

## Jadranka Petrović

Banja Luka,  
BiH

✉ jpetrovic.bl@gmail.com

### THE ROLE OF PUBLIC DEVELOPMENT BANKS IN THE GROWTH OF SMALL AND MEDIUM ENTERPRISES

### УЛОГА ДРЖАВНИХ РАЗВОЈНИХ БАНАКА У РАЗВОЈУ МАЛИХ И СРЕДЊИХ ПРЕДУЗЕЋА

**Summary:** *In this study we focus on public development banks in order to see how effective their support has been on the SMEs performance and growth. The Republic of Srpska Investment-Development Bank (in Serbian: Investiciono razvojna banka Republike Srpske – IRBRS), provided the empirical context for our research. We explored the impact of IRBRS loans on selected business performance indicators: sales, profit and capital of SME borrowers. The study was based on the comparison of selected performance indicators during the five-year period before (2003-2007) and the five-year period (2009-2013) after using IRBRS loans. The selected indicators were also compared with those of the control group, non users of IRBRS loans. The results based on the representative sample of SMEs in the Republic of Srpska show a positive impact of IRBRS loans on sales, profitability and capital of SME borrowers, therefore confirming the positive impact of public development banks on the SMEs performance and growth.*

**Keywords:** *SMEs, public development bank, business performance indicators, Republic of Srpska/BiH*

**JEL classification:** *O1, O43, H81*

**Резиме:** *Предмет истраживања су државне развојне банке и анализа њиховог утицаја на пословање и раст малих и средњих предузећа (МСП). Емпиријски контекст за истраживање је обезбиједила Инвестиционо развојна банка Републике Српске (ИРБРС). Истражили смо утицај кредита ИРБРС на одабране показатеље успјешности пословања предузећа: укупан приход, нето добит и капитал МСП зајмопримаца. Студија је заснована на поређењу одабраних показатеља успјешности пословања предузећа у току петогодишњег периода прије кориштења ИРБРС кредита (2003-2007) и петогодишњег периода након кориштења ИРБРС кредита (2009-2013). Такође, одабрани показатељи су упоређивани са показатељима контролне групе коју су чинила предузећа која нису користила кредите ИРБРС. Резултати засновани на репрезентативном узорку МСП у Републици Српској показују позитиван утицај кредита ИРБРС на укупан приход, нето добит и капитал МСП зајмопримаца, потврђујући позитиван утицај државних развојних банака на пословање и раст МСП.*

**Кључне ријечи:** *мала и средња предузећа, државне развојне банке, показатељи успјешности пословања, Република Српска/БиХ*

**JEL класификација:** *O1, O43, H81*

## 1. INTRODUCTION

The subject of this research is a theoretical and empirical analysis of the impact of public development banks (PDBs) on the performance and growth of small and medium sized enterprises (SMEs). The attention will be focused on the historical and theoretical research of public development banks and their role in the economy, the justification of public development banks' intervention in the economy and the rationale for supporting SMEs sector, focusing on the impact evaluation of PDBs.

Also, through empirical research, on the example of the Republic of Srpska Investment-Development Bank, one of the two public development banks in Bosnia and Herzegovina<sup>1</sup>, we explored the impact of IRBRS loans on selected business performance indicators: sales, profit and capital of SME borrowers.

The paper is structured as follows. After the introductory section, Section 2 provides an overview of the literature. Section 3 describes the research design, methodology and sample used in the empirical study. The results of the research are presented in Section 4, while conclusions are presented in Section 5.

<sup>1</sup> Development Bank of the BiH Federation operates in the Federation of Bosnia and Herzegovina

## 2. LITERATURE REVIEW

What is a public development bank? While there is no universally accepted definition of what a development bank is, development banks are often described as financial institutions that are primarily concerned with offering long-term capital finance to projects that are deemed to generate positive externalities and hence would be underfinanced by private creditors (Yeyati et al. 2004, 16). De Ollouqui (2013, XIV) gives a definition of a public development bank as “a state financial institution whose mandate is to promote socioeconomic development by financing specific economic activities, sectors, or segments”.

### 2.1. Brief History of Public Development Banks

It is possible to identify several phases in the evolution of public development banks. Each phase is associated with the prevailing theories of economic development at the time.

The rapid industrialization in many countries in the 19th century, such as Germany, Japan, France and Holland, was achieved by state provision of long term loans to risky projects via development banks (Ozturk et al. 2010). The demands for reconstruction after the World War II triggered another wave of state-sponsored financial institutions. The German KfW and the Japan Development Bank are the two major examples. Although they originally intended to channel external funds for reconstruction, these institutions later evolved to long-term state financial institutions (Yeyati 2004).

In 1950's and 1960s growth theories and models of the development economists, such as Arthur Lewis, Gunnar Myrdal, Paul Rosentain-Rodan, Walter Rostow, Alexander Gerschenkron, emphasized the importance of investment and advocated direct state intervention in high-priority economic sectors. These theories underlined the need for special institutions, including development banks, to channel the necessary capital toward the targeted industries (Bruck 1998, De Ollouqui 2013). Governments acted largely in line with this view and, by the 1970s, the state owned 40 percent of assets of the largest banks in industrial countries and 65 percent of the largest banks' assets in developing countries (Yeyati 2004).

In the late 1980s and 1990s there was a shift in views on the state's role in the economy, following the predominant neo-liberal economic policy codified in the Washington Consensus. Economic policy oriented toward liberalizing markets, privatization and restricting the role of the state in the economy. This led to a wave of privatizations and liquidations of public banks in many countries, and restrictions were placed on the resources available to development banks reflecting concerns regarding their performance (Gutierrez et al. 2011). Consequently, from 1987 to 2003 more than 250 public development banks were privatized (Yeyati 2004). Other banks were restructured or liquidated based on the premise that a high degree of political interference in financial decision making invariably led to an inefficient distribution of the scarce available resources. In Latin America, for instance, this process was reflected in the fact that membership of the Latin American Association of Development Financing Institutions (ALIDE) decreased from 171 institutions in 1988 to just 73 in 2003 (De Ollouqui 2013).

However, the financial crises of the late 1990s that followed the liberalization of international financial flows, in many countries pointed out the need for re-thinking the role of the state in economy. Financial liberalization and accompanied international capital flows have been accused of the frequent financial crises and of the detachment of financial sector from productive sector. Thus, the prevalence of neo-liberal policies in shaping international capital markets has been questioned (Ozturk et al. 2010). With such a perspective, Amsden analyzed the South Korean rapid economic growth and found that it created comparative advantages via extensive government intervention in industrialization (Amsden 1989). Stiglitz analyzed the East Asian economies and found that in these countries government has taken an active role in creating financial institutions, in regulating them, and in directing credit, both in ways that enhance the stability of the economy and that enhance growth prospects (Stiglitz 1996). In addition, the World Bank (1997) argued the need for a revision of the role of the state in economy.

Around the end of the 1990s and at the beginning of the new millennium public development banks have resurfaced in the face of continued credit constraints. State intervention this time is justified by theories of institutional economics that hold that public intervention might be beneficial

under certain circumstances, especially when it complements or facilitates private sector activities in a cost-effective manner (De Olloqui 2013).

This renewed interest has not only been noticeable in developing countries of different regions such as Africa, Asia, and Latin America but also in Europe and North America, particularly due to the countercyclical role that the public development banks were asked to perform during the global credit crisis that began in 2008. During the period 2007–2009, the credit portfolio of public development banks worldwide increased by 36 percent, in contrast to the 10 percent increase posted by commercial banks (De Luna-Martínez and Vicente 2012).

In year 2004 there were 550 development banks worldwide (Yeyati 2004). According to Schmit, public development banks participate with 25 percent of all assets of banking system on the global level, reaching 30 percent in the European Union and 19.4 percent in Latin America (Schmit 2011).

As we can see from this brief history of public development banks the views regarding the role and the need for development banks have evolved in the XX century from a clear case for their need in the 1950s to the view that development banks created more inefficiencies and distortions to a renewed interest and need for public development banks at the beginning of XXI century.

## 2.2. Rationale for Public Development Banks and their Support to SMEs

Although the justification of public development banks intervention has evolved over time according to the changing approaches of political economy, it continues to be based on the classic justification of achieving public policy goals by correcting the “market failures” that lead to credit constraints (Gutierrez et al. 2011). Market failures are defined as situations where the market provides less than an optimal level of a certain good or service. The role of development banks is to mitigate market failures arising from a variety of sources including the presence of costly and asymmetric information that, for example, hampers access to finance for first time borrowers; and the existence of externalities that result in under-funding of socially valuable projects, as financial profitability does not reflect the overall value of the project (Ibid).

According to Stiglitz, one of the most important tasks of the governments in developing countries has been the creation of financial institutions to fill gaps in the kinds of credits provided by private institutions. There is a role for the state in financial markets; it is a role motivated by pervasive market failures (Stiglitz 1994).

Market failures are one of the factors that hinder private intermediaries from evaluating the true creditworthiness of certain economic sectors or segments, thereby leading to credit constrain. Among the traditionally targeted sectors or segments of public development banks are the following:

1. Infrastructure. These are usually large-scale projects which require long periods of maturity and the presence of institutions that can take on longer-term risk and/or access to appropriate financing.
2. Rural sector. It is particularly difficult to expand financial services provision for this sector, especially in the case of small producers, given the higher relative risks related to climate, marketing and price uncertainty, concentration of risk according to activity and geographic region, and greater limitations in terms of available collateral and its execution, as well as high transaction costs associated with geographical dispersion and the small size of typical productive units.
3. SMEs. This socioeconomic segment represents a high credit risk due to weaknesses in terms of capital, collateral, quality of financial information and management (De Olloqui 2013).

Furthermore, the economic literature found important the countercyclical role of the public development banks. For example, Yeyati et al. (2004) argued that private banks have limited incentives to lend during periods of economic downturns. This provides justification for public development banks to ensure continued provision of needed credit to the economy in the face of private sector cutbacks. De la Torre et al. (2011) argued that this type of market failure provides the best rationale for the operation of development banks. According to Storey, improving access to finance is a key area of public policy support for small businesses. This is because small businesses are suffering the negative consequences of the existence of “market failure”, as a result of higher risk levels and because of imperfect information about their business. Therefore, governments consider legitimate “intervention” in the provision of public funding in the form of loans and equity (Storey 2008).

State-owned banks have played an important role in financing SMEs in many countries, as shown in two World Bank surveys, one conducted globally (Beck, Demirgüç - Kunt and Martinez Peria 2008) and the other focused on the Middle East and North Africa region (Roche et al. 2011).

Griffith - Jones et al. (2011) investigated the role of the European Investment Bank (EIB) in financing SMEs. They conclude that the major role that the EIB group play in financing SMEs in Europe shows the importance of the role that the public sector needs to and can play in providing direct financial support to small and medium-sized enterprises, as well as to help catalyze private financing for SMEs due to the large market imperfections and gaps in private financial markets for SMEs, especially credit markets.

### **2.3. Impact Evaluation of Public Development Banks**

Public development banks face a complex challenge, as they must both maintain the institution's financial sustainability and achieve the public policy goals that arise from their mandate to correct credit constraints in the market. The key institutional factors that can help public development banks to succeed in this challenge are a clear mandate aligned with the public policy on targeted economic sectors or segments, good corporate governance, an adequate risk management framework, a marketing strategy for products and services in line with their mandate, and proper monitoring and evaluation of their development impact (De Olloqui 2013). Also, Rudolph concludes that state-owned banks can play a useful complementary role in providing loans to SMEs. However, the prerequisites for the success of such financing are: legislation specifying clear mandates, healthy management structures with independent boards, clear performance criteria, the commitment to determining loan interest rates according to risk, the obligation to generate a positive return, and finally the ability to recruit and retain qualified staff (Rudolph 2009).

One essential step in the process to strengthen public development bank evaluations is to clearly define the results and impact indicators that need to be measured and monitored. It is not sufficient to measure the direct results of public development banks (e.g. number of businesses served, credits granted, and disbursements); it is also essential to consider the social and economic benefits of their actions (De Olloqui 2013).

Different studies tried to find the appropriate assessment methodologies that accurately identify the real effects of certain support policies of public development banks. Benavente, Crespi and Maffioli (2007) examined Chile's National Fund for Technological and Productive Development (Fondo Nacional de Desarrollo Tecnológico y Productivo, or FONTEC), and found significant increase in sales and export, but not in labor productivity. De Negri et al. (2011) examined the impact of public credit lines managed by the largest state owned development bank in Brasil, the Banco Nacional do Desenvolvimento (BNDES), on the growth of Brazilian enterprises in terms of employment, labor productivity and export. The results demonstrate that access to public credit lines does have a significantly positive impact on growth of employment and exports, while they do not detect significant effects on productivity. Eslava, Maffioli and Meléndez Arjona (2012) analyzed the impact of lending activity of Colombia's Business Development Bank (Banco de Desarrollo Empresarial, BANCOLDEX) on business performance of enterprises. They found significant increases in production, employment, investments, and productivity in the period of four years following the first BANCOLDEX loan.

## **3. THE EMPIRICAL STUDY "IMPACT EVALUATION OF THE REPUBLIC OF SRPSKA INVESTMENT-DEVELOPMENT BANK"**

### **3.1. The Republic of Srpska Investment-Development Bank**

In this study we focus on public development banks in order to see how effective their support has been on the SMEs performance and growth. The Republic of Srpska Investment-Development Bank (in Serbian: Investiciono-razvojna banka Republike Srpske - IRBRS), one of the two public development banks in Bosnia and Herzegovina, provided the empirical context for our research.

The Republic of Srpska Investment-Development Bank was founded in December 2006. The Bank is registered as a joint-stock company which is 100% owned by the Republic of Srpska. In

January 2012, the IRBRS became a member of the European Association of Public Banks (EAPB). The strategic objectives of the IRBRS are encouraging investment and stimulation of the Republic of Srpska development. Support to SMEs, support to production to reduce the trade deficit and support to employment increase are among several identified priority objectives.

The IRBRS approved its first loans in April 2008 through 6 credit lines: 1) loans for start-up activities, 2) loans for micro business in agriculture, 3) loans for agriculture, 4) loans for entrepreneurs and businesses, 5) housing loans and 6) loans to local governments. In the period between April 2008 and 31 December 2015 the IRBRS approved a total of 9008 loans amounting to KM 1.36 billion, equivalent to EUR 695.36 million (IRBRS 2016).

The IRBRS is the main instrument of public financial support for entrepreneurship and SMEs in the Republic of Srpska. For that reason it is important to evaluate the impact of this important instrument of public funding.

### 3.2. Methodology

In this paper, we explored the impact of the Republic of Srpska Investment-Development Bank loans on selected business performance indicators: total sales, net profit and total capital of SME borrowers.

In doing so, the following hypotheses were empirically tested:

*H1: IRBRS loans had a positive impact on the total sales growth of SME borrowers.*

*H2: IRBRS loans had a positive impact on the net profit growth of SME borrowers.*

*H3: IRBRS loans had a positive impact on the total capital growth of SME borrowers.*

In order to test the hypotheses we will gather and analyze empirical data on three selected performance indicators of enterprises that used IRBRS loans in the first year of IRBRS operation, year 2008. The study was based on a comparison of data on total sales, net profit and total capital in the five-year period prior to the use of IRBRS loans (2003-2007) with data from the five-year period after using IRBRS loans (2009-2013). We will also compare the trends of indicators of IRBRS loan users with those of the control group, that is, companies that have not used IRBRS loans in the period 2008-2013. With sample defined in such a way it will be possible not only to evaluate the impact of the IRBRS loans on selected performance indicators of SMEs borrowers, but also to compare this impact with companies in the control group.

Impact evaluations focus on calculating the average, rather than the individual, effect of the treatment (De Olloqui 2013). We will, therefore, calculate the average annual index for three indicators for each group of enterprises (loan users and non-users) in the observed period 2003-2013 and compare the results. Impact will be calculated as the difference in value between the treated and the untreated groups (Ibid), in this case between the IRBRS loan users and non-users.

### 3.3. Sample

The sample is represented by 178 SMEs from the Republic of Srpska, out of which 118 SMEs which used IRBRS loan in year 2008, the first year of IRBRS operation (IRBRS loan users) and a control group of 60 SMEs which did not use IRBRS loan in the period 2008-2013 (IRBRS loan non-users), that correspond to a group of users by type of business activity, geographic disperse and organizational form.

In 2008 the IRBRS approved a total of 137 loans for entrepreneurs and enterprises through two credit lines: Loans for entrepreneurs and enterprises (128 approved loans) and loans for agriculture (19 approved loans). Out of 137 loan users the sample includes 118 enterprises or 86%. These are small and medium enterprises. Large enterprises are omitted from the sample. Entrepreneurs are also omitted from the sample because of unavailability of information on their business performance indicators.

The sample of 60 enterprises of the control group (IRBRS loan non-users) was selected by random sample method stratified by type of business activity, geographic disperse and organizational form (limited liability or stock holder company) from the database of the Republic of Srpska

Economic Register (in Serbian: Privredni registar Republike Srpske) available at the website [www.business-rs.ba](http://www.business-rs.ba).

The sources of data were: a) IRBRS database of enterprises that used loans, available on the IRBRS website [www.irbrs.org](http://www.irbrs.org), b) the Republic of Srpska Chamber of Commerce and Industry for information on total sales, net profit and total capital of sample enterprises in the form of limited liability company, c) the website of the Banja Luka Stock Exchange ([www.blberza.com](http://www.blberza.com)) for information on total sales, net profit and total capital of sample enterprises in the form of joint stock companies and d) mentioned database of the Republic of Srpska Economic Register available at [www.business-rs.ba](http://www.business-rs.ba), that was used for the selection of the control group.

*Table 1 The Sample of Enterprises by Type of Business Activity*

No.	Type of Business Activity	IRBRS Loan users		IRBRS Loan non-users	
		Number of enterprises	%	Number of enterprises	%
1	Agriculture	22	18.64%	11	18.33%
2	Food processing	14	11.86%	11	18.33%
3	Wood processing industry	16	13.56%	10	16.67%
4	Construction and constr. material	12	10.17%	6	10.00%
5	Metal industry	8	6.78%	3	5.00%
6	Paper production and printing	7	5.93%	3	5.00%
7	Plastic production and processing	6	5.08%	1	1.67%
8	Furniture production	5	4.24%	2	3.33%
9	Designing and research	5	4.24%	2	3.33%
10	Services	5	4.24%	1	1.67%
11	Trade	5	4.24%	2	3.33%
12	Transport	4	3.39%	2	3.33%
13	Hotel management	2	1.69%	2	3.33%
14	Textile industry	2	1.69%	2	3.33%
15	Shoes production	2	1.69%	1	1.67%
16	Other	3	2.54%	1	1.67%
	<b>TOTAL</b>	<b>118</b>	<b>100.00%</b>	<b>60</b>	<b>100.00%</b>

*Table 2 The Sample of Enterprises by Geographic Disperse*

No.	Geographic disperse	IRBRS Loan users		IRBRS Loan non-users	
		Number of enterprises	%	Number of enterprises	%
1	East part of Republic of Srpska	42	35.59%	23	38.33%
2	West part of Republic of Srpska	76	64.41%	37	61.67%
	<b>TOTAL</b>	<b>118</b>	<b>100%</b>	<b>60</b>	<b>100%</b>

*Table 3 The Sample of Enterprises by Organizational Form*

No.	Type of Enterprise	IRBRS Loan users		IRBRS Loan non-users	
		Number of enterprises	%	Number of enterprises	%
1	Limited liability company	102	86.44%	52	86.67%
2	Joint stock company	16	13.56%	8	13.33%
	<b>TOTAL</b>	<b>118</b>	<b>100.00%</b>	<b>60</b>	<b>100.00%</b>

Since the sample of the control group (IRBRS loan non-users) is selected by random sample method stratified by type of business activity, geographic disperse and type of enterprise, the share of non-users in the sample is very similar to the share of IRBRS loan users by selected characteristics.

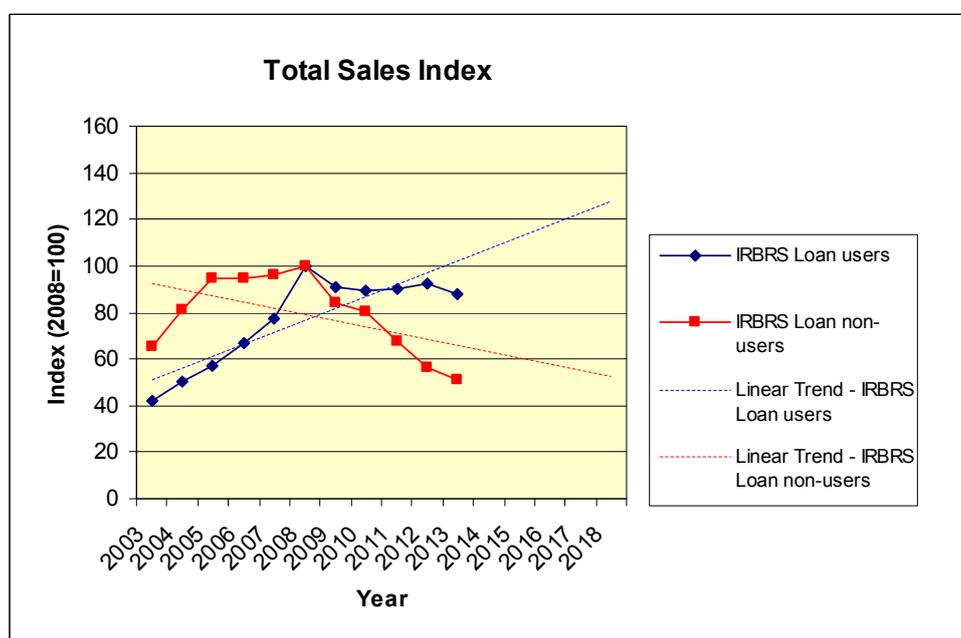
## 4. RESEARCH RESULTS

In this part the research results are presented: the impact of IRBRS loans on total sales, net profit and total capital of IRBRS loan users compared with performance of the control group or the IRBRS loan non-users.

### 4.1. Impact of IRBRS Loans on Total Sales

Figure 1 shows a comparison of average annual total sales index trend between the sample of IRBRS loan users and non-users in the period 2003-2013, i.e. in the five-year period prior (2003-2007) with the five year period after the loans disbursement (2009-2013) and, based on these historic data, calculated linear trends in the subsequent five-year period (2014-2018). The IRBRS loan users used the loans in year 2008 and that year was taken as the base year for index calculation.

Figure 1 Average Annual Total Sales Index in the Period 2003-2013, with Linear Trend Projection until Year 2018



Source: Author's processing of data on total sales of sample enterprises provided by the Republic of Srpska Chamber of Commerce and Industry and the Banja Luka Stock Exchange website, [www.blberza.com](http://www.blberza.com)

In the five year period prior to the IRBRS loans disbursements (2003-2007), both IRBRS loan users and non users had a constant increase of total sales from year to year. Average annual index (base year 2008=100) in the pre-loan period for the IRBRS loan users was 59 while it was 86 for the control group. In the period after loans disbursements (2009-2013) both loan users and non-users faced a decline in total sales, but non-users more significant one than loan users (average annual decline was 2.4% for loan users while 12.4% for loan non-users).

Total sales of IRBRS users in a five year post-loan period was at the level higher than in period 2003-2007 but did not reach the level of 2008 (average annual index of the post-loan period was 90), while for the control group the average annual index was 68 in the same period. At the end of the observed 11-year period (end of 2013) the IRBRS loan users almost doubled the value of its total sales (index 42 in 2003 vs. 88 in 2013) while the control group in 2013 reached its historic minimum in the observed period - the value of its total sales was lower than at the beginning of the period in 2003 (index 66 in 2003 vs. 51 in 2013).

If we compare the average annual total sales index of the pre-loan (2003-2007) and the post-loan period (2009-2013) we see that the IRBRS loan users achieved 31 index points *higher* average annual total sales index in the post-loan period related to the pre-loan period (index 90 vs. 59) or by

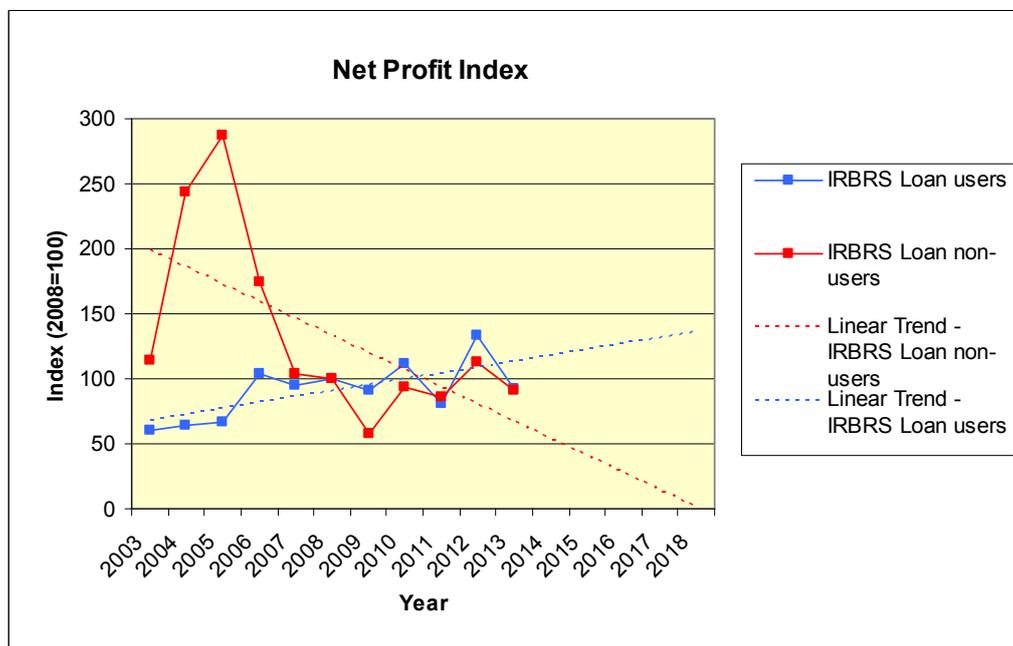
54% higher, while the control group achieved 18 index points *lower* average annual total sales index in the post-loan period related to the pre-loan period (index 68 vs. 86) or by 21% lower.

The total sales linear trend line for the historic 11-year period (2003-2013) and projected to the next 5-year period (2014-2018) is *growing* for the IRBRS loan users, while it is *decreasing* for the control group (loan non-users).

#### 4.2. Impact of IRBRS Loans on Net Profit

Figure 2 shows a comparison of the net profit index trend between the sample of IRBRS loan users and non-users in the period 2003-2013, i.e. in the five-year period prior (2003-2007) with the five year period after the loans disbursement (2009-2013) and, based on these historic data, calculated linear trends in the subsequent five-year period (2014-2018). The year of loans disbursement (2008) was taken as the base year for index calculation.

Figure 2 Average Annual Net Profit Index in the Period 2003-2013, with Linear Trend Projection until Year 2018



Source: Author's processing of data on net profit of sample enterprises provided by the Republic of Srpska Chamber of Commerce and Industry and the Banja Luka Stock Exchange website, [www.blberza.com](http://www.blberza.com)

In the five year period prior to loans disbursement (2003-2007), the net profit of the IRBRS loan users had an increasing trend while the control group had more indicated oscillations.

If we compare the average annual net profit index of the pre-loan (2003-2007) and the post-loan period (2009-2013) we see that the average net profit index of the IRBRS loan users *increased* in the five-year period after receiving the IRBRS loan by 24 index points (index 102 vs. 78), or by 31%, while the average net profit index of the control group *decreased* considerably in the post-loan period by 97 index points (index 88 vs. 185) or by 52% compared to the pre-loan period.

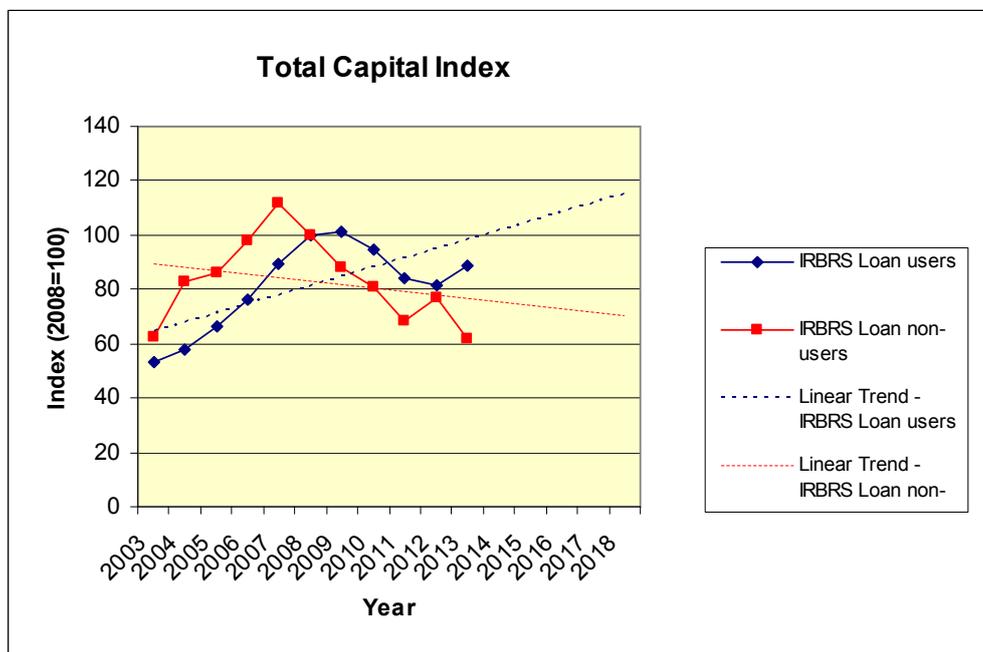
The net profit linear trend line for the observed historic 11-year period (2003-2013) and projected to the following 5-year period (2014-2018) is *growing* for the IRBRS loan users, while it is *decreasing* for the control group or IRBRS loan non-users.

#### 4.3. Impact of IRBRS Loans on Total Capital

Figure 3 shows a comparison of the total capital index trend between the IRBRS loan users and non-users in the period 2003-2013, i.e. in the five-year period prior (2003-2007) with the five year period after the loans disbursement (2009-2013) and, based on these historic data, calculated linear

trends in the subsequent five-year period (2014-2018). The year of loans disbursement (2008) was taken as the base year for index calculation.

Figure: Average Annual Total Capital Index in the Period 2003-2013, with Linear Trend Projection until Year 2018



Source: Author's processing of data on total capital of sample enterprises provided by the Republic of Srpska Chamber of Commerce and Industry and the Banja Luka Stock Exchange website, [www.blberza.com](http://www.blberza.com)

In the five year period prior to the IRBRS loans disbursements (2003-2007), both IRBRS loan users and non users had an increasing trend of total capital index.

If we compare the average annual total capital index of the pre-loan (2003-2007) and the post-loan period (2009-2013) we see that the average total capital index of the IRBRS loan users *increased* in the five-year period after receiving the IRBRS loan by 21 index points (index 90 vs. 69) or by 31%, while the average total capital index of the control group *decreased* in the post-loan period by 13 index points (index 75 vs. 88) or by 15% compared to the pre-loan period.

The total capital linear trend line for the observed historic 11-years period (2003-2013) and projected to the subsequent 5-year period (2014-2018) is *growing* for the IRBRS loan users, while it is *decreasing* for the control group.

## 5. CONCLUSIONS

In this study we focused on public development banks in order to see how effective their support has been on the SMEs performance and growth. The Republic of Srpska Investment-Development Bank (in Serbian: Investiciono-razvojna banka Republike Srpske - IRBRS), one of the two public development banks in Bosnia and Herzegovina, provided the empirical context for our research. We explored the impact of the IRBRS loans on selected business performance indicators: total sales, net profit and total capital of SME borrowers. The study was based on a comparison of selected performance indicators during the five-year period before (2003-2007) and the five-year period after using the IRBRS loans (2009-2013). The selected indicators were also compared with those of the control group, i.e. non-users of the IRBRS loans.

The main conclusions of the paper can be summarized as follows:

- The study confirmed hypothesis H1. The IRBRS loans had positive impact on total sales growth of the IRBRS loan users, who achieved 54% *higher* average annual total sales in the 5-

year post-loan period related to the 5-year pre-loan period, while the control group achieved 21% *lower* average annual total sales in the same period.

- The study confirmed hypothesis H2. The IRBRS loans had positive impact on net profit growth of the IRBRS loan users, whose average annual net profit *increased* by 31% in the 5-year period after receiving the IRBRS loan, related to the 5-year pre-loan period, while the average annual net profit of the control group *decreased* by 52% in the same period.
- The study confirmed hypothesis H3. The IRBRS loans had positive impact on capital growth of the IRBRS loan users whose average annual total capital *increased* by 31% in the five-year period after receiving the IRBRS loan, while the average annual total capital of the control group *decreased* by 15% in the same period.

The results based on the representative sample of 178 SMEs in the Republic of Srpska show a positive impact of the Republic of Srpska Investment-Development Bank loans on sales, profitability and capital of SME borrowers, therefore confirming the positive impact of public development banks on the SMEs performance and growth. The Republic of Srpska/BiH example could reflect similar trend in other transition countries.

What, however, should be kept in mind is that the key elements for the success of public development banks are their clear mandate and procedures, competent administration and professional staff as well as the independence of these institutions, i.e. their protection from political influence.

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