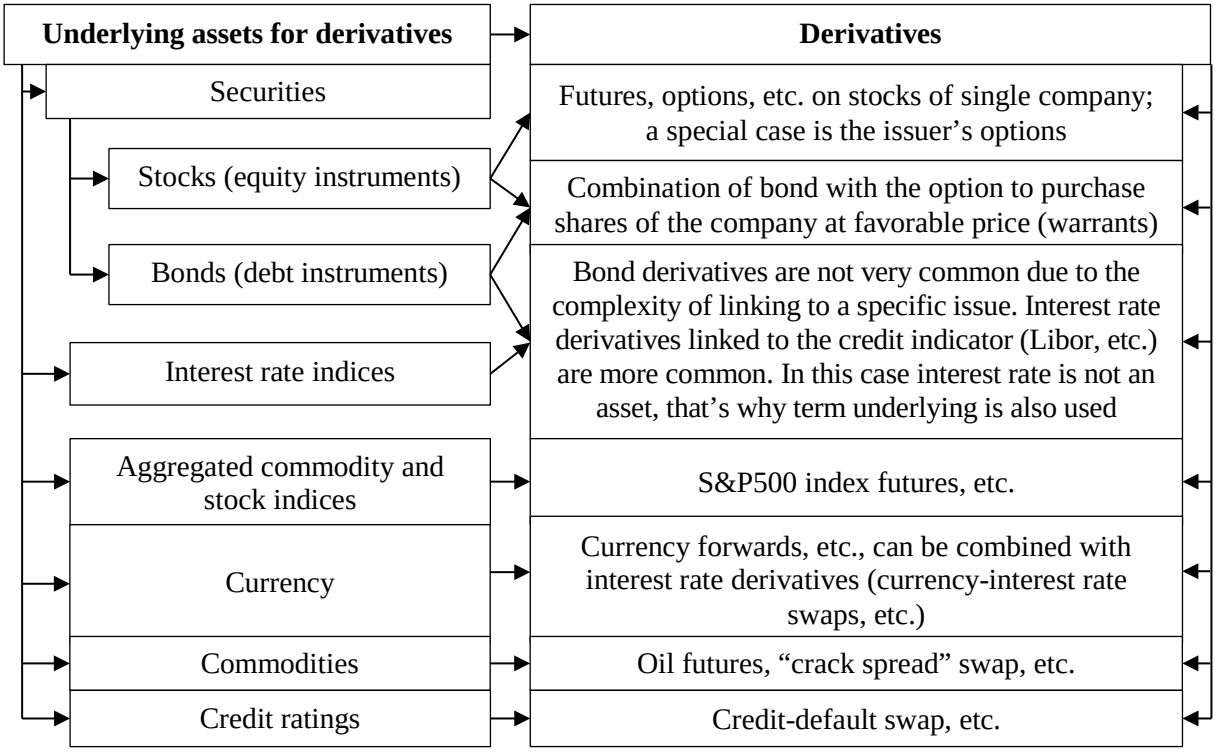

Figure 1 ***The Ratio of Securities and Derivatives***
Source: own development based on Wendy et al. (2017)

For the purposes of this article, we will not dwell on the essential content of the main types of corporate securities – shares (equity instruments) and bonds (debt instruments). Also, definitions of main types of derivatives – forwards, futures, options and swaps – are widely known in international practice. We would rather focus on the issue of their interrelation. Figure 1 shows the composition of derivatives and corporate securities, reflecting their relationship.

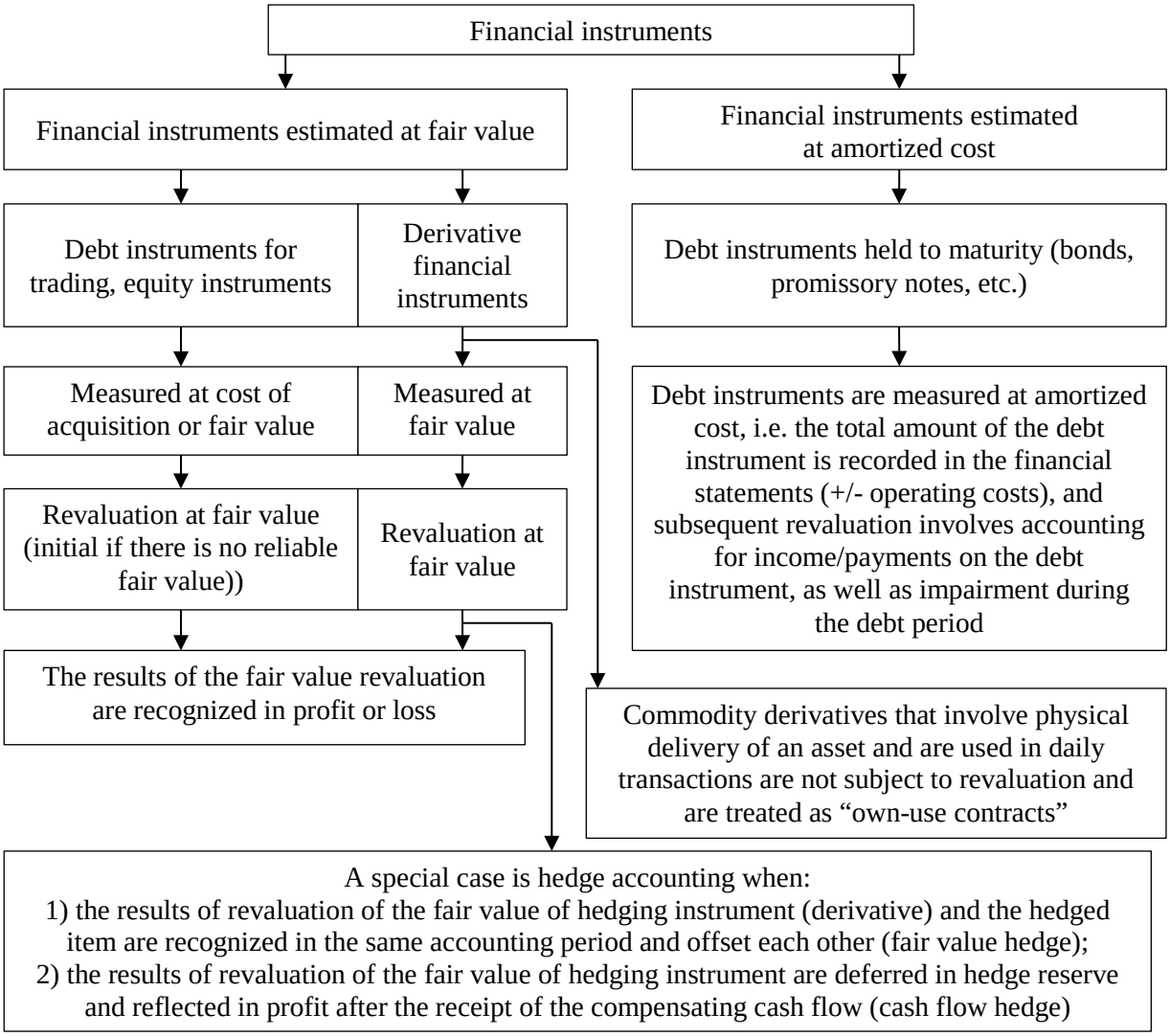

Figure 2 ***Valuation of Financial Instruments in Accounting***
Source: own development based on National Accounting Standard № 74 "Financial Instruments"

As can be seen from the information presented in figure 1, the composition of derivatives is broader than the composition of securities, while securities are the underlying assets for the corresponding groups of derivatives. The valuation of corporate securities and derivatives for reporting purposes is based on the

concept financial instruments. Financial instrument is a contract that results in financial asset for one entity and financial liability or equity instrument for another entity. The general approach to the measurement of financial instruments, including derivatives, is based on their classification as financial assets or liabilities at fair value. Some cases involve the measurement at amortized cost and application of hedge accounting, as shown in Figure 2.

The scheme presented in Figure 2 reflects to a greater extent the Belarusian accounting standard on the issue, rather than the standard IFRS 9, which covers more aspects and potential situations of the valuation of financial instruments. However, for general understanding of approaches to the valuation of financial instruments in the context of studying appropriate topic, in our opinion, this scheme may be sufficient, while specific issues can be considered as an in-depth consideration of the topic. This scheme also applies the concept of fair value, which is described in detail in appropriate standards, for example IFRS 13 “Fair value measurement”. If we briefly summarize the meaning of fair value, it shows how much security or derivative will actually worth at a given moment, if we try to sell it. Therefore, when debt instruments are held to maturity, it is allowed to apply the amortized cost measurement, which allows not to carry out the current revaluation of such instruments based on actual market conditions (at fair value). On the contrary, if debt instruments are held for trading or we deal with equity instruments or derivatives, fair value measurement and revaluation is mandatory, as it should show the users of financial statements the real value of financial instruments at reporting date. For example, if a company owns 10 shares of another company that were purchased at $ 20 per share, and at the reporting date their value is $ 23 per share, then it is obvious that such change in the value of the shares will increase earnings by $ 30.

A more complex situation is related to the valuation of derivatives. Here we use the concept of notional value of derivative – this is the forward price (the price at which it will be necessary to buy/sell the underlying asset in the future), fixed in the contract, multiplied by the volume of the underlying asset; and fair value – is the monetary estimation of the impact of changes in market factors on the initially determined forward price at each time. The fair value (other than option premiums) at the time of derivative contract initiation is usually zero. Subsequently, fair value of derivative changes in accordance with fluctuations in the actual (spot) price of the underlying asset every day, as well as in accordance with other factors that affect the forward price.

In practice, for exchange-traded derivatives the change in fair value is calculated by the central counterparty by adding/writing off the variation margin to the company’s account on a daily basis. It means that changes in fair value of exchange-traded derivatives are related to real cash flows. While over-the-counter (OTC) instruments in the absence of mutual collateral collection do not assume

real cash flow until the derivative is executed (except the transfer of option premiums). However, the entity is required to independently revalue the fair value of OTC derivatives for at least all reporting dates. To illustrate these situations of derivatives valuation, have been considered two examples with the following terms (according to Ramirez, 2015).

Example 1. To protect against an increase in silver prices, ABC entered into a forward contract on February 1, 20x7 with the following conditions. Date of initiation: February 1, 20x7. Counterparties: ABC (company) and Megabank. Execution: May 31, 20x7. ABC Company receives: 10 million troy ounces of silver. ABC supplies: 45 million euros. Forward price: 4.5 euros per ounce.

Settlement procedure: Cash settlement based on the price in euros per ounce of silver, applying the prevailing euro-dollar exchange rate (EUR-USD) and the LME price (USD/oz) of US dollars per ounce as follows: Estimated amount = 10 million * (USD/oz on the execution date)/(EUR-USD on the execution date) – EUR 45 million. If the estimated amount is positive, then ABC receives the estimated amount. If the estimated amount is negative, the ABC pays the absolute amount of the estimated amount.

Cash flows on this forward contract are structured in Figure 3.

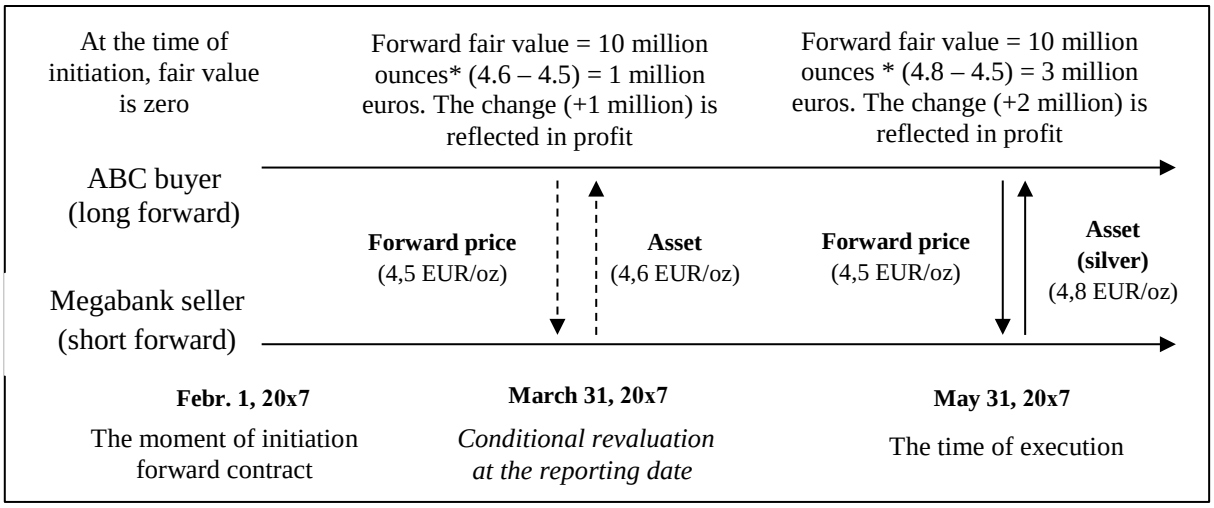

Figure 3 ***Cash Flow Chart for the Forward Contract for the Purchase of Silver***
Source: own development based on Ramirez (2015)

The other example is shown in Figure 4 (terms presented on the next page).

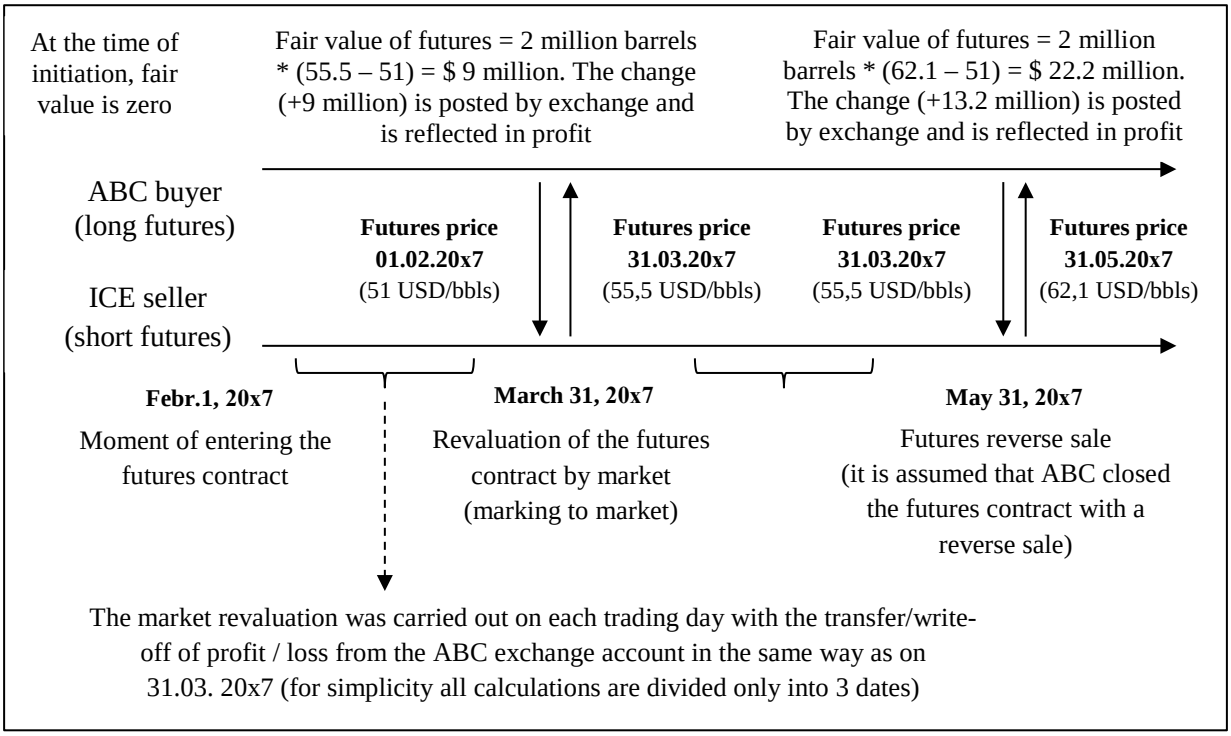

Figure 4 ***Cash Flow Chart for the Oil Futures Contract***
Source: own development based on Ramirez (2015)

Example 2. To protect against higher oil prices, ABC has entered into a crude oil futures contract with the following conditions. Date of purchase: February 1, 20x7. Futures Exchange: The Intercontinental Exchange (ICE). Execution: June 15, 20x7. The buyer of the contract: ABC (company). Number of contracts: 2,000. Contract size: 1000 barrels of Brent crude oil. Contract price: $ 51 per bar. Delivery month: June. Settlement: Physical delivery or cash settlement. Cash calculation based on the price of the ICE Brent Index price on the day following the last trading day of the futures contract.

As can be seen from these examples (Figure 3 and 4) fair value of derivatives differs significantly from the notional value and in addition it is constantly changing. At the same time, for exchange-traded derivatives the change in fair value is immediately apparent at the end of the day when the variation margin is posted or written off, while for OTC instruments there is no real cash flow until the moment of execution.

Taking into account the considered features of the valuation of corporate securities and derivatives, as well as the ratio of securities and derivatives discussed in figure 1, it is possible to systematize the questions that are related to the courses connected with the valuation of financial instruments depending on the direction of the particular economic major (Figure 5).

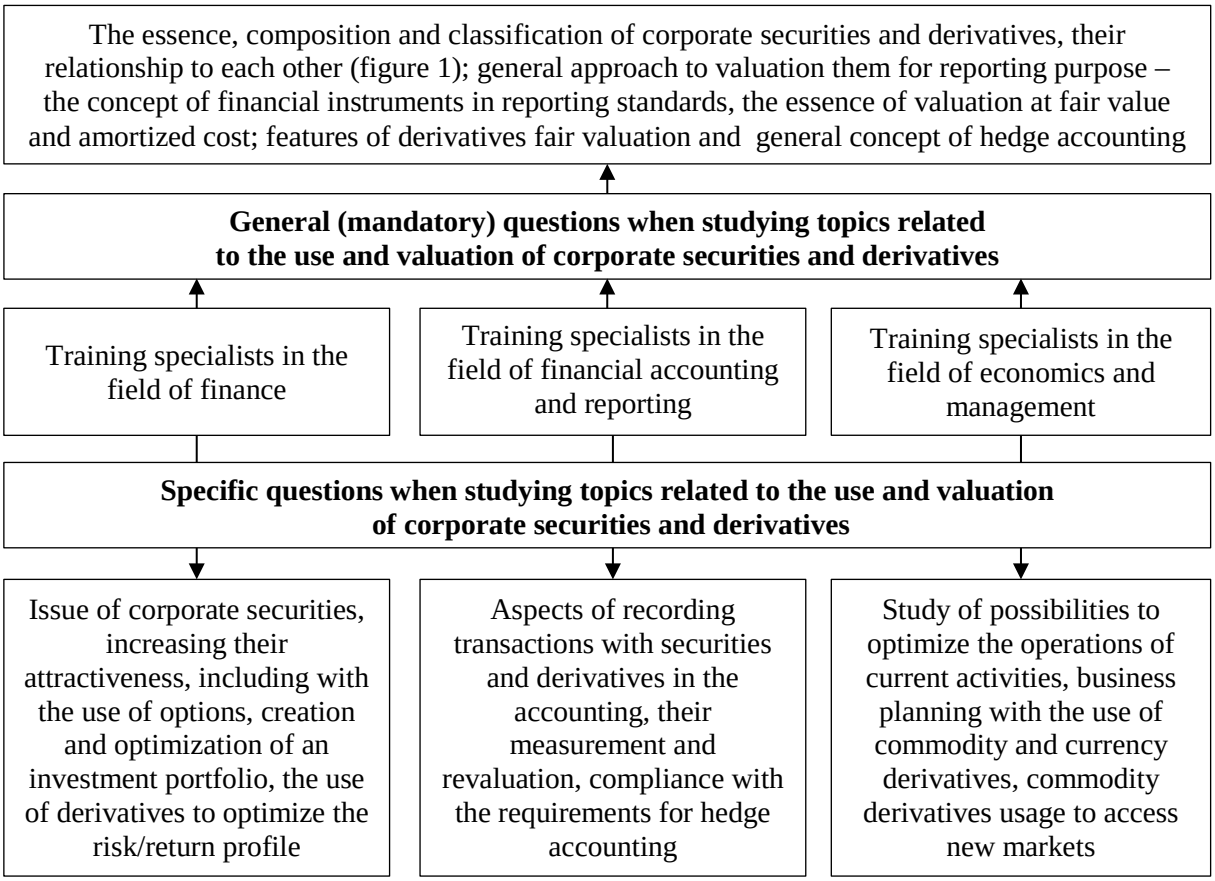

Figure 5 ***General and Specific questions when Studying the Topic of Valuation Financial Instruments by Students of Economic Majors***
Source: own development

Taking into account these general and specific questions (Figure 5) it is possible to propose the following recommendations for teaching the topics related to securities and derivatives usage.

1. In the absence of separate course on derivatives, the first issue that needs to be considered is the ratio of the underlying assets (stocks, commodities, etc.) and the contracts derived from these assets. To reveal the essence of this relationship, it is possible to study the specification of exchange-traded stock futures, analyze the dynamics of its price and compare it with the spot price of that stock. In addition, it is possible to consider the question of why derivatives may or may not be considered securities (what are the purposes of their use, whether their value can be negative, how they are treated in legislation).

2. Information about corporate securities and derivatives usage will always be presented in the financial statements. Therefore, it is necessary to form a general understanding of the concepts of fair value and amortized cost of financial instruments. It is also advisable to consider the impact of differences in the

valuation of securities and derivatives on the reporting indicators. It is advisable to present the valuation of derivatives in the form of schemes similar to Figures 3 and 4, which allows students imagine what each of the parties pays.

3. It is also necessary to consider the nature of hedging risks using derivatives, as well as the main features of the application of hedge accounting. Here the main task is to demonstrate how the application of hedge accounting affects profit. Without hedging its volatility increases significantly due to the need to revalue the fair value of derivatives. Hedge accounting allows company to either defer the recognition of gains and losses from the revaluation of derivatives in the hedge reserve, or reflect this revaluation simultaneously with the revaluation of the hedged item, so that the gains and losses on the hedged item and the hedging instrument (derivative) mutually compensate each other.

Conclusions

Thus, according to the results of the conducted research, it can be concluded that insufficient knowledge related to the valuation of corporate securities and derivatives reduces the quality and complicates the depth of understanding of the appropriate courses when training specialists of economic profile, which in future becomes one of the reasons for the reluctance of specialists to use a wide range of financial instruments to achieve high and positive results for their company. From our point of view, the formation of systematic understanding the conceptual apparatus of the valuation corporate securities and derivatives will help students gain in-depth knowledge in the field of the financial instruments market. According to the results of the study, taking into account the considered features of the valuation of financial instruments, the mandatory questions that should be presented in the course structure when studying corporate securities and derivatives by students of economic majors have been proposed. In our opinion, the specifics of the valuation of corporate securities and derivatives, their ratio for reporting purposes (based on fair value or amortized cost), as well as the nature of risk hedging using derivatives and the specifics of applying hedge accounting are issues that contribute to a deeper understanding of the economic nature of financial instruments for future specialists and create the foundation for further effective work with them.

The practical and theoretical significance of the obtained results assumes that the main provisions and recommendations of the conducted research can be used for the preparation of changes and additions to the curricula of subjects that are taught for students of economic majors, also for reflecting corporate securities and derivatives in the financial statements of entities, as methodological guidelines when conducting seminars on courses related to financial instruments, in the information work of libraries.

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