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ORIGINAL SCIENTIFIC PAPER

The Offer of Financial Derivatives in the Banking Sector of the Republic of Serbia

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ABSTRACT
The paper examines the results of the research conducted in the Serbian banking sector considered the only counterparty to companies in the derivative OTC market given that Serbia's financial system is bank-based. The primary objective is to assess the total level of derivative instruments demand in Serbia and types of derivatives offered by banks. Besides, we also aim to determine the reasons that limit the most the development of the domestic derivatives market and that impact bank activities aimed at attracting derivative business and its development phases. In addition, we explored the expertise of banking sector employees in the financial derivatives field, most often in the Treasury Department. We endeavoured to ascertain the number of staff working in departments in charge of derivatives trading, their professional skills and expertise, qualifications, training and certificates. We have analysed the reasons that most severely restrict the development of the domestic derivatives market and possibilities and limitations of introducing the derivatives market as an unregulated segment on the Belgrade Stock Exchange.

This paper also gives a comparative overview of the use of derivatives from the banks' viewpoint between the banking sectors in Serbia and Bosnia and Herzegovina (BiH) so as to determine the level of derivative instruments demand, types of derivatives offered by the banking sector and possibilities and limitations of introducing the derivatives market as a market segment on stock exchanges in Serbia and Bosnia and Herzegovina.

Key words: *risk management, banking sector, financial derivatives, corporate finance, hedging*

JEL Classification: G21, G32

INTRODUCTION

Serbia is an economy in transition which records elevated instability as to its exchange rate, inflation and other main macroeconomic indicators. In addition, financial derivatives as hedging instruments are not frequently used in the country (Djenić *et al*. 2012). The main precondition for the use of financial derivatives are developed financial markets. The degree of development is seen in the level of financial infrastructure, the range of financial instruments and human know-how. In view of the poor profitability of the economy, inappropriate savings habits, soaring interest rates, dented confidence in the financial system, unclear ownership rules, no expert human resources and high inflation, the degree of development of Serbia's stock exchange is inappropriate. Grubišić, Kamenković and Duran (2013) analysed the weakness of

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the financial market of Serbia, when an attempt was made to apply the concept of a contemporary portfolio theory to the Serbian capital market, but there were a number of restrictions. The market of financial derivatives in Serbia is in the initial phases of development.

The concept of a stock exchange emerged in Serbia as early as 1830, but the Belgrade Stock Exchange (BSE) was established in 1894. Shares, bonds, commodities and foreign currency were traded on this combined stock exchange. It was suspended in 1941, and officially wound down in 1953. It was set up again in December 1989 as the Yugoslav Capital Market – Belgrade. Since 1992, it has been working as the Belgrade Stock Exchange. It trades mainly in short-term securities. The initiative to establish the stock exchange came from government authorities which wanted to have as an institution with the main role in the transition process. Still, the former reputation of the BSE was not renewed. The first financial derivative is about to be admitted to the organised market (Marinković and Skakavac, 2010).

The currency forward agreement was the first derivative traded in modern Serbia (Djenić *et al.,* 2012). A forward is in fact an OTC contract. The first cash market that carried a forward component was the foreign exchange market. Currency derivatives, e.g. currency forwards in Serbia are carried out in the financial market via banks. Thus, Serbia's FX market is the only market where financial derivatives are truly traded. For instance, as suggested by Shiu, Moles and Shin (2010), in the case of Taiwan, interest rate and foreign exchange derivatives were launched only in 1998 on the Taiwan Futures Exchange.

The Serbian legal framework allowing the use of financial derivatives was established in 2006 pursuant to the Foreign Exchange Law (the FX Law), and the Law on Securities Market and Other Financial Instruments, which envisaged for the first time the concept of financial derivatives. By-laws were adopted in mid-2007, though the practice began only in 2009–2010. Even then, these instruments were used highly infrequently. Users were usually large multinationals companies already working with these instruments. SMEs were either not interested or did not have expertise concerning currency hedging. They were hesitant mainly due to the lack of knowledge. Generally, all financial derivatives are carried out through banks given that Serbia's financial sector is bank-based – the share of banks in its total assets equals 92.6 per cent. On 1 December 2011, the NBS adopted the Decision on Performance on Financial Derivative Transactions (RS Official Gazette, No. 85/2011), which superseded the Decision on the Terms of Performing Financial Derivative Transactions by Banks, Residents and Non-Residents (RS Official Gazette, No. 80/2007). This Decision prescribes the conditions under which and the manner in which banks, residents and non-residents may make payments, collections and transfer in respect of trading in financial derivatives. This Decision also defines netting and reporting obligations on transactions in regard to financial derivatives trading. The valid legal framework defines only derivative products. Secondary legislation governing this field has still not been adopted. Such steps must be taken so that the forward market can be established, and in order to define the limits of what is permitted. Also, the above decisions of the National Bank enable residents to trade in derivative products on foreign stock exchanges and have contractual relations with foreign clearing houses, but such trading in the territory of Serbia is not stipulated. In April 2009 the National Bank of Serbia (NBS) introduced FX swaps as part of a special package of facilities for supporting the country's financial stability. The main goal was to improve the liquidity of national commercial banks (both in euros and dinars, the local currency) through swap auctions or as a bilateral agreement between commercial bank and the NBS according to Živanović B. and A Jolović (2012). Barjaktarović M. *et al*.**,** (2017) concluded that commercial banks and monetary regulators should continue in the direction of creating a good climate for further development of financial derivatives market. Potential corporate users of the derivatives, on the other hand, are to recognize their interest in these instruments and expend their knowledge of them.

Emerging economies, including Serbia, introduced financial derivatives as entirely new instruments, with many companies still not recognising the importance of their use and methods of financial risk exposure management. This paper analyses the development of financial derivatives markets in Serbia, with a focus on the use of financial derivatives for risk management objectives of non-financial firms from banks' viewpoint given that the Serbian banking sector is considered the only counterparty to companies in the derivative OTC market, bearing in mind the bank-based position of Serbia's financial system. In order to achieve the research objectives, authors gathered data on the derivatives market structure, usage and types of derivative instrument traded, with a focus on commercial banks.

Given the above, in order to conduct relevant analyses, two scientific hypothesis have been formulated, i.e.

H1: Types of the derivatives offer by the banking sector is sufficient in regard to the derivatives usage by non-financial companies in Serbia.

H2: Knowledge about and focus on the effect of derivatives use.

According to literature, limited knowledge affects companies' use of derivatives (Bodnar et al. 1998; Børsum and Ødegaard 2005). It is suggested that companies' focus on derivatives, their importance and the extent of use. This paper explores whether knowledge affects the derivative usage from banks' perspective given that banks are considered the only counterparty to companies in the derivative OTC market bearing in mind the bank-centric nature of Serbia's financial system, as already mentioned.

LITERATURE REVIEW

Travica (2010) explored the use of currency derivatives, namely forward derivatives as a possible solution for currency-induced credit risk. She also identified non-performing loans on the basis of foreign exchange rate regression model, using the sample of 123 Serbian non-financial companies. She investigated the most important factors which affect hedging and the relationship between non-performing loans and the exchange rate. She claims that managers perceive currency-induced credit risk, but are not aware of the potential of forwards as hedging instruments. She ascertained that variables which affect the currency-induced credit risk (Non-Performing Loans - NPLs) are statistically significant at a pretty high confidence level and are economically important for the prediction of further trends in non-performing loans. Besides, research has shown that managers are not familiar with the protection offered by forwards in case of a volatile exchange rate.

The research found several key conclusions and observations:

- There is currency-induced credit risk and forwards as hedging instruments are not recognised as instruments which hedge against foreign exchange risk. As a result, it is not used to the degree possible because of the lack of understanding of such financial instrument and its benefits.
- Besides, the lack of corporate management in domestic companies is a serious gap. It enables managers to pursue unhedging policy and thus avoid responsibility for foreign exchange losses. There is also the fear of job loss because foreign exchange losses arising from hedging may lead to a change in financial managers. The research also showed that most of the management failed to employ forwards as hedging instruments for repaying of foreign currency-denominated loans, while the majority of companies carry that kind of liability in their balance sheets. Managers in the sample observed do not frequently involve in use of derivatives (FX forwards) because of possible regret due to loss, lack of understanding of determinants of foreign exchange rate and lack of corporate governance and fear.
- The research also identified the new cause of negligible hedging presence in the Serbian market, this being the interest rate differential. Forward thus becomes too expensive. Namely, if the number of companies (forward users) increases, banks would be able to

offer better pricing of forward which may increase hedging. Also, if the dinarisation takes hold, there would be less need for hedging loans. Still, successful de-euroisation may last many years.

- Thus, the relationship between NPLs and the exchange rate should be closely followed. The research shows the basic model and also explains NPLs and foreign exchange relationship. This confirmed the second hypothesis that "there was strong correlation between non-performing loans and foreign exchange rate on Serbian market in the period December, 2008 – August 2011"
- Also, hedging a loan at the time of dinar's depreciation could save money to the company's owners and ensure a more predictable business environment. Besides, a company would have the same level of predictability provided the dinar appreciates, but in that case foreign currency loss would be recorded. In either way, this would affect the company's profitability and its repayment capacity, which corresponds to the third hypothesis.
- Additionally, this research opened new avenues for future research. One point would be to establish a model so as to hedge companies against foreign exchange risk. Furthermore, future research should explore the difference between spot and forward rates as an important factor against hedging, and should encompass a larger number of observations of NPLs, available over a longer period.

Travica (2010) finally argued that the recommendation for all market participants such as the Serbian Banking Association, the National Bank of Serbia and commercial banks is to act jointly in promoting hedging instruments and in educating stakeholders about benefits and cost of hedging instruments.

The degree of development of the Serbian forward market in Serbia was explored by Djenic, Popovic-Avric and Bajraktarović (2012), who also analysed the presence and use of forward contracts. Despite volatility, this hedging instrument is not frequently used. The research began from the legal framework analysis regarding forward contracts, including the analysis of the degree of forward market development. The aim was to determine why local companies still do not understand their benefits deriving from this instrument in their everyday operations. Another aim was to assess the use of forward contracts in Serbia, including the main economic and legal issues pertaining to their successful implementation.

The findings show that even though currency forward contracts do hedge against FX risk, they do not increase with greater exchange rate volatility. The principal reason is the fact that forward contracts are implemented by big companies, i.e. companies which have high risk management awareness. Such companies implement forward contracts constantly, regardless of trends in the exchange rate. They implement these contracts in accordance with their foreign currency ins and outs (i.e. liabilities). As a result, for bigger companies, the most important determinant for the use of financial derivatives is the business cycle. Other companies still complain about foreign exchange flexibility and expect from National Bank of Serbia to eliminate the risk of foreign exchange rate changes, instead to hedge it through forward contracts. Thus, greater exchange rate volatility is not an important determinant of demand for forward contracts for the majority of Serbian companies.

The unclear regulatory framework and the ensuing restrictions only to hedging transactions because of limited legal regulations, including inadequately developed companies` awareness of the necessity to hedge against risks, are the main reasons for the lack of use of forward contracts and other financial derivatives in Serbia. Other reasons include the neglecting of exchange rate volatility, as well as ignoring risks and expecting from the government and the central bank to stabilise the exchange rate. Namely, the government and central bank are responsible for ensuring a macroeconomic environment that will create stable conditions for doing business and, therefore, they are responsible for systemic risk factors, including currency risk.

Nonetheless, according to the current monetary policy, the main objective of the National Bank of Serbia is price stability (low and predictable inflation), and not exchange rate targeting. Thus, it unjustified for local companies to rely on the central bank and the state, in regard to foreign exchange rate and risk elimination. Besides, the poorly developed entrepreneurial spirit and no understanding of business risks, including improper education, are only some of the reasons why local companies do not use forwards. In addition, there is no disputing that many entrepreneurs already hedge – not by sophisticated instruments, but only by building their selling prices at the exchange rate. A probable reason is also reflected in the impossibility to agree forward contracts with long maturities which would serve as hedging of long-term liabilities denominated in foreign currency in a company's balance sheet liabilities. In conclusion, the paper presents many upsides of financial derivatives as modern financial instruments. But, given the potential risks of financial derivatives because of undefined legal norms and at the time of the world economic crisis, they offer scope for abuse. Future research will analyse the use of other financial derivatives in the Serbian market.

Marinković and Skakavac (2010) analysed the evolution of derivatives trading in the Serbian financial market and its prospects. The first part of their paper includes some of their analytical observations of the current situation in the domestic economy, as well as the questionnaire-based survey, conducted in the banking industry. They concluded that most banks try to answer to the increasing need for derivatives. Banks with the highest market shares recently began to offer less sophisticated risk management products to clients. Those were, at the first place, currency forward agreements. As the matter of fact, the core of the banking industry aimed to respond to the increasing need for derivatives. Some banks already offered risk management products, primarily currency forwards and swaps.

Besides, there is a forecast of future trends, prepared based on observed facts. The authors identified the factors constraining the development of derivatives markets. Namely, banks considered market leaders did not show a clear interest. The competition from other financial institutions which break the monopoly of customary intermediaries (banks) is rather fruitless. The domestic financial industry is underpinned by financial conglomerates which leave little space for independent financial service providers. Although some banks offer currency-risk related products, this takes place only on an *ad hoc* basis, and there are no efforts to make two-sided continuous trade at a fair price, without discriminatory terms and conditions. Those seriously affected by currency and interest rate risk (households and corporates) are not knowledgeable about the derivatives business. The third main stakeholder is the local financial exchange.

There is no initiative in the financial exchange field to diversify business by offering a new range of products, which can be partly put down to the bad timing. Cash trading also loses its momentum. Therefore, it will probably take a lot of time for the first derivatives to be traded on the exchange.

The paper by Kozarević, Kesetović, Kokorović and Čivić (2012) analyses the derivatives use in financial risk management by companies in Bosnia and Herzegovina (BiH) on two samples: banks and companies. In general and based on information provided by banks, financial derivative users and export/import companies, the authors concluded that the main reasons for the weak use of derivative instruments are the lack of information about procedures of the derivatives usage and the lack of knowledge about possible benefits of these instruments when it comes to risk management. This is true not only for company employees, but for bank employees as well. Moreover, a significant restriction to a greater derivatives usage is the small number of business operations implemented by BiH companies in the foreign market, and no major trends on the BiH currency market given the central bank's currency board (i.e. fixed exchange rate of the Bosnian convertible mark against the euro and, in turn, a low degree of currency risk that companies face, excluding BAM/USD). Risk factors against which BiH companies hedge by means of financial derivatives are revenue and cash flow volatility, and the safeguarding of balance sheet positions.

The reasons why BiH companies do not use derivatives in order to hedge relate to the company size (in terms of annual turnover), and the intention to restrict cash flow or revenue volatility or to safeguard financial ratios. BiH companies decide against derivatives is the lack of knowledge and higher costs of derivatives portfolio maintenance; costs associated with financial risks are not a likely reason. However, the derivative products offer in BiH is substantial, and BiH companies plan to introduce additional products such as interest rate swaps. Besides, a lot of companies decide to use current and new financial derivatives instruments in their future business. However, if they wish to improve their financial risk management practices, given higher costs (arising mainly from banks' provisions and targeted profit rates) and irrespective of their positive experience, BiH companies should apply exchange-traded derivatives of developed countries rather than derivatives on the local OTC market.

Conversely, F. Sajjad, U. Noreen and Zaman K. (2013) analysed risk concerning the financial services sector (FSS) and the adequacy of risk management derivatives in Pakistan. With the aim of developing the derivatives market in Pakistan, the Financial Derivatives Business Regulations (FDBR) have been designed in the implementation of power by the State Bank of Pakistan pursuant to the Banking Companies Ordinance 1962 and Foreign Exchange Regulations Act 1947, to allow, regulate and supervise financial institutions that conclude derivative transactions. Relying on literature and SBP/FDBR publications, the study arrives at the conclusion that derivatives products are appropriate for managing FSS risk exposures. The development of the Pakistani derivatives market is needed to improve liquidity and employ the necessary capital for economic growth. F. Sajjad, U. Noreen and Zaman K. (2013) gave the following recommendations to encourage vibrant growth of the derivatives market in Pakistan:

- There are several causes of concern concerning exchange-traded equity derivatives in Pakistan. Namely, there are major gaps in the scope of actively traded derivative products. When it comes to equity derivatives, merely a single stock of deliverable futures is transacted, making up close to 100% of the overall volume of derivatives traded on the stock exchange. Depleted market liquidity may be ascribed to poor derivatives trading. The key challenge to SBP is to facilitate proper trading and prudent supervision of derivatives transactions. Therefore, SBP should regulate and conduct monitoring of participants in the Pakistani derivatives market so that market guidelines are complied with.
- It is advisable that the Exchange should initiate new programmes for the education of dealers, traders, brokers and market staff. Competent institutions must dedicate more resources to enhance operational processes and improve the derivatives-trading technology.
- Reforms aimed at market development will step up the growth of these markets. Public institutions such as the Old Age Benefit Fund and National Investment Trust should be supported to take part in the operational derivatives market. This will, in turn, enhance liquidity volumes.

METODOLOGY

Data about Serbian commercial banks were collected from two main sources: the survey and interview. We relied on questionnaire data more than on the interview given that the survey data were supported by interviews results.

Questionnaire

In order to assess the overall level of derivative instruments demand in Serbia and types of derivatives offered by the banking sector, Kobilarev (2014) conducted a research amongst commercial banks operating in Serbia in early June 2013. For this purpose, a particular questionnaire was designed and delivered to all banks in Serbia that offer hedging instruments. The sample included 17 commercial banks, according to the data from the National Bank of Serbia (NBS).

The methodological framework of the questionnaire was primarily based on elaborative and simultaneous development of research questions, theory and analysis, which aim to explore the types of derivatives offered in the Serbian banking sector in order to hedge FX, IR and PR exposures. Another aim was to assess the level of usage by Serbian companies as the banking counterparty, and to provide proposals and outline the limitations for the development of the derivatives markets in Serbia. The questionnaire was structured into six major parts. Research questions were addressed to explore:

1. The first section aims to evaluate the source of information that the banking sector uses in regard to the financial derivatives use.
2. The second section aims to assess the overall level of the financial derivatives demand in Serbia, to explore the types of derivatives offered by the banking sector, and to assess their importance.
3. The third section analyses banking activities taken to attract derivative business. It also analyses whether banks intend to establish a special department for financial derivatives management in the near future, to introduce or have already introduced new derivatives lines.
4. The fourth section steams from the third section but with more emphasis on bank staff in the financial derivatives field, usually in the treasury department – the intention is to understand how many staff were employed in the department in charge of derivatives trading, including their professional skills and expertise, qualifications gained, adequate training and certificates obtained.
5. The fourth section explores the reasons that most severely constrain the development of the domestic derivatives market and possibilities and limitations of introducing the derivatives market as an organised segment on the Belgrade Stock Exchange.
6. The last section aims to collect the company profile details, the field of industry, when the company was founded, the number of employees, respondents' personal data, including their gender, age group, years of professional experience, profession, academic and professional qualifications, position and the department where they work.

Judging by the data collected from official websites of the NBS and Association of Serbian Banks and questionnaire, out of 31 commercial banks, 17 of them offer derivatives products. The remaining 14 banks do not offer derivative instruments. Thus, these 14 banks were not included in further research. Out of 17 banks with derivative instruments, 11 banks returned the questionnaire, which was 65 per cent of all responses. Additionally, a part of the questionnaire concerned those banks that do not offer derivatives instruments at all so as to determine if they tend to introduce them in a near future. Three banks returned the questionnaire, which resulted in the total response rate of 82 per cent – this is considered an adequate response rate compared to other studies (e.g. the response rate in the 2012 BiH survey called "The Usage of Derivatives in Financial Risk Management by Companies in Bosnia and Herzegovina, from the banks perspective", as reported in Kozarević *et al.* (2012) was 80 per cent). The questionnaire consisted of 28 questions. Out of 11 respondent banks that offer derivative products, only one is state-owned, while ten are foreign-owned. Therefore, it may be concluded that foreign-owned banks will probably offer derivatives products.

A similar response rate was observed in the neighbouring country. According to Kozarević, Kesetović, Kokorović and Čivić (2012), in BiH out of 29 commercial banks, ten of them offer derivatives. The remaining 19 do not offer derivative instruments. Therefore, these 19 banks were not taken out from further research. Out of ten banks offering derivative instruments, eight banks returned the questionnaire, which was 80 per cent of all responses.

The primary data in the Serbian banking sector were collected through the questionnaire – a semi-structured questionnaire was delivered to the bank's deputy executive director or if there is no such position, to the deputy head or head of sales of the banks' treasury departments. It was implicitly assumed that these persons would most probably have the relevant information. The methodological framework of the questionnaire implied primarily the elaborative and concurrent development of research questions, theory and analysis, with a view to analysing the types of derivatives offered in the Serbian banking sector for the purpose of hedging FX, IR and PR exposures. Another objective was to assess the degree of usage by Serbian companies as the banking counterparty, and to give proposals and define the constraints for the development of the derivatives markets in Serbia. In order to evaluate the degree of derivative instruments demand in Serbia and types of derivatives offered by the banking sector we used a descriptive statistical analysis Excel.

The main limitation of the present study lies in the fact that only one research has been carried out in the region. It concerns Bosnia and Herzegovina, which is why we compared our results with this country only. In this context, the present article contains the first empirical evidence of the derivatives offer in the Serbian banking sector, which is particularly significant for the corporate sector given that it contains all necessary information concerning this field. The survey also contains considerable evidence enabling international comparison, which is certainly an advantage. The study can also be carried out in other SEE countries. The findings presented in this article may be used as the starting point for further research of the derivatives use in financial risk management from the perspective of banks.

Interviews

For this concrete research, the semi-structured interview was applied as the suitable method to elicit subjective answers from respondents. Therefore, semi-structured interviews were carried out with Serbian directors of treasury departments of the banking sector. According to Bernard (1998), a semi-structured interview is more suitable as the interviewer oversees the process of obtaining information from the interviewee but is free to explore new ideas as they appear.

Besides, primary data in the banking sector were gathered not only through the semi-structured questionnaire, but also through the semi-structured interview with Serbian experts from treasury departments. As soon as the directors or heads of sales from treasury departments filled out the questionnaire, they were invited to an interview. The response rate was high – 82 per cent, the same rate as in the questionnaire; 82 per cent of contacted treasury directors spoke of their willingness to participate. We obtained information from 14 treasury directors and managers from the Serbian banking sector.

The main aim of the interview was to supplement and reinforce the qualitative semi-structured questionnaire earlier conducted among the banking sector. The interview contains several main questions concerning the areas covered by the research. The interview contains 38 open-ended and probing questions.

Seven semi-structured interviews were carried out with banks' treasures. Each interview spanned for around 40–60 minutes. The interviews were recorded in order to ensure accurate information for the research and to ensure a careful analysis of respondents' answers. Most respondents agreed to audio recording. We took notes in the case of those interviewees who refused the recording.

The following stage of the study implied the analysis of collected data. Each interview question is to ascertain a particular issue not fully explained by the answers in the questionnaire. Thus, to examine interview data, the interpretive analysis approach was introduced. Data interpretation implies explicating insights, making deductions, giving appropriate relevance, enabling understanding, and arriving at appropriate conclusions. The application of the same principles in other places in different circumstances is reasonable as well (Patton, 2002).

RESULTS AND DISCUSSIONS

The Serbian banking sector has 31 banks (NBS, 2013). Foreign-owned banks are dominant in the market – they account for 75 per cent of total assets, 74 per cent of total capital and 72 per cent of total banking sector employment and record a profit of around RSD 17 bn (NBS, 2012). Foreign-owned banks operating in Serbia are members of banking groups from 11 countries. When it comes to their share in total banking sector assets, the most important are Italian banks (23 per cent), followed by Austrian (15 per cent), Greek (15 per cent) and French (10 per cent) banks. Banks from other countries accounted for a 12 per cent share in total banking sector assets (NBS, 2012).[1]

Based on banks' answers, Kobilarev (2014) concluded that, besides a poor supply of derivatives in the banking sector (54.8 per cent), the OTC derivatives market in Serbia is relatively "young" and it has been operation for the last six years only. There is no formally organised derivatives market as a derivatives exchange. Respondent 1 noted the following:

"We are still a bank-based financial market, we have no alternative financial market, banks are the main markets for capital movements. Banks in Serbia are traditionally dominant financial mediators, so it is understandable to say that the Serbian financial sector is bank-based. This is confirmed even by the data that banks indirectly manage more than 90 per cent of financial sector's assets. Except this, banks are majority owners of non-bank financial institutions. Banks are certainly major players on such a financially focused market from the demand and supply sides. The importance of banks for the Serbian financial markets is confirmed by the fact that the two biggest markets – foreign exchange market and money market – are organised as standard interbank markets. On the capital market, banks are also leading investors, as the largest government bonds buyers."

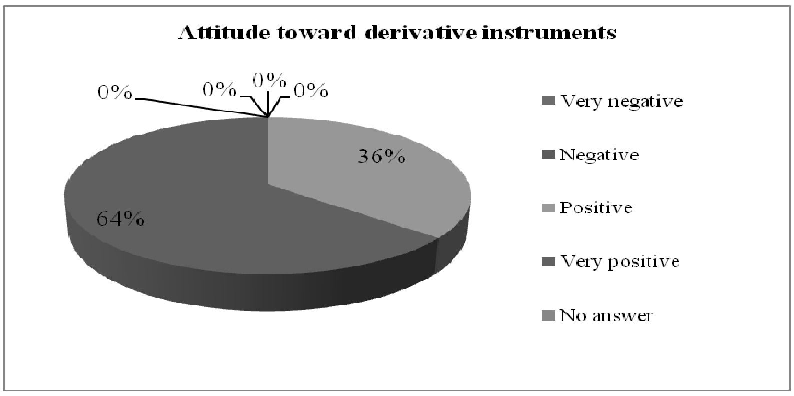
Respondent 2 said the following: "The capital market does not exist. Serbia's capital market is banks. The capital market is when you, as a firm, think about how to obtain money, to finance something. You have the option to issue shares, bonds, to take a loan. And then you weigh up the pros and cons. In Serbia, all that is more expensive by 3-4 per cent, and you take a loan. Cash flow is clear for a bond. You pay a coupon, or you do not have a coupon and you pay the bill of exchange. In case of a share, you pay nothing apart from the dividend. There is a return to the investor of the share the price of your share perhaps goes up, and he sells it at a higher price than he bought your share, or through the dividend payment he periodically recovers a part of his money. Only NIS in Serbia and a few other companies pay out dividends; rising shares are a dream and it doesn't happen, those are mostly some speculators.

Based on banks' answers, Kozarević *et al*. (2012) came to the conclusion that, besides a weak supply of derivatives in the banking sector (34.48 per cent), the OTC derivatives market in BiH is still nascent given that it has operated for merely six years already. There is official derivatives market as a derivative exchange, which is also the case with the Serbian banking sector. Still, despite the weak derivatives supply in both countries, it is possible to conclude that the supply of derivatives in the Serbian banking sector is by 20.32 per cent (total 54.8 per cent) higher than in the BiH banking sector, even though both derivatives markets are still young and nascent.

[1] Banking Sector in Serbia – First Quarter Report 2013.

Sources of information of derivative usage in banking sector

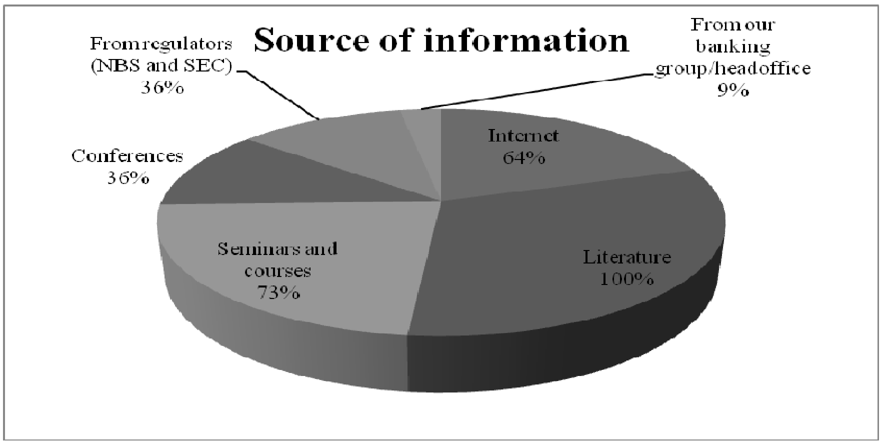
We first analysed the source of information that the banking sector relies on in terms of the financial derivatives usage. The survey shows that 64 per cent of respondents have a very positive attitude and that 36 per cent of respondents have a positive attitude towards derivative instruments.



Graph 1. Attitude towards derivative instruments

Source: Author's data

In addition, 82 per cent of respondents are fully informed about the role and characteristics of derivatives instruments, while only 18 per cent are merely informed. No respondent stated that he/she is not informed or merely uniformed or gave no answer. In general, it is possible to conclude that most bankers from treasury departments have a very positive attitude in regard to derivatives and the majority are fully informed about their usage. Judging by to survey results, the dominant source of information about financial derivatives is literature with 100 per cent, followed by seminars and courses with 73 per cent and the internet with 64 per cent. Bankers infrequently attend conferences for the purpose of informing themselves about derivatives (36 per cent) and are not used to being informed through regulatory authorities such as the NBS and SEC (36 per cent). Besides these sources of information, one bank stated its head office as the source of information about derivatives. As a part of a large international network, this bank puts significant effort in educating and training its employees in Serbia in the field of derivatives trading.



Graph 2. Source of information about financial derivative instruments

Source: Author's data

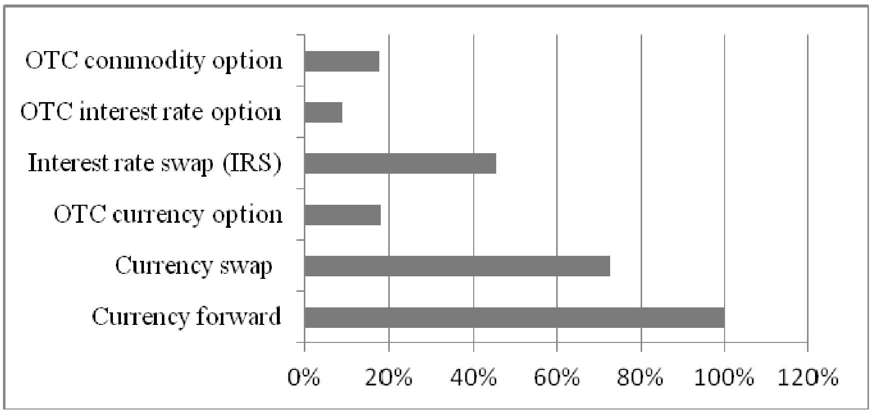
In the interviews, Kobilarev (2014) ascertained the main reason why subsidiaries often do not inform themselves through their parent banks. "Our head office provides us with all the necessary information about the use of financial derivatives since it is in their interest that we sell more financial derivatives. But I do not think that all head offices are doing so. Nor are they always ideally organised, and do not have time to deal with the education of their daughter banks. But generally it is a good backup", said respondent 3.

The response of this particular interviewee mirrors the general feeling stated by most interviewed banks. It can therefore be said that the link between the parent bank and its branches in terms of information is good, but banks generally try not to burden their parent banks and therefore rely more on information available, mainly literature and the internet. They also educate themselves by attending seminars, courses and trainings about the use of derivatives. In case of dilemmas, they often contact their parent banks.

The second section of the questionnaire analyses the overall level of the financial derivatives demand in Serbia, examines the types of derivatives offered by the banking sector, and ascertains their importance.

The research showed that the offer of derivative instruments in Serbia is insufficient. Commercial banks usually offer only five types of derivatives, which are used predominantly for foreign exchange risk, interest-rate risk and price risk hedging: the most frequent are currency forwards with 100 per cent, followed by currency swaps with 73 per cent, and interest rate swaps. On the other hand, currency options (18.2 per cent), OTC commodity options (18.2 per cent) and OTC interest rate options (9.1 per cent) are the least present in the banks' offer. The structure of derivatives offered in the OTC market in Serbia is presented in Graph 3.

Six banks in Serbia (54.5 per cent) offer financial instruments for hedging against currency risk only (see Figure 5.4). All of them offer currency forwards (100 per cent) and only three of them currency swaps (27.3 per cent). Merely three out of 11 banks covered by the survey (27.7 per cent) offer derivative instruments for hedging both against currency and interest rate risk. They offer currency forwards, currency swaps and interest rate swaps (27.3 per cent for each).



Graph 2. Source of information about financial derivative instruments

Source: Author's data

The two biggest surveyed banks offer a broader range of financial derivatives. They offered financial instruments for hedging against all three types of financial risks: currency, interest and price risk (see Table 1).

Conversely, banks in BiH have in their offer only three types of derivatives, generally used for foreign exchange risk and credit risk hedging: currency forwards, currency swaps, and interest rate swaps. According to the research, all three types of derivatives are contained in the offer of

12.5% of the surveyed banks, currency forward and currency swaps are in the offer of 50% of the banks, and 37.5% of the banks have only currency forwards (Kozarević *et al.* (2012)).

Table 1. Overview of derivatives by the type of financial risks in the OTC market in Serbia

Types of derivative	**Number and % of banks offering only FX derivatives 6 (54.5%)**	**Number and % of banks offering FX and IR risk derivatives 3 (27.3%)**	**Number and % of banks offering FX, IR and commodities derivatives 2 (18.2%)**
Currency forward (%)	6 (54.55%)	3 (27.3%)	2 (18.2%)
Currency swap (%)	3 (27.3%)	3 (27.3%)	2 (18.2%)
Interest rate swap (%)		3 (27.3%)	2 (18.2%)
OTC interest rate option (%)			1 (9.1%)
OTC commodity option (%)			2 (18.2%)
OTC currency option (0%)			2 (18.2%)

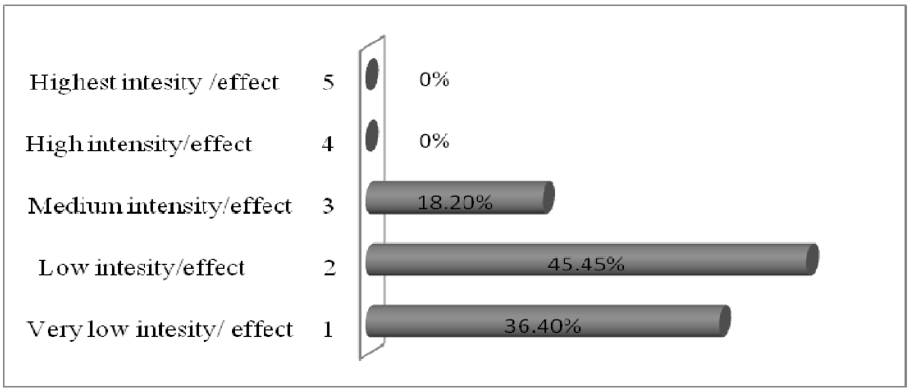
Source: Author's data

According to the interviews conducted in the Serbian banking sector, derivative instruments, notably commodities and interest derivatives, are transacted with clients through parent banks. The primarily reason why transactions do not take place in the domestic market is insufficient knowledge among banking professionals about these products. FX derivatives, namely FX forwards and FX swaps are still the most prevalently traded derivatives in Serbia, while IR and price risk derivatives are underdeveloped.

As suggested by the questionnaire results, banks which offer financial instruments to hedge against price risk do not publish such information on their websites. Respondent 4 said the following: "The demand for derivatives is very small, which is why we do need to inform our clients of them on our website. Commodities derivatives are highly costly and the corporate sector's demand for them is extremely low. All treasury directors interviewed concurred that "there are around 40–50 companies in our market at most which use financial derivatives for hedging, usually against currency risk: 99 per cent are currency forwards, of which 80 per cent are covered or quasi forwards. In terms of interest rate hedging, mere two interest rate swaps are traded in Serbia, according to their knowledge. There is no knowledge about interest and price risk, while the knowledge of FX risk is low. There are no options because they are expensive. In general, we can offer all instruments envisaged by law, but no one will use them except for the said three types of instruments. Options are costly. Of course, a bank must have a small margin and when it gives an option to a client, it is much costlier than a forward agreement, which is the reason these options are not used. A bank can calculate an option, this poses no problem, but it will also deliver a price, which will be rather high. Companies are not inclined to paying anything in advance. Banks offer options at expensive terms, which is why companies use them infrequently."

The demand for derivative instruments in Serbian and BiH banks is also very weak. In the questionnaire Serbian banks graded the demand for financial derivatives on the one to five scale (from very low to highest intensity). It transpired that 36.4 per cent of the respondent banks assessed demand for financial derivatives with very low intensity of one, while 45.45 per cent of banks scored demand with the low intensity grade of two. Only 18.2 per cent (two surveyed banks) graded the derivatives demand with a medium intensity grade of three (see Graph 4).

When it comes to the demand of bank corporate clients for financial derivatives, it can be noted that it did not increase compared to last year in the case of 72.72 per cent of surveyed banks. Only in three banks (27.3 per cent of the surveyed banks), the demand for financial instruments went up compared to 2012.



Graph 4. Assessment of derivatives demand in the banking sector

Source: Author's data

In addition, information obtained in interviews with deputy heads of sales in treasury divisions showed that the major reasons for the weak usage of derivative instruments are the absence of information about the procedure of the derivatives use and no knowledge about potential benefits of these instruments in the field of risk management. Information given by derivatives users (via informal communication) in the BiH banking sector showed that the main reasons for weak usage of these instruments are the same as those in Serbian banks. Besides, the key limiting factor of a stronger derivatives use both in Serbia and BIH can be put down to the small number of business operations of the companies on the foreign market. Judging by the interviews in Serbian banking sector, it can be concluded that the main derivatives users are companies producing and distributing oil and oil derivatives, including wholesale and retail companies, gas trading and supplying companies, construction companies, communication and IT companies. Rather similar results are found in BiH where the main users of derivatives, in addition to the above mentioned, are also furniture production and trade companies (especially trade companies importing from China), including gas trading and supplying companies. Serbian banks were asked questions about the practical use of derivatives by the corporate sector, with a view to exploring the practical usage of derivatives in the banking sector. Asked if they ever concluded forward contracts with the corporate sector, 100 per cent of banks gave a positive answer. In terms of the contracts category, 100 per cent of banks stated that they use forwards, while 36.36 per cent of them concluded swap contracts. The underlining asset for derivative contracts is currency with 100 per cent, and interest sensitive assets with merely 18.18 per cent. All institutional agreements are concluded in the OTC market. According to the survey results of Kozarevic *and al.* (2012), the clients of BiH banks show the strongest interest in currency forwards, with the average grade of 2.33, currency swaps (2.20) and finally interest rate swaps (2.00)[2].

Currency risk derivatives

The questionnaire also examines the banking sector's offer of derivative instruments as a currency risk management tool (see Table 2).

[2] The surveyed banks were asked to assess demand for derivative instruments through the grading system, where 1 meant "there is no demand", 2 "low demand", 3 "moderate demand", 4 "high demand", and 5 "very high demand".

Table 2. Banks' offer of financial derivatives as a currency risk management tool

Instrument	Percent of banks that offer the instrument	Importance 1-3 (1 less important, 2 important, 3 very important)		
		1= less important	2= important	3= very important
1. Currency forward	100	-	9	2
2. Covered or "quasi" forward	91	1	7	2
3. Currency futures	0	-	-	-
4. Currency swap	72.73	3	3	2
5. Stock-Exchange Currency option	0	-	-	-
6. OTC (over-the-counter) currency option	18.18	2	-	-
7. Structured derivatives (e.g. currency swaption)	0	-	-	-

Source: Author's data

The table shows that currency forwards are the most dominant and are offered by all surveyed banks. Nine out of 11 surveyed banks consider them an important currency risk management tool, while two of them give them the highest score (of three), i.e. consider them very important. Currency swaps with 72.73 per cent are the second most common currency hedging instrument. In contrast to currency forwards with high importance, only two banks assessed currency swaps as very important, three banks as important and three as less important. In line with the interview, OTC currency options are the least commonplace in the offer and were graded as less important by two out of 11 surveyed banks. As the matter of fact, options are still rather costly financial instruments for the corporate sector.

Banks were also asked to state the total number and the type of currency forward contracts that they entered into with their corporate clients for hedging purposes, in 2011 and 2012, and the average value of contracts in the national currency. Six banks considered this question a business secret, which is why we did not obtain these data. For the reasons already mentioned, the following data were prepared on the sample of five banks. Data about three banks are contained in Table below, while two other banks will be examined further in the text.

The data in Table 3 show that three banks concluded only 115 currency forward contracts in 2011 with an average value of EUR 310,000 and 106 currency forward contracts in 2012 with an average value of EUR 316,666. The most commonly used were the so-called "quasi" forwards. There were 801 of them in 2011, with the average value of EUR 550,000.

Table 3. Total number of FX derivatives contracted with the Serbian companies

	2012 total number of contracts	2012 average value of contracts in din or EUR	2011 total number of contracts	2011 average value of contract din or EUR
Currency forward	106	EUR 316,666	115	EUR 310,000
Covered or "quasi" forward	880	EUR 550,000	810	EUR 550,000
Currency swap	40	EUR 750,000	30	EUR 750,000
Currency option	3	EUR 225,000	5	EUR 225,000

Source: Author's data

Since the start of their derivatives trading in 2009, two banks entered in only six currency forwards with the average value of EUR 790,000, and only had a forward agreement with the average value of EUR 120,000. According to research results, the derivatives market in Serbia is in its early stages of development, which indicates a low derivatives market potential in Serbia. Furthermore, Živanović et al. (2018) concluded that 65.9 per cent of Slovenian companies covered by the sample employ financial derivatives, vs. 43 per cent in Croatia, and in Serbia only 40.32 per cent of companies use financial derivatives, implying that the Serbian corporate sector has the lowest percentage of derivatives usage in the region.

Kozarević *et al.* (2012) assessed the demand for derivatives in BiH as extremely low. According to data, one bank which is the largest supplier of derivatives, closed merely 10 contracts for derivatives with an average value of BAM 750,000.00 (cc. EUR 383,600.00) since August 2008. All other banks together concluded only four contracts for derivatives. A suggested by research results, the derivatives market in BiH is in the early stage of development, which indicates a low derivatives market potential in BiH. The research results suggest that Serbian banks concluded 106 currency forwards in only one year (2012) with an average value of 316,666 EUR, which implies 98 more closed currency forwards than the BIH sector has ever contracted. For the sake of comparison, the Serbian banking sector concluded more types of derivative contracts than the BiH banking sector. It is possible to conclude that the Serbian derivatives market has a higher potential than the BiH derivatives market though both markets are still in development phases.

The situation is similar in Montenegro, although the Montenegrin economy is to an extent better developed. The main reason for the low visibility of forwards in the local financial market is the absence of currency risk exposure, as the legal tender of Montenegro is the euro, in all transactions since March 2002. (Živanovic *et al., 2012).*

Interest rate derivatives

Foreign exchange derivatives are the most frequently traded of all risk categories in Serbia, whereas interest rate derivatives remain underdeveloped according to the survey results. When the question was asked about the types of interest rate derivatives on offer and their importance (1 = less important; 2 = important; 3 = very important), five surveyed banks (45.45 per cent) said that they offer interest rate swaps, while only two banks offer OTC interest-rate options (see Table 4.). In terms of interest rate swaps, three out of five surveyed banks assessed them as a less important interest-rate risk management tool, giving them the lowest score of 1, while two banks consider them an important IR tool (the score of 2). The overall activity in interest rate derivatives in Serbia, however, remains extremely low. OTC interest rate options were assessed by two banks as less important, with the score of 1. On the sample of five surveyed banks, the questionnaire results suggest that since IR derivatives were introduced to the Serbian market only four contracts have been entered into with the average notional amount of EUR 10 million, while OTC interest rate options are not traded.

Table 4. Banks' offer of interest rate hedging products

Instrument	Percent of banks that offer the instrument	Importance 1-3 (1 less important, 2 important, 3 very important)		
		1= less important	2= important	3= very important
1. Interest rate forward	0	-	-	-
2. Interest rate futures	0	-	-	-
3. Interest rate swap	45.45	3	2	0
4. Stock-Exchange interest rate option	0	-	-	-
5. OTC (over-the-counter) interest rate option	18.18	2	0	0
6. Structured derivatives (e.g. cap, floor, collar, corridor or swaption)	0	-	-	-

Source: Author's data

With the aim of assessing, on the one hand, the opinion of Serbian deputy heads of treasury divisions about this matter, as well as to increase the reliability of the results obtained from the questionnaire, the following question was asked at the interviews: What are the instruments that the banking sector offers to corporate clients to hedge them against interest rate risk and what is the perspective of the further development of IR derivatives. A general opinion of heads of treasury divisions can be summed up in the following answer given by respondent 5:

"I can assure you that among interest derivatives, only the interest rate swap is used in Serbia. Interest rate swaps are at a disposal, but I believe that the advantage of an interest rate swap is that at the beginning there is no payment, i.e. no exchange of cash, while in case of interest options the premium must be paid in the start. It is the same as an insurance policy. This doesn't exist with swaps. Interest swaps will be popular now because EURIBOR is expected to rise. This will certainly happen as interest rates have hit the bottom. You already see the information that the European economy is recovering and exiting from recession. As the economy is recovering, there is fear of inflation, key interest rates are rising, everyone is raising interest rates, EURIBOR is soaring. I therefore believe that companies will start to use more interest rate swaps in hedging their risks. Interest rate options imply advance premium payment. Very few clients are ready to give you cash in advance. Commodity options would be more popular. I believe they are more liquid, especially oil and wheat; commodity derivatives will be generally more popular here than interest rate ones."

As confirmed by survey results, interest rate derivatives are not used by the corporate sector to a significant extent in the Serbian OTC market. In terms of IR derivatives, only IR swaps are traded, but have a very low importance. Nevertheless, it is expected that the interest in IR derivatives, i.e. swaps, will go up in the future given the high variability of interest rates (e.g. EURIBOR) and in parallel with the increase in economic activity of the Serbian corporate sector, primarily growth in exports and imports, and the development of the domestic financial market.

Commodity derivatives

When it comes to price risk management solutions, banks' offer of commodity derivatives is very poor according to the survey results. Merely two out of 11 surveyed banks offer OTC commodity options (18.18 per cent), rating them with the score of 1 as less important (1 = less important; 2 = important; 3 = very important).

Judging by information obtained from the interviews, all bankers believe that commodity derivatives in Serbia are still in their infancy.

Respondent 6 noted:

"Regulations were recently amended. The NBS allowed what was recently forbidden by the Decision on Performance of Financial Derivative Transactions – the contracting between a domestic legal person and a foreign bank of a commodity non-deliverable derivative (NDF). A domestic company can now conclude with a foreign bank a derivative which is not executed in goods, but in the difference, and now they are launching first commodity derivatives, then they will analyse the situation and will see what are possible impacts on the financial systems, they will be letting interest rates go up etc. By changing the provision, it is possible to deliver non-deliverable derivatives between residents and non-residents. We expect higher interest in this instrument in the future, but it should be emphasised that the lack of corporate culture of Serbian enterprises is what generally impedes the development of derivative instruments in general."

In view of the above research results (see Table 2; 3; 4), it is possible to accept our research hypothesis that types of derivative offer by banking sector are sufficient relative to the derivative usage by non-financial companies in Serbia.

Prospects for the further development of derivatives usage

When asked about the activities they undertake to attract derivative business, all 11 banks stated that they are working all the time to improve staff education in derivatives trading, while six surveyed banks carry out strategic planning activities so as to attract their corporate clients. A downside is reflected in the fact that all surveyed banks do not have the intention to establish separate departments for financial derivatives management in the near future. At the time of data collection, no bank surveyed was planning to set up departments for derivatives trading in the near future, which is understandable given the lack of substantial demand for derivatives. This will, ceteris paribus, hinder further development of financial and derivatives markets in Serbia. The same research results were observed in the BiH banking sector, as suggested by Kozarevic et al. (2012), with a positive fact that the surveyed banks pay considerable attention to basic financial instruments that are available and have therefore organized separate departments (such as trading and asset departments), with staff trained for this type of transactions.

A positive aspect relating to operations in the OTC derivatives market is that 54.5 per cent of the surveyed banks engage employees with appropriate knowledge and international certificates for financial instruments trading (e.g. ACI Dealing Certificate, CFA), while other banks engage staff with relevant brokerage certificates (27.27 per cent) and investment advisor certificates (9.1 per cent) issued by the Republic of Serbia Securities Commission. As indicated by the survey, there are on average three employees in charge of financial derivatives. When interviewed about the type of necessary education, most respondents referred to the ACI Dealing Certificate exam, as well as basic education and training in all fields of business operations with derivatives. Education is indispensable not only for staff employed in the front desk, but also for those engaged in other departments and dealing with derivative transactions, such as the financial department, trading department, credit department, etc. A downside of operations on the BiH OTC derivatives market is that merely 25% of the surveyed banks engaged specialized persons with now-how and international certificates for financial instruments trading (e.g. ACI Dealing Certificate), while other banks meet legal requirements and take on staff with adequate brokerage certificates and investment advisors certificates issued by the Securities Commissions in the Federation BiH and Republic of Srpska.

When surveyed the type of education needed in the Serbian banking sector, the majority of the surveyed subjects referred to the ACI Dealing Certificate exam, and the need for basic education and trainings in all aspects of derivatives operations. Education is indispensable not only for those engaged in a front desk, but also for those working in other departments and dealing with derivative transactions, such as financial department, trading department, credit department, etc.

It is noteworthy that all banks, both in Serbia and BiH, express the need for further education of their staff in the area of derivatives trading as the tool for managing (i.e. hedging) risks. This made us conclude that the main reason for the weak level of derivatives supply and demand is the lack of information and education of banking staff in derivatives contracting, as well as banks' caution in terms of legal risk.

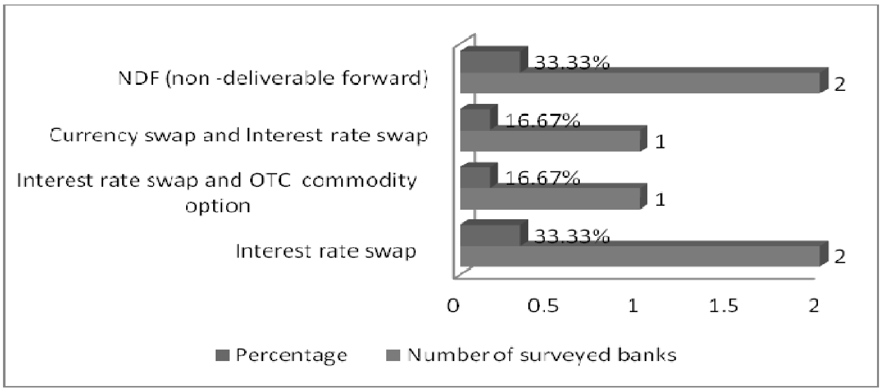
Nine banks or 81.82 per cent of banks in the Serbian banking sector did not introduce any new derivative product recently, with only two banks introducing them. When it comes to widening the derivatives offer, 54.5 per cent (six) of the surveyed banks intend to offer new derivative instruments, 27.27 per cent (three) do not have such plan, while 18.18 per cent (two) did not give a clear answer to this question. As for the broadening of types of derivative products, 75% of the banks surveyed in BiH intend to offer new derivative instruments, 12.5% do not have such plans, while 12.5% did not provide a clear answer to this question.

The banks that gave a positive answer to the question concerning the broadening of their derivative offer, they intend to offer non-deliverable forward, currency swap, interest rate swap and OTC commodity options. A thorough structure of the derivative offer development in Serbia is presented in Graph 5.5. In BiH, the banks that gave a positive answer to the questions concerning the broadening of their derivatives offer, stated they will offer interest rate swaps, currency swaps, and credit options.

In regard to the need to set up a regulated derivatives market, the situation with the surveyed banks is as follows: 36 per cent state that establishing the derivatives market will contribute to the development of the financial market in Serbia in general, while 64 per cent think that there is no need for that yet. Those stating there is no need for an organised derivatives market believe that bilateral cooperation among banks would suffice. As stated by respondent 7:

"Financial markets demand volume and market participants. In our country, bilateral cooperation between banks would be sufficient. First you need to regulate the interbank (OTC) market properly because it has many disadvantages and should be regulated in the first place. In our banking system, there is still no spot market or forward rate quotations. Our financial market is still in infancy, while the corresponding volume and demand for financial derivatives are at a very low level. Where there is no market environment there cannot be a real financial market. Where there are no basic financial instruments, derivatives cannot be contracted and traded. The prerequisite for this is the existence of an adequate market depth."

When it comes to the need to organise a derivatives market as a segment within the Sarajevo Stock Exchange (SASE) or Banja Luka Stock Exchange (BLSE), the situation among the surveyed banks is the following: 50% of them believe the establishing of the derivatives market will incite the development of the financial market in BiH in general, while 50 per cent believe there is still no such need.



Graph 5. The (intended) structure of derivative offer development in Serbia

Source: Author's data

When surveyed about the reasons that most seriously constrain the development of the domestic derivatives market, all 11 surveyed banks (100 per cent) stated that this is due to the uninformed client base and valid legislation regulating derivatives. In addition, the absence of interest in banks (36.36 per cent) and no experienced staff in banks (18.18 per cent) are less important reasons. As banks were also provided the possibility to state another reason which we may not have specified in the question, 80 per cent of them said the main reason hindering the development of the domestic derivatives market is our shallow financial market.

We also asked banks to provide the most important reasons/limitations for the derivatives use by the corporate sector (companies). As suggested by the survey, the most significant conditions and/or obstacles to derivatives purchases by companies the following:

- The absence of corporate culture in the corporate non-financial sector, as highlighted by all eleven surveyed banks (clients are still not informed of how hedging instruments can improve the security of their financial operation)

- Costly derivative instruments and still insufficiently elaborate legal regulations regulating derivatives in Serbia
- Need to have deposits on a special bank account to cover forward transactions
- High level of required collateral (depending on clients' creditworthiness) and
- Substantial need to purchase different currencies.

Kobilarev (2014) asked the same question in the interview, aiming to obtain a more elaborate explanation of the expression "the lack of corporate culture", stated by Serbian bankers as the primarily reason hindering the use of derivatives by the corporate sector.

Respondent 8 stated that "one of the obstacles to the use of hedging instruments is the lack of corporate culture because of the unwillingness of entrepreneurs, especially SMEs, to inform, educate and engage in new transactions. The trend of using hedging in the future will depend on the willingness and desire of banks to refer clients to these possibilities and to assist them in understanding the rules of the financial derivatives usage."

We learned the following from the interview: "In the corporate sector there are generally financial directors who do not want to hedge against financial risks; if the dinar strengthens, the director is a bigwig, if the dinar weakens he will ascribe it to force majeure, no one will tell him that he is a bad financial director. This is the main reason – poor corporate governance. Unfortunately, this is the hardest factor for investigation, but this will not be settled until the economy is transformed, before the governance structure in enterprises is established under a western model. Not all is the best in the west, this financial crisis showed that everything was not in order", claimed respondent 8.

It is therefore possible to accept our research hypothesis according to which knowledge and focus on derivatives impact their use.

According to research results of Kozarević *et al* (2012) in BiH, as evident from the information provided by derivatives users (via informal communication), the principal reasons for the low usage of derivative instruments are the lack of information about the derivatives use procedure and the absence of knowledge about possible benefits of these instruments for risk management purposes. Besides, the main factor constraining a more substantial derivatives usage can be put down to a relatively low number of business operations of BiH companies on the international market. The most important conditions and/or constraints for derivatives purchases by BiH companies are as follows:

- Need to have a deposit on a special bank account to cover forward transactions (usually 10% of transaction value),
- Value of turnover of the client with the bank,
- Substantial need to buy different currencies, and
- Degree of collateral (depending on clients' credit worthiness).

CONCLUSION

Based on the research carried out in the Serbian banking sector, currently 17 out of 33 banks in Serbia offer different hedging instruments. Banks are considered the only counterparty to companies in the derivatives OTC market given that Serbia's financial system is bank-based. As suggested by research results in the banking sector, in addition to a weak supply of derivatives in the banking sector (54.8 per cent), Serbia's OTC derivatives market is nascent given that it has existed over the past seven years only (M. Kobilarev, 2014). In terms the types of derivatives used, Serbian companies generally employ OTC derivatives, which are more expensive compared to exchange-traded derivatives, since there is no regional market for exchange-traded derivatives. As suggested by survey results, foreign exchange derivatives are the most traded of all risk categories in Serbia, whereas interest and commodity rate derivatives are still underdeveloped.

The research showed that currency forwards are the most commonplace and are contained in the offer of all surveyed banks, with currency swaps being the second most dominant currency hedging instrument. The research results confirm that interest rate derivatives are not employed by the corporate sector to a high degree in the Serbian OTC market. In terms of IR derivatives, only trading in IR swaps takes place, but their importance is very low. As stated by all the banks, the reasons that most seriously hinder the development of the Serbian derivatives market are the lack of information in the corporate sector and the absence of appropriate legislation governing derivatives transactions. As banks could also state other reasons, most of them referred to Serbia's shallow financial market. As indicated by the survey, the most important restrictions for the derivatives purchase by companies are the lack of corporate culture in the company sector and costly derivative instruments, including the still insufficient regulations regulating derivatives operation in Serbia. Taking into account the above, both of our research hypotheses can be accepted. The first hypothesis suggests that types of the derivative offer by the banking sector are sufficient in regard to the derivatives usage by non-financial companies in Serbia. Furthermore, we concluded that knowledge and focus on derivatives influence their use, wherefore our second hypothesis can be accepted as well.

This article offers the first empirical evidence of the derivatives offer in the Serbian banking sector, which is highly important for the corporate sector as it provides all necessary information relating to this field. Additionally, the survey contains ample evidence allowing international comparison, which is undoubtedly an advantage. The study can also be implemented in other SEE countries. The findings given in this article may serve as the starting point for future research of the derivative usage in financial risk management from banks' perspective.

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