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Original scientific paper

Diana BOSKOVSKA[*)]

METHODS FOR VALUATION OF THE SHARES

Abstract

The value of the securities, in that context the shares, presents one of the crucial issue in the financial and investment management. Namely, to make the certain decision in the financial management for the current and future financial and investment performance of the company, the value of the share presents important input variable.

Determination of the value of the share presents complex issue that is determining by the number variables and factors. In order to, in the literature and practice are realized more types of analysis, methods and criteria to determine the value of the share. The focus in the article is the methods for the valuation. Generally, there are two groups of methods, methods that are based on the discounted cash flow and methods that are based on the relative variables. Because of the imperfection of the methods of the valuation, it is necessary to use the combination of the various methods to get the more relevant results in the analysis and in accordance with this to make the relevant decision.

Key words: share; valuation; model of valuation; market price; fundamental value.

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Introduction

For making an investment decision, a decision to invest in securities, besides the market price is necessary to determine the value of the respective securities.

Under the value generally means the money expression of the marginal utility of goods, cash or an expression of utility that is achieved by them[1)]. Shares, as the most common type of security is an important determinant in corporate finance. The determination of the fundamental value of the shares is important for all stakeholders of the corporation: management of the company, shareholders, creditors and other creditors of the company, potential investors and others.

The determination of the value of the share, unlike the market price is a category that is obtained through application of appropriate analysis used appropriate indicators and measures that represent the subject of research of this paper. The goal of this paper is the implication of the complex nature of determining the fundamental value of the shares as an essential variable in the investment and financial performance of companies.

1) Arsov S.:"Financial management", Faculty of economics, UKIM, 2008, p.199

1. THE NEED AND SIGNIFICANCE OF THE VALUATION OF THE SHARES

The goal of management of the corporation is increasing the present value of the stock. This way of defining according to certain authors is a close understanding of the purpose of financial management. In the case of the companies which don't trade with their shares, it is difficult to determine the value of their shares at any time. Therefore it is necessary to make appropriate modifications in the definition of the purpose of management. For that purpose should start from the premise that the total value of shares of the corporation is equal to the value of equity of the corporation from which derives more general way of defining the purpose of the corporation which includes: maximization of the market value of equity of the corporation.[2)]

This definition of the goal of management is relevant to whatever form of organization-corporation, partnership or company registered on one person. From other side the task of management in the function of achieve the interests of the shareholders necessary understands that the activities being undertaken in this direction should not be contrary to positive law and moral principles.

In the modern environment, in terms of broad dispersion of the shareholding either by direct or indirect way in the economy, the maximization of the value contributed to an increase (growth) of social welfare. This effect is achieved on multiple grounds by: increased number of stakeholders in the economy, benefits to consumers resulting from lower production cost and higher quality products and services, increase employment and the like[3)].

The valuation of shares used two types of models depending on variables that take in the calculation of the value as follows: models based on discounted cash flow and based on relative indicators.

2. DISCOUNTED CASH FLOW MODELS

The models for the valuation of ordinary shares through a discounted cash flow, the value of the share represents the present value of cash flow that it generates.

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2) Ross S.:"Fundamental od corporate finance", IRWIN, 2005, p. 11.

3) Brigham F.E. and other: "Financial management: theory and practise", ninth edition, Harcourt College Pub., 1999, p.14-15.

Depending on how the cash flow is defined there are three different valuation techniques:

- Valuation technique based on the dividend payable to shareholders, and required rate of return or discount rate takes the cost of equity;
- Valuation technique based on the operating free cash flow and the average cost of capital (WACC) as the discount rate;
- Valuation technique based on free cash flow available to owners of capital (shareholders) and the cost of equity as the discount rate.

The main advantage of these techniques is a high degree of flexibility in changing the revenue or expenditure. While the basic weakness, negativity is their great dependence on adequate assessment of the value of the discount rate or the growth rate of cash flow (the amount of the growth rate or duration of growth).

That would mean that if is made inadequate estimates of these input variables will not be possible to achieve and a realistic assessment of the value of the stock.

Basic model for calculating the value of the stock based on discounted cash flow has the following format:

$$Vi = \sum_{t=1}^{n} \frac{CF_t}{(1+k)^t}$$

where:

- Vi - value of stock i;
- CFt - cash flow in period t;
- K - discount rate or required rate of return on stock i, which is determined by the riskiness of the stock;
- N - the period of owning the stock.

Depending on what is taken for cash, because of the existence alternative measures of cash flow, the general model is modified accordingly.

2.1. Dividend Discount Model (DDM)

The dividend ddiscount model starts from the definition that the value of shares implies present value of all future dividends that owners (shareholders) will achieve by the certain share[4)]:

4) Initially, such model is presented by the Williams J.B in 1938 in his article: The theory of investments value, but it is actualized from the Myron J.Gordon again in 1962 year in the article: The investments, financing and valuation of the corporation.

$$Vi = \sum_{t=1}^{n} \frac{D_t}{(1+k)^t}$$

Where, Dt cover the dividends that shareholders will receive during the period possess specific share.

This model is relevant in cases of a shorter period of time of possession of share or non-payment of dividend because of its reinvestment in new investment projects of the corporation.

When it comes to investing in the share of single or multiple periods (3-4 years) for determining the value is needed to assess three variables: future dividends, price share in the final period (year) and the required rate of return used as the discount rate.

In view of the estimate of the dividend is necessary to consider two factors:

- Future earnings of the corporation as a source of dividend and
- Dividend policy of the corporation.

To estimate the price of the stock at the end of the period in the year when the shareholder makes decision to sale it, there are two ways:

- By using the dividend discount model or

- Model of the earning multiplier.

If a DDM model, in which case there is need for assessment of the dividends, but that would be realized after the period of sale of stock. In the case when it comes to investing in stocks for the long term (forever), the problem is the assessment of the flow of the expected dividends. If we assume that the future flow of expected dividends increases with constant growth rate, the model received the following format:

$$Vi = \frac{Do(1+g)}{(1+k)} + \frac{Do(1+g)^2}{(1+k)^2} + ... + \frac{Do(1+g)^n}{(1+k)^n}$$

or,

$$Vi = \frac{D_1}{k-g} \; ; \; D_1 = Do(1+g)$$

where:

- g- constant rate of growth of dividend;
- Do -dividend in the current period;
- D1- dividend in the first period (year).

From the model, it can be concluded that the value of share is determined by the required rate of return and expected growth rate, whereas the dependence with the required rate of return is inversely proportional, while proportional with the expected

growth rate. However, this model allows determining the value of the stock if required rate of growth exceeds the growth rate of dividend. Hence there is the problem for its use in valuing the shares of fast-growing corporations, whose growth rate exceeds the required rate of return in certain periods.[5)] Because of it, there is a need for further modifications of the model for constant growth in the long run. For that purpose in the period when achieved above average growth rate is necessary calculates the present value of the dividend for each period (year).

If in multiple different periods are exercised different growth rate it will be necessary to apply multiply phase model of growth. In each of the periods in which they are exercised certain above average growth rate is necessary to determine the present value of the dividend that is achieved in the corresponding period. Unlike in the period when the growth rate will stabilize and will be below the required rate of return (because of the entry of competition in the relevant market segment), the present value of expected dividend will be calculated based on the DDM, the model of constant growth of dividend.

When will be determine the value of the stock by DDM model or its modifications, the same value it is necessary to compare with the current market price of the stock. If real (fundamental) value of stock is greater than the market price is positive to decide to purchase a given share, on the contrary decision not to buy or if you already own it to sell.

2.2. Operating free cash flow discount model

The operating free cash flow discount model determines the present value of the corporation. To get the current value of the share is necessary resulting present value of the corporation to reduce with the value of total liabilities (which is the value of equity), and this result found to be divided by the number of issued shares of the respective corporation. Because, it comes to calculating the value of the corporation, discount rate is average cost of capital of the corporation - WACC.

The model for calculating the present value of the corporation has the form:

$$Vi = \sum_{t=1}^{n} \frac{OFCF_t}{(1+WACC_i)^t}$$

Where:

- Vi - present value of the corporation i;

5) Between rate of growth and the risk there isn't direct relation, that not determine the fast growing corporations to be more riskiness, because it's supposed to have higher required rate of return.

- OFCFt - operative free cash flow for period t;
- WACC - average capital cast of corporation i.

If we assume that the corporation realizes a constant operating free cash flow in the long term (forever) the present value of the corporation would be established as:

$$Vi = \frac{OFCF_1}{WACC_i - g_{OFCF}}$$

where:

- OFCF1- operating cash flow equal to OFCFo (1+ g_{OFCF});
- g_{OFCF} - long-term constant growth rate of operating cash flow

If there isn't constant growth of operating cash flow for the entire period, as in

Year	**The growth rate of OFCF**
1-4	20 %
5-7	16%
8-10	12%
11..	7%

the DDM model, it is necessary to assess above average growth rate and the period of its duration. If there are more periods in which they are realized growth rate greater than the required rate of return, and the rates are different, it is necessary to determine the present value of operating cash flow for each of these periods:

When the growth of the operating cash flow will be stabilized (after 10 year in the example), in that period of time the present value will be determined on the basis of the model of constant growth of the operating free cash flow.

2.3. Free cash flow to equity discount model

The model for calculating the value of the stock on the basis of free cash flow which remains available to owners of ordinary shares, it is necessary the operating free cash flow to reduce for the liabilities of the creditors and owners of preferential shares. Discount rate which will discount free cash flow for each year presents the price (cost) of equity.

The model calculation has the following format:

$$Vi = \sum_{t=1}^{n} \frac{FCFE_t}{(1+k_i)^t}$$

where:

- Vi - present value of the equity of the corporation i;
- FCFEt - free cash flow in period t;

As in previous cases, if achieved stable growth, in the analysis can be used the model of an infinite constant growth. Otherwise if there is unstable growth of free cash flow, i.e. there are periods when realize above-average growth rates, to assess the value of the shares is necessary to use multy -phase growth model.

3. RELATIVE INDICATORS FOR VALUATION OF THE SHARES

Techniques for evaluation of ordinary shares through a relative indicators, allow the determination of the current stock price levels on different level such as:

1. Overall capital market;
2. Alternative industries and
3. Individual stocks.

Hence, one can conclude that unlike the model of valuation by discounted cash flow which determines the value of a specific stock, the techniques of relative indicators determine the value of whatever economic entity: market, industry, a corporation, stock and the like. Valuations are based on the relative indicators, i.e. by comparing the cost of stock with variables that determine its value.

However, these techniques, in order to provide adequate current value of shares, is necessary to satisfy two conditions:[6)]

1. Corporations that are compared should be compatible with each other according to: type of activity, size, level of risk and the like.
2. Estimates of the value of the total market or industries should not be extreme (serious overestimation or underestimation).

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6) Reilly K. F, Brown C.K.:"Investment analysis and portfolio management" seventh edition, Harcourt College Publisher, 2002, p.379.

The major variables affecting the price of the stock are: earnings, cash flow, book value and income from sales.

No matter what kind of indicator concerned, the valuation of shares through these indicators takes place in two steps.

At the first step the appropriate indicator is comparing to the same kind of indicator set at the market, industry or competitors level. Based on this comparison is made statement about it size, or realize whether the corresponding indicator is similar, lower or higher in terms of compatible indicators at the level of market, industry or competition.

The second step is an analysis of the factors (variables) that determine the appropriate value of a given indicator. By comparing these factors with the same kind of factors at the level of appropriate economic entity (market, industry and the stocks of competitors) will be confirmed or not the relevance of the corresponding indicator.

In this group of models as a significant indicator methods we sand out: market price/earnings (P / E) as known as earning multiplier and market price/cost (P / BV).

3.1. Market price/earning (P/E) or earning multiplier

Indicator of market price-earning or known as earning multiplier is the most popular relative indicator of valuation of ordinary shares:

$$\frac{P}{E} = \frac{\text{Curent market price}}{\text{Earning}}$$ 7)

This indicator determines how many units the investor should pay for a one unit of earning. Or in other words, this indicator shows how many times the investor is willing to pay for the stock more than earnings per share, from where it gets the name earning multiplier per share.

It is necessary for investors, in order to assess the validity of this indicator, to establish what caused the corresponding value of the multiplier. For this purpose is taking into account DDM model of infinite growth dividend:

$$P_i = \frac{D_1}{k - g}$$

model in which left and right side should be divided with the same value-expected earning, so the result would be:

7) Takes into account the expected earnings for next period of one year.

$$\frac{P_i}{E_1} = \frac{\frac{D_1}{E_1}}{k - g}$$

From this equation should perceive the variables that determine the appropriate earning multiplier:

1. expected rate of dividends (D / E);
2. estimated required rate of return (k);
3. expected growth rate of dividends (g).

The larger percentage of dividend paid and / or lower growth rate of dividend will conditions and higher value of the multiplier. While the higher value of the required rate of return will determine lower the multiplier. But of particular importance in the analysis is the ratio (difference) between the required rate of return and the rate of growth (k-g).

The resulting multiplier in this way is then multiplied by the expected value of earnings per share which is obtained as a product of the earning in the current period with the expected growth rate of earning. The product of earning multiplier and expected earning per share represents the expected value of the stock. "This assessment of value is known as two-stage process of evaluation, because it requires to estimate the future earning per share and the ratio P / E based on expectations for k and g."[8)] To make an appropriate decision by theinvestor, this value is necessary to compare to the current market price of stock, with purpose to determine whether the value of the stock is real determined, under or overestimated.

3.2. Market price/book value (P/BV)

This relative indicator is the ratio between the market price and the cost of the stock:

$$P / BV_i = \frac{P_t}{BV_{t+1}}$$

where:

- P / BV_i - market price / book value for the corporation i;
- P_t - market price of stock in period t;
- BV_{t+1} - estimated book (balance) value per share for corporation I for the period $t+1$.

8) Same, p. 391.

At first, this relative indicator P / BV represented a good indicator of the fundamental value of the stock. But later in the paper of Fama and French[9] have confirmed its validity for all types of corporations, based on the inverse relationship between P / BV and the rate of return.

Ratio P / BV is conditional by the relationship between ROE and the required rate of return (cost of equity). If the value of ROE is equal to the required rate of return, the ratio P / BV will be equal to one. But if the value of ROE exceeds the required rate of return, then investor will be willing to pay higher price for the stock (amount that will exceed the book value of the share).

4. COMPARISON OF METHODS OF VALUATION-DISCOUNTED CASH FLOW METHOD AND METHOD OF RELATIVE INDICATORS

Valuations of certain types of assets or corporations through the application of two models-the model of cash flow and the model of relative indicators often determines the different values for the same asset or corporation. Such a differentiation in the value that occurs between the two models is the result of differences in terms of market (none) efficiency in both models.

The model of discounted cash flow starts from the assumption that the market makes mistakes, and that such errors occur in the whole sector or even the in entire market. But with time comes to correcting such errors.

Unlike this model, the model of relative indicators starts from the assumption that the market can make a mistake in individual stocks, but not in average. Or in other words, the application of this model, two corporations of the same activity on average can be evaluated correctly, although the individual assessment (valuation) may be with errors.

In context of the above mentioned, there can occur situation when in term of the model of discounted cash flow, the share has overestimated value, while in the same time in term of model of relative indicators share should be underestimate, if the corporations that have taken for comparison are overvalued by the market, and the effect is reverse if the sector or overall market is underestimated.

Hence, generally can be drawn two (conclusions) for the valuation in term of the different valuation models.

The first conclusion refers to the fact that the model of discounted cash flow should be based on the assumption of valuation based on long term, so there will be enough time to correct errors on the market.

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9) Fame E. and French K.:" The cross section of expected returns", Journal of finance 47, no.2, 1992.

The second conclusion concerns that the use of the model of relative indicators of evaluation based on comparison with similar assets or corporations, it is necessary to take into account the different financial fundamentals between "comparable" assets or corporations: growth, risk and cash flow.

Conclusion

The decision to invest or to sell a particular security (and in this context the shares that are the subject of searching of the present paper) is necessary to compare the value of the securities (shares) and its market price. Based on this comparison it should be possible to determine whether the market price of the stock is real, underestimated, or overestimated.

The determination of the value of the share is a complex process. On such complexity suggests the fact that in literature and practice of valuing of shares have established more approaches, indicators and methods for their valuation. Depending on the input variables, the methods for valuing stocks are grouped into two groups: methods based on discounted cash flow and methods based on relative indicators. Because of the imperfection of the two groups of models it possible to occur differences in the determined value. Namely, according to the model of discounted cash flow, the share has overestimated value, but in the same time according to the model of relative indicators, is underestimated, if the corporations that have taken for comparison are overvalued by the market. The effect would be reversed when the sector or overall market are underestimated. To reduce these disparities in the application of the two groups of models for valuing stocks need to be taken: 1) model of discounted cash flow that be used to evaluate on the long term, so there will be enough time to correct errors on the market and 2) use the model of relative indicators of evaluation based on comparison with similar assets or corporations, it is necessary to take into account the different financial fundamentals between "comparable" assets or corporations such as growth, risk and cash flow.

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Original scientific paper

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INNOVATIONS AS AN IMMANENT FEATURE OF E-ENTREPRENEURSHIP

Abstract

In the so-called network economy the information become a product by itself. The concept of e-entrepreneurship suggests the act of forming a new company in network economy with innovative business idea that by using ICT platform offers its products and services based on the value that is created through the online way of conducting business. New enterprises in network economics, also known under the term *e-business*, create value for its customers through electronic processes within the so-called electronic value chain. They usually start as completely new enterprises without any connection with any existing enterprise (company-daughter, branch, etc..). Their founders are mostly young entrepreneurs who are well acquainted with the advantages offered by the innovations in ICT and are able to imagine many creative as potential customers would have delivered "irresistible" value in the form of product or service.

Key words: Entrepreneurship; e-Entrepreneurship; electronic entrepreneur; Internet; e-business; e-commerce; network economy; net economy; information economy; small and medium sized enterprises (SMEs); innovation; Information and Communication Technology (ICT).

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Introduction

The combination of entrepreneurship and innovation is a key factor for long-term sustainability of modern business. They are closely related to each other and their mutual interaction allows enterprises to achieve significant results and success and to take a good competitive position in the markets. With the achievements of the first huge success of eBay, Amazon.com, and later Google, Facebook, YouTube and other Internet businesses, e-entrepreneurship and e-innovation are beginning to be developed as separate disciplines. That way it can be proactively responded to changes that the world of Internet and electronic commerce is occurring at lightning speed. These changes cause an ever greater participation of Information and Communication Technology (ICT) in the processes inside and outside enterprises in all industries. Modern ICTs have become part of everyday life of people even changed their way of living. People began on daily basis, several times a day to check their mailbox with incoming electronic messages, via their computers or mobile phones. Through social networks such as Facebook, they are constantly connected (24/7) with their friends, and on Internet they mainly search for products that will offer the greatest value for the price they are willing to pay. It is becoming clear that the information is no longer just an auxiliary factor that supports the production of physical products as in the "real economy". In the so-called *network economy* the information become a product by itself.[1)] The concept of *e-entrepreneurship* suggests the act of forming a new company in network economy, with an innovative business idea, that using ICT platform offers its products and services with a value that is created mainly based on the online nature of the business.[2)]

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1) Boutellier, Roman; Markus Eurich and Patricia Hurschler, "An Integrated Business Model Innovation Approach: It is Not All about Product and Process Innovation", in "E-Entrepreneurship and ICT Ventures:
Strategy, Organization and Technology", Edited by Tobias Kollmann, Andreas Kuckertz, Christoph Stöckmann, IGI Global, 2010, p. 2.

2) Matlay, H., "E-entrepreneurship and small e-business development: towards a comparative research agenda", Journal of Small Business and Enterprise Development, 11(3), 2004, pp. 408–414.

1 THE NETWORK ECONOMY

The basis of the network economy is composed of technological innovations in the following areas: telecommunications, information technology, media and entertainment industry. Innovations that lead to a huge development in these areas and their gradual convergence are the most significant impact on the way they manage information, communication and transactions.[3)] Besides the term Network Economy, there are terms as e-business, e-commerce, information economy, knowledge-based economy, which has often been used as synonyms for each other. Huge number of successful entrepreneurial ventures in the field of electronic commerce has been appeared.

eBay is just one of those, famous, successful start-up business ventures in the field of e-commerce, an example of a successful blend of entrepreneurship and innovation. From its humble beginning by selling broken laser pointer for just under $ 15 as the first transaction, eBay has grown today into one of the largest centers for e-commerce in the world, with over 15,000 employees and more than 90 million active users worldwide.[4)] The company is still constantly looking for new ways of doing business. For example, eBay has created an innovative system for feedback from buyers and sellers where after they make a transaction, they can evaluate each other. This further helps in creating ranking list of buyers and sellers with the best opinions, the greatest satisfaction of their customers, the largest trust and confidentiality. Their system for processing payments, PayPal, enables online consumers to pay even those vendors who are unable to have an electronic bank account to receive payments from the electronic payment cards. This opens up a whole new vast field for the realization of online sales and transactions. As a result of this innovative approach to eBay, its net income in 2009 amounted to almost 9 billion US dollars.

Google, the largest web browser in the world, is not just an entrepreneurial company with respect to its aggressive growth strategy, but it is also a leader in innovation. To improve the level and efficiency of its features and services, Google is constantly enhancing its own technologies. On its Web site open a separate area, called Google Labs (www.googlelabs.com), in which applicants can look at and try

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3) Kollmann, T., "Measuring the acceptance of electronic marketplaces", Journal of Computer Mediated Communication, 6(2), 2001, p. 5.

4) www.ebay.com. Accessed on 28.04.2011.

his innovation and experimentation with them to give their comment or suggestion. Google is not a conventional company. Instead of spending enormous amounts of marketing campaigns, Google is continuously improving its Internet browser lunching innovations that provide faster, easier, more accurate and efficient search service that can be offered by any other web browser. In fact, his strategy against fierce competition in the market of Internet search engines is in constant entrepreneurship and innovation by creating new, innovative services and finding new channels to generate income. Thus, Gogle introduced many new services such as Gmail, Google Maps, Google Product Search, Google Finance, Google Docs, Google Translate and others, and in the meantime they bought YouTube, the biggest website for posting videos.

Google innovation went even further, so the company decided to sell its shares in 2004 through an online auction rather than the traditional allocation by big banks. That way they managed to double the value of its initial stock offerings.[5)]

These examples of e-entrepreneurship and e-innovation unequivocally indicate that success in e-commerce is closely associated with the combination of entrepreneurship and innovation and that these are two key enablers and drivers of electronic commerce and online business.

2 THE COMPANIES IN THE NETWORK ECONOMY

New enterprises in network economics, also known under the term e-enterprises, create value for its customers through electronic processes within the so-called *electronic value chain*. They usually start as a completely new enterprises without any relation with an existing enterprise (company-daughter, branch, etc..). Their founders are mostly young entrepreneurs who are well acquainted with the advantages offered by the innovations in ICT and many are able to creatively imagine how potential customers would have delivered "irresistible" value in the form of product or service. Founders generally do not start businesses in order to imitate anyone, but rather want to realize themselves by requiring satisfaction of their own creativity and uniqueness.

Network economy stresses the importance of information as an important factor in achieving competitive advantage, thus increasing the role of so-called intangible factors of production (knowledge, know-how). Therefore, a huge number of companies using e-commerce are formed based on new grounds. Besides offering electronic products and services they develop and have called *e-Management* or members with management functions, which possess specific knowledge of the correlated factors of the network economy. Thus, to possess the potential for success in online busi-

5) Zhao, Fang, "Entrepreneurship and Innovations in e-Business: An Integrative Perspective", Idea Group Publishing, 2006, pp. 8-9.

ness, special attention is given to the combination of management and computer science (informatics). It allows successfully forming and managing entrepreneurial venture, but also guarantee the necessary development of technological processes. Due to the rapidly changing information, which is the main component of the electronic value chain, there are big risks existing compromising the future success of the company's operations. An additional risk is the fact that this is a new industry without a major prior business experience, and there is a risk because consumers skepticism from the use of new innovative technologies. Maybe it was because of the high risk, this is an industry with huge potential for growth and is associated with countless entrepreneurial opportunities. Especially this becomes an everyday reality with overwhelming acceptance and use of the Internet and e-commerce by citizens and enterprises worldwide. Thus, entrepreneurs enter the new online business ventures, for which, however, a considerable capital is required. The investment in the full ICT infrastructure however, is not negligible. Moreover, the infrastructure is changing too fast, so the big investments should be done on updates and upgradås. Beside the capital required for technology development, additional capital for the formation of the company and its operation (staff, organization, creation of brand sales) is needed.

Thus, it is obvious that companies established in the network economy tend to be heterogeneous and complex and differ from established companies in the real economy in many aspects. Therefore a special approach is required to research companies that are engaged in online business and e-commerce.

2.1 The Internet and electronic commerce in small businesses

One of the first companies started to use the benefits of electronic commerce were small and medium sized enterprises (SMEs). While large enterprises, usually inert hesitated, SMEs quickly discern the advantage that can make the Internet and e-commerce in areas such as marketing, cost reduction, market expansion, launching new online business ventures.

Internet is an important business tool for SMEs. According to some surveys, 28% of small businesses expect more than three quarters of their annual sales to be realized over the Internet. But small companies do not measure the success of its online operations only through the percentage of sales realized through the Internet, but almost half of them (47%) the success of their Web sites represent through the number of user's comments and according to the volume of visitors traffic on their web pages.[6)]

But despite a huge number of SMEs recognize the benefit from e-commerce introduction in their operations, however, there are those that are difficult to define

6) eMarketer, "Small Buisiness Expecting E-Sales", eMarketer, December 14, 2004. Available online at: www.emarketer.com/article.aspx?1003177. Accessed on 22.07.2011.

and begin implementing a specific strategy for e-commerce. That's mainly because it is a low level of use of Internet technologies and electronic commerce by their customers and suppliers as well as the lack of expertise in the field of ICT in SMEs themselves.

The benefits for the SMEs from e-commerce use in their every day's operations can be recognized in the following segments:[7)]

- Cheap source of information.
- Cheap advertising and market research;
- Easier competitor's analysis.
- Cheaper way of creating (or making lease) on store.
- SMEs are less associated with the old technologies and traditional retail channels.
- Faster creation of favorable image and gaining public recognition for good work.
- Ability to reach potential customers globally.
- Other benefits, such as: faster receivables collection from customers, closer relationships with business partners, a reduced number of errors in transmission and processing of data, lower operational costs.

What the introduction of e-commerce in their work makes SMEs different from the others are the disadvantages and risks which they have thus:[8)]

- Lack of financial resources to fully use the Internet and all the benefits it offers.
- Lack of technical persons or insufficient expertise on legal issues, advertising etc.
- Less able to cope with the negative consequences of risk than is the case with large enterprises.
- Thinking that their products and services are not suitable for online marketing.
- Lack of personal contact with customers is destroying one of their strengths as a small business that is always in close relation with their customers.
- Inability to provide greater scope of supply, to feel the benefits offered by the digital marketplace.

The outcome of the launch of an entrepreneurial venture associated with the use of e-commerce is not accidental at all. A number of studies suggest that there is a set of critical factors that determine whether an enterprise will succeed in their online business or not. Most of the entrepreneurs who succeeded on the Internet, either at

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7) Turban, E., King, D., McKay, J., Marshall, P., Lee, J. and Vielhand, D., "Electronic commerce 2008 – A managerial perspective", Pearson Education, Inc., Upper Saddle River, New Jersey, 2008. p. 670.

8) Ibid.

the introduction of electronic commerce as a component of their existing business, either as a new, fully online business venture, indicating that the key to their success are the following aspects:[9)]

- To a large extent a product is crucial, i.e. what are its characteristics and for which market is intended.
- Payment methods must be flexible and cover many different ways, not just online payments with electronic payment card.
- Electronic payments must be safe.
- Capital investment in the business of e-commerce must be kept to the minimum necessary to reduce excessive risk exposure.
- Control of inventory is very important.
- Logistical services must be fast and reliable.
- There must be strong support from the business owner or major investors.
- Business must establish high exposure to its Web site on the Internet through its registration of all known web browsers, such as Yahoo, Google and others.
- The business has to become an integral part of the online community through involvement and the establishment of numerous online services and social networks.
- The company's online-store company must grant all necessary information and services for its customers.

Still, despite the growing SMEs awareness about the benefits and risks of the introduction of electronic commerce in their operations, as well as the importance of the most critical factors important to the success of this venture, SMEs often need significant assistance and support during the launch of their online business. Worldwide, nearly every developed country has established a specialized state agency whose primary goal is to help SMEs in their greater involvement in electronic commerce, such as the U.S. Small Business Administration (www.sba.gov), Business Victoria (www.business.vic.gov.au) and others. Apart from national government agencies, NGOs and various professional associations, significant support to the efforts of SMEs to implement e-commerce in their business offer some private companies that are specialized in the development and implementation of hardware, software and other solutions in the field of online business. Such are the following few specialized centers: IBM's Small and Medium Business Center (ibm.com/businesscenter), Microsoft Business for Small and Midsize Companies (microsoft.com/business) and Yahoo! Small Business (smallbusiness.yahoo.com).

In the Republic of Macedonia, although the need for specific and crucial support to entrepreneurs who want to start online business or undertakings of its existing business wants to add a component of e-commerce is evident, the support does not

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9) Ibid.

exist. According to a survey conducted in 2007, 87% of SMEs require the use of e-commerce to be financially stimulated by the state, 76% indicate the need for the existence of centers for professional and technical assistance to support SMEs in their efforts to introduce e-commerce, and broader training to interested entrepreneurs and SMEs for e-commerce funded by the government.[10)]

2.2. Innovations in e-commerce businesses in Republic of Macedonia

Since 2008, 87 e-commerce businesses were registered in Republic of Macedonia. Out of these 25% were registered in 2008 and 2009, while the rest start-up their businesses in 2010 and 2011. In 2011 they make 6,500 transactions per month, representing an average of about 75 transactions per e-commerce business.[11)]

In August 2011 a survey was conducted in all 87 e-commerce businesses registered in the Republic of Macedonia on the meaning and source of innovation for e-entrepreneurship. According to the survey 76.4% of all online businesses believe that innovation is 'extremely important' or 'important' to their online businesses, while only 7.1% claim that innovation is not particularly important for their online business. (Table 1).

Table 1. Importance of the innovation for the online business

Innovation Importance for the Online Business	Percentage
Exctremely important	35,7%
Very important	35,7%
Somewhat important	21,4%
Not too important	7,1%
Not important	0,0%

Source of the innovation is in the business model at the half (50.0%) of the e-commerce businesses. Such innovations are directly enabled by the online environment in which they are implemented and can not be replicated through the traditional way of working in so-called physical world. 28.6% of e-commerce businesses their innovation based on technological solutions in the field of IT. Least important for e-commerce businesses in Republic of Macedonia are innovations in financing and technological innovations in telecommunications and media industry (by 7.1% respectively) (Table 2).

10) Janevski Z., "Electronic commerce: opportunities and prospects for small and medium sized enterprises", Economic Institute - Skopje, Skopje, 2008, pp. 146-147.

11) www.cpay.com.mk.

Table 2. Source of the innovation for the online business

The support to these online businesses provided by the innovation-related government institutions is very low. Only 21.4% of them said they used some kind of help

Source of Innovation	Percentage
Technological innovation (telecommunications)	7,1%
Technological innovation (information technology)	28,6%
Technological innovation (media)	7,1%
Technological innovation (entertainment)	14,3%
Innovation in business model	50,0%
Innovation in the financing	7,1%
Other	0,0%

from Business Start-Up Centres / Technology Incubators and 7.1% from the Economic Chamber of Macedonia. Only 78.6% of all e-commerce businesses in Macedonia did not use any means to support their online business, either in the phase of innovation development and prototyping, either in the stages of formation and later development of their business (Table 3).

Table 3. Support used by online business provided from innovation-related government institutions

Innovation Support Instruments Used	Percentage
Ministry of Economy	0,0%
Ministry of Education and Science	0,0%
Ministry of Information Society and Administration	0,0%
Other Ministries	0,0%
Economic Chamber of Macedonia	7,1%
Agency for Foreign Investments and Export Promotion	0,0%
Agency for Promotion of Entrepreneurship	0,0%
Technology/Innovation Centres	0,0%
Clusters	0,0%
Technology and Science Parks	0,0%
Business Start-Up Centres/ Technology Incubators	21,4%
No one	78,6%

This is due to inadequate range of instruments to support online businesses because the existing instruments in place supporting innovation in the Republic of Macedonia are of general type and do not consider the specifics of the establishment and development of online business.

Conclusion

Innovation is one of the immanent features of entrepreneurship, and it becomes even more obvious in businesses that base their operations on intensive use of the Internet and electronic commerce. Electronic entrepreneurs base their innovations mainly on the achievements in the area of: Telecommunications, Information Technology, the media convergence. Also, they inspire their innovations by processes related to the phenomena of political, economic and social globalization. Significant success achieve those e-entrepreneurs that use the particular features that are indicating the benefits provided by ICT. This is followed by their own innovations in the creation of online business models, virtual teams and organizations, digital products, and a completely new lifestyle of consumers who more and more diverse feeds growth and development of the network economy.

Innovative products remains a source of competitive advantage in network economy as it is the case in the real economy as well. But in addition, new online services for consumers that complement the basic range of products, may themselves constitute a basis for gaining a significant competitive advantage. E-entrepreneurs often form small companies that innovative access to the application of ICT technologies. The process of creation and promotion of e-entrepreneurs need different kinds of help and support of various stakeholders in the countries, including the private and public sector and the civil society.

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RICARDO'S THEORY IN PRACTICE: ANALYSIS OF INTRAREGIONAL TRADE IN EU

Abstract

In international trade, countries should use their relative comparative advantages. They should specialize in production and export of goods and services that compete with lower relative cost of production to other countries and to exchange those products to other products for which home manufacturing would be more expensive. That is the theory of David Ricardo, one of the founders of classical political economy. Although it is set back in 1817, today that theory forms the basis for explaining the benefits of international trade, i.e. the incentives and motives of national economies to trade with each other. At its core lies the model of perfect competition. This model is the basis for today's advocacy for free trade within the EU, trade with no tariffs and no other restrictions.

The end result of the Ricardo model of comparative advantage leads to a gradual flattening of prices of products which are traded between economies based on comparative advantages. If there is free trade between foreign countries, it is clear that the products will move from areas with lower prices, to areas with higher prices. The realization of such a theory today is a plan within the EU. However, the practice opposes these fundamental values of Ricardo's theory because:

- The model of perfect competition, to which EU aspires, practically does not exist today because today in the EU market structures that restrict competition prevail;
- The model does not explain how countries that trade with each other will establish a balance in the trading price;

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- The model does not explain how to overcome the problem of different tastes of consumers in different countries;
- The model does not explain how to reduce transport costs as barriers to foreign trade.

Eliminating such weaknesses will upgrade Ricardo's theory and make it valid in current economic conditions. That way it could really be effective in realizing the vision of a "Europe without borders".

Key words: Ricardo effect; foreign trade; comparative advantages; prices equilibrium; free trade.

Introduction

In the mutual trade, countries should use their comparative advantages. They need to specialize in production and trade of goods that have a relative comparative advantage, i.e. goods that are produced with lower cost in comparison to other countries; and to share them with other countries as well. It is the basis of free trade or trade without restrictions on export and import by the government. In addition, the encouragement of free trade depends on the economy of scale, competition, diversity and number of offered products, efficient allocation of resources and international cooperation.

This is the theory of David Ricardo, one of the founders of classical political economy. Although it was established back in 1817, today that theory forms the basis for explaining the benefits of international trade, i.e. the incentives and motives of national economies to trade with each other. This model on comparative advantages is a model for today's advocacy for free trade. If there is free trade between foreign countries, it is clear that the products will move from areas with lower prices to areas with higher prices. However, the realization of such a theory today does not function in the EU.

The fundamental values of the theory of Ricardo are opposed due to numerous limitations and weaknesses in the implementation of this law of comparative advantages. Therefore a question is raised: is the theory of Ricardo valid under the current economic conditions? The opinion on this matter varies with different economists. Most of them think that with some improvements this theory can give the effects that were introduced by great Ricardo two centuries ago.

1. TERMS OF TRADE

Theoretically, a closed (autarkic) economy does not communicate with other economies in the world. It is self-sufficient and does not depend on import and export of goods and services. Today, there is no economy with such features and the economies of all countries are open.

Open economy is an economy that freely communicates with other economies in the world. Mutual economic relationships of the modern economies are established in two ways: by buying/selling various goods and services on the world markets and by buying/selling of capital goods on those markets.

The countries export goods and services mainly for two reasons. First, in some cases the domestic market is unable to absorb (to buy) the entire production of certain goods and services. Companies are trying to sell the surplus of those goods and services on the foreign markets where there is inadequacy of such goods and services or there is high demand for them, i.e. a specific country can not cater with their domestic production. Secondly, domestic enterprises can evaluate foreign markets that provide better conditions (prices) for the sale of their products and thus can achieve higher earnings. In that case, the conditions for exchange (trading) are favorable for them. It is called microeconomic aspect of monitoring and analyzing the terms of trade (commerce) with foreign countries.

Macroeconomic aspects in terms of international exchange, of course, are wider. They refer to the conditions under which the total national economy trades internationally. Moreover, it is always analyzed under the terms whether the country exports more than it imports, what is the structure of the export and import, what is the coverage of import by export and, finally, what is the cost-effectiveness of foreign trade to the national economy.

The answer to these questions gives the conditions under which the international trade is executed. The terms of trade with foreign countries refer to the quantity of imported goods that a country can get (pay) by the price of the unit export good. They can improve or deteriorate depending on the prices of goods and services exported and/or imported. If prices of imported goods rise and prices of export goods remain unchanged or, perhaps, fall, the trade conditions of the particular economy deteriorate. In such situations the country needs to export more in order to buy the same quantity of import goods and vice versa. The events on the world markets in the period 2007-2008 and in early 2011 testify the significance of the conditions and

changes in the terms of trade. Namely, developing countries have been major exporters of primary products for many years, and are faced with adverse terms of trade. The reason for that was the long-term economic stagnation and decline in prices of primary products. That happened with agricultural and food products. This situation reduced the earnings from export and the developing countries needed to export more in order to import products with a high degree of finalization. These countries have faced poor conditions of international exchange in a long period of time.

However, in 2007-2008 and in the early 2011 the conditions changed. Due to various reasons, the demand for certain agricultural and food products (wheat, corn, sugar, etc.) sharply increased. The prices of these products reached extremely high values. Suddenly the countries that produce agricultural products were in much more favorable situation than in the previous decades. Indexes of their export prices became much higher than the indexes of their import prices (Eurostat, 2011). Their terms of trade were significantly improved.

Generally, there are factors that enhance and factors that exacerbate the conditions of trade. They can strongly influence the scope and pace of export of goods and services in some countries. According to professor (Mankiw, 2009, p. 692-693), the most important factors are the following:

- Tastes and preferences of consumers for domestic or foreign goods and services;
- Domestic and foreign prices of goods and services;
- Exchange rate of national currency;
- Domestic and foreign income of consumers;
- Cost of transporting goods from one country to another;
- The foreign policy of the government.

These variables change over time. Therefore, the conditions in international trade change as well. The previously described developments in the prices of agricultural and food products convincingly confirm this conclusion.

2. COMPARATIVE ADVANTAGE IN INTERNATIONAL TRADE

In order to exploit the benefits of the terms of trade, a country needs to offer goods and services on the world market in which it is specialized or which can benefit the country. In other words, in order to be a competitive athlete on the world market, the country should offer products that can be sold at competitive prices on the world markets. Simultaneously, the country will participate on the world market by buying at lower prices and selling the products on the domestic market by higher price.

There are differences in the availability of raw materials and other factors of production internationally. This leads to the existence of differences between countries in terms of production costs of individual goods and services. Therefore, coun-

tries should produce goods and services with the available resources (that they have in large quantities and at low price) and thus the final products can be sold cheaply (more competitively) on the world markets. To accomplish this, they should at least temporarily sacrifice the production of goods and services which are available to be produced, but have no competitive advantage.

The previous observations lead us to the term opportunity cost of producing a product or supplying a service. Opportunity cost of producing a product or supplying a service is the quantity of other goods and services that are sacrificed (not produced) in order to produce an additional unit of that specific product or service (Fiti, 2006, p. 456).

We can take for instance an economy which is closed and which with the given resources can produce only shirts and shoes. The more resources are used to produce the shirts; fewer resources will be used for the manufacturing of shoes. The opportunity cost of the shirts is the amount of shoes that are sacrificed (not produced) in order to produce shirts.

This legitimacy stems from the limitations (rarity) of resources. However, from it, the foundations (structure) of the international trade arise. Namely, if an economy can produce certain goods and services for a shorter period of time and with less expense of other factors of production, it can specialize and concentrate just on the production of those goods and services. Specialization itself will act on reducing the production costs of those goods and services. It will enable the (specialized) country to produce those goods and services in large batches and to realize economy of scale (production of large quantities of a product using the available resources and other factors of production). The economy of scale reduces fixed costs per unit of a product. As a result of specialization and economy of scale, the country is able to produce large quantities of certain goods and services with lower prices and to exchange them for other goods and services which, if produced at home, will cost more. Thus, the opportunity cost for the production of goods and services in the specialized country significantly decreases.

Specialization of certain goods and services for the particular country means getting a comparative advantage in international commerce (Law on comparative advantage). It may occur in the form of absolute or relative form of advantage for the production of certain goods and services. Both benefits have been established and elaborated by the founders of classical political economy, Adam Smith and David Ricardo. Over time, the two theories have evolved (changed) in certain parts, but remained (especially the theory of Ricardo of relative comparative advantages) as economic laws by which countries should act in the international trade in order to get greater benefit. The theory of Ricardo of comparative advantages is one of the basic tenets of the foundation of the single European market - the European Union (EU).

2.1. Smith's theory of absolute advantage as a basis for international trade

The theory of absolute advantages was founded by the Scottish economist Adam Smith (1723-1790) in his legendary work "The Wealth of Nations". According to him, an elementary rule of the good family maintenance is that one family should not produce something that can be bought on the market at lower price. It is the same for the economy; it is profitable not to produce goods that can be bought from abroad cheaply. Or, if a foreign country can supply the domestic country with a certain commodity cheaper than we can produce it. Therefore, it is better to buy it with a certain part of our products that are used in a way that we can achieve some advantage (Smith, 1904).

How does the theory of absolute advantages work in practice? Suppose that countries X and Y produce shirts and shoes and that they trade with each other. Country X has greater labor productivity in the production of shirts, and the Y has greater labor productivity in the production of shoes. According to the usual definition, labor productivity shows the effect of labor per unit of time, i.e. the number of shirts and/or shoes produced for one day.

In accordance with the theory of Smith, X for the same time can produce more shirts compared to Y (which means higher labor productivity), therefore X has an absolute advantage in producing shirts. Conversely, Y produces for one day more shoes than country X and Y has an absolute advantage in producing shoes. The two countries are paying to specialize in the manufacturing of the product they have absolute advantage of. So, X will specialize in the manufacturing of shirts and it will exchange the shirts for shoes from country Y. The country Y will specialize in the manufacturing of shoes and it will exchange the shoes for shirts with country X. Both countries would benefit from such exchanges, or from the international trade.

Why is this so? The answer can be found in Table No. 1.

Table 1

Products	Country X - Number of product per one working day	Country Y - Number of products per one working day
Shirts	550	400
Shoes	350	450

If the countries do not specialize in producing products which they have an absolute advantage of, the total number of shoes produced will be 800 units, and the total number of shirts produced 950 units. However, if countries specialize according to the principle of absolute advantage, the total number of shoes produced will be 900 units (100 units more than the situation before specialization), and the total number of shirts produced will be 1.100 units (150 units more than before specialization).

This theory however, is not giving answer to the question what would happen if one country has absolute advantage in producing both products. Is there a benefit from the international trade in that case? This dilemma is resolved with the theory of relative comparative advantages.

2.2. The theory of Ricardo of relative advantages as a basis for international trade

The theory of relative advantages in foreign trade was founded by the English economist David Ricardo in 1817. According to this theory, countries are specializing in production and export of goods and services that are produced with lower cost in comparison to other countries.

Ricardo proves that the countries can benefit from trade between them even when a country has absolute advantages in the production of two or more products. For Ricardo, the relative comparative advantages are more relevant.

The theory of Ricardo is presented with a hypothetical example in Table No. 2. Ricardo gives the example when England and Portugal produce wine and canvas and Portugal has absolute advantage in producing both products.

Table 2

Relative advantages

Product / Country	England	Portugal
Canvas	100 working days	90 working days
Wine	120 working days	80 working days
Total:	**220 working days**	**170 working days**

According to the theory of absolute advantages, these two countries can not trade with each other, because Portugal has absolute advantage in producing canvas and wine production. However, Portugal has a relative comparative advantage in producing wine within the borders of the country, because the wine is produced in 80 working days, and the canvas requires 90 working days. When Portugal would not trade with England, 170 working days will be needed to produce two products.

But what would happens if Portugal specializes in the production of wine, which has a comparative advantage in its area compared to the canvas? In that case, it will require 80 working days to produce wine for its own needs and another 80 working days to produce wine for export, or to exchange for canvas from England. So, in this case, with 160 days Portugal will have two products - wine and canvas and, in fact, will save 10 working days. Regardless of the fact that Portugal has absolute advantage in producing both commodities, it is good to specialize in the production of goods with relative comparative advantage. It allows to the country to produce two products cheaper with and less labor costs.

Using the same logic, the England is better off to specialize in the production of canvas in which it has a relative comparative advantage and to share its canvas for Portuguese wine. If so proceed, England will get two products for 200 days. Otherwise, if England does not trade with Portugal, in order to provide wine and canvass, it has to spend 220 working days or 20 days more.

It is obvious that the relatively abundant supply of a factor of production makes the expenditures relatively cheap to rent. Therefore, the goods whose production is based on a particular factor of production will be relatively cheap. Those are the goods for which the country has comparative advantage. "States with scantily land, but with a high degree of skilled labor, usually have a greater share of industrial products in its exports, countries with land, but with few skilled workers, typically export raw materials" (Begg et al. 2000 , p. 560). Therefore, countries are paid to specialize in the manufacturing of products that have comparative advantages and to trade those products for other products that would be more expansive if are produced domestically. The differences in relative productivity are the basis for international trade (Begg et al. 2000, p. 553)

3. PERFECT COMPETITION AND FREE TRADE

David Ricardo's theory of comparative advantage today is the basis for explaining the benefits of international trade, i.e. the initiatives and motives of national economies to trade with each other. At its core lies the model of perfect competition (at the time of Ricardo, market structures were close to the model of perfect competition). This model is the basis for today's economists that are promoting free trade (with no customs and other restrictions).

The end result of the Ricardo's model of comparative advantage leads to a gradual flattening of the prices of products and services in the economies that trade with each other, based on comparative advantages. Namely, if there is free trade between countries and relevant economic and political cooperation among the various nations within the EU with positive implications for their economic growth (a realistic assumption within the EU now), it is clear that the products will move from areas with lower prices to areas with higher prices.

France, for instance, has obvious comparative advantage in producing high quality cheese, and Spain has a comparative advantage in producing high quality men's shoes. Countries trade with each other within the single European market, de facto, without customs duties and non-tariff restrictions. Cheese, which is cheaper in France, may be placed on the Spanish market, and men's shoes that are manufactured in Spain may be placed on the French market. So the higher supply of high quality and relatively cheaper French cheeses in Spain will cause drop in the price of the cheeses in this country. Conversely, a rise in imports of high quality men's shoes from Spain to France, and the increased supply of men's shoes on the French market may also cause decline in the price of that product in France.

If that trade relation between the two countries is established, the prices of the products in the markets in those countries will begin to converge and become equal. Use of trade between two countries, thanks to specialization in areas where countries have already gained comparative advantages, will have the citizens of Spain buy and consume less expensive French cheese and citizens of France buy and consume cheaper Spanish men's shoes.

Such arguments are the basis for free or liberal trade, which all EU Member States would benefit. In fact, the validity of the theory of Ricardo of comparative advantages and the assessment of most contemporary economists that all countries participating in foreign trade will benefit if it is free are reasons for intensive exchange of goods and services between EU Member States. The mutual dependence on the economic cooperation of individual national economies within the EU economy becomes more and more important.

4. TRADE BETWEEN THE EU MEMBER STATES

So far, however, such conclusions are not fully realized in the mutual exchange of EU Member States. Analyses of statistical indicators show that the less developed "old" EU member states (like Portugal and Greece), and most of the countries that have joined EU since 2004, are still far from realizing the benefits expected from the activities of the single European market. The low development of some "old" EU member states and the need to meet the Acquis communautaire, as a condition for membership of the "new" countries in the EU, are mostly aiming to remove the various customs and non-tariff barriers in relations with other Member States. That means the need for their integration into the common European market conditions theirs larger openness to the EU. The result of this is a growing size of their foreign trade within the EU, but much more of the import than of the export.

The following analysis confirms this fact. The analysis will be limited to the volume of foreign trade of 10 countries within the EU which have detectable significant imbalance in trade relations within the Union: Bulgaria, Czech Republic, Greece, Cyprus, Lithuania, Hungary, Poland, Portugal, Slovenia and Slovakia (hereinafter referred to as Group 10).

Table No. 3 shows that the share of intra export and import of goods and services in the Gross Domestic Product (GDP) of Group 10 has been continually increasing in the period 2005 - 2008 (period before the beginning of the World Economic crisis). During that period some of those countries (Bulgaria, Czech Republic, Lithuania, Poland, Slovenia, and Slovakia) recorded very high dynamic of growth of their trade in intra EU trade.

Table 3

Share of intra EU import and export of goods and services in GDP of EU Member States

		% of GDP				INDEX
	GEO / TIME	**2005**	**2006**	**2007**	**2008**	**2008 / 2005**
1	European Union (27 countries)	30.66	32.90	33.02	34.25	126.08
2	Belgium	91.70	95.26	97.78	99.14	123.17
3	Bulgaria	43.92	49.56	56.23	56.40	195.65
4	Czech Republic	65.01	69.72	73.34	72.41	164.40
5	Denmark	31.82	32.60	31.68	32.70	115.70
6	Germany	32.27	35.39	36.85	36.90	126.55
7	Estonia	60.80	58.26	51.09	50.50	119.65
8	Ireland	45.95	41.26	39.41	39.38	95.02
9	Greece	13.79	15.24	15.25	16.27	143.53
10	Spain	21.48	22.47	22.39	22.94	127.88
11	France	21.32	21.68	21.52	21.62	114.49
12	Italy	21.62	23.74	24.58	24.91	126.32
13	Cyprus	17.78	16.87	16.83	17.89	127.35
14	Latvia	37.69	35.58	32.76	32.21	151.33
15	Lithuania	54.12	53.85	48.08	57.82	165.29
16	Luxembourg	60.59	66.55	52.76	52.34	113.09
17	Hungary	64.39	73.54	75.69	76.35	142.41
18	Malta	35.87	42.61	36.96	30.01	102.61
19	Netherlands	79.58	84.97	86.23	91.79	133.96
20	Austria	37.87	39.17	40.90	41.18	126.35
21	Poland	31.37	35.64	36.32	35.84	169.72
22	Portugal	23.45	24.75	25.31	25.70	122.59
23	Romania	34.65	33.86	28.86	29.39	148.55
24	Slovenia	48.38	54.52	61.54	61.75	165.59
25	Slovakia	74.12	84.93	87.94	84.89	192.13
26	Finland	29.01	33.29	32.70	32.69	132.26
27	Sweden	29.74	31.94	31.87	33.07	124.22
28	United Kingdom	19.50	21.94	19.10	20.88	106.00

Source: Eurostat, 2011 Available at:
http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

Insufficient development of some of the "old" EU members and the growing openness of the newly admitted EU members led to a high dynamic of growth of their import from other EU member states. The accelerated pace of their imports from the EU caused increase in the participation of Group 10 in the total import on the level of EU from 8,35 percent in 2005 to 10,99 percent in 2008, which indicates an increase of 31,6 percents (see Table No. 4).

The increase of imported products from other countries within the EU is understandable. It is a way to offset the range of products which are not produced at all or

not produced in sufficient quantity on the domestic market and thus to meet the growing needs and demands of domestic consumers. Moreover, probably a strong factor is the higher quality of these products in relation to the quality of the domestic products, and in many cases, lower cost of the foreign over the domestic products, previously established by the conditioned specialization and volume of these products in the exporting (developed) countries. Of course, import of goods and services from abroad has a positive effect on the growing competition in the domestic market. Thus analyzed, the value of the growing integration of the Group 10 in the external trade of the EU cannot be denied. On the contrary, it should be welcomed.

Table 4

Share of intra import of EU member countries in total intra EU import

		% of Intra EU import				INDEX
	GEO/TIME	**2005**	**2006**	**2007**	**2008**	**2008/2005**
1	European Union (27 countries)	100	100	100	100	132.67
2	Belgium	6.06	5.91	6.17	6.10	133.55
3	Bulgaria	0.40	0.44	0.63	0.69	232.33
4	Czech Republic	0.97	1.07	1.20	1.43	195.15
5	Denmark	1.49	1.40	1.36	1.35	119.59
6	Germany	18.81	19.37	19.01	18.72	132.01
7	Estonia	0.17	0.20	0.17	0.14	112.92
8	Ireland	1.56	1.36	1.28	1.10	93.60
9	Greece	1.55	1.60	1.64	1.75	149.64
10	Spain	7.05	7.40	7.33	7.44	140.07
11	France	11.15	9.83	9.79	9.91	117.90
12	Italy	10.63	11.06	11.01	11.07	138.12
13	Cyprus	0.13	0.13	0.14	0.15	148.28
14	Latvia	0.15	0.16	0.18	0.17	155.73
15	Lithuania	0.43	0.42	0.39	0.57	177.20
16	Luxembourg	0.41	0.46	0.37	0.35	114.09
17	Hungary	1.37	1.37	1.48	1.50	146.18
18	Malta	0.06	0.07	0.06	0.05	117.57
19	Netherlands	12.54	12.33	12.51	13.10	138.61
20	Austria	1.69	1.64	1.72	1.76	137.89
21	Poland	1.71	2.02	2.25	2.55	198.25
22	Portugal	0.98	0.96	0.98	1.03	140.45
23	Romania	1.02	1.10	1.03	1.11	143.67
24	Slovenia	0.29	0.32	0.42	0.46	214.90
25	Slovakia	0.52	0.66	0.78	0.86	218.81
26	Finland	1.33	1.47	1.50	1.51	150.64
27	Sweden	2.25	2.28	2.26	2.26	132.92
28	United Kingdom	15.28	14.98	14.35	12.85	111.54

Source: Eurostat, 2011 Available at:
http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

A problem appears on the other side of the external trade of the Group of 10 on the European market - on the side of export. From the data in Table 6 it can be concluded that the export of these countries in the observed period has increased, but neither with similar nor with higher pace than that at which their import from other EU countries has increased.

The reasons for this are different: greater integration of the developed countries of EU in the world trade (and outside the EU), unsatisfactory quality of the products of less developed member states, the decisions of developed countries to import more intermediate goods (raw materials) from the less developed countries, goods which have low added value and thus are cheaper, but also frequent decisions of the developed countries to introduce the so-called non-tariff restrictions on imports of products from other areas of the EU to protect their own production and manufacturers of certain goods, especially those in the agricultural sector. These reasons caused the average participation of Group 10 in the total export to the EU to increase at much smaller pace than their share in total import in the EU. Thus, from 10,38 percents in 2005, export of Group 10 has increased to 12,83 percents, which signifies an increase of 23,6 percents (see Table No. 5). This leads to a conclusion that Group 10 has a low ratio of export/GDP, i.e. that those countries are still faced with some barriers in their operation within the EU, which hampers their opportunities at the expanded European market. That, ultimately, hampers those countries to increase their exports on inter European market, which will have a favorable effect on the growth of their GDP.

Table 5

Share of intra export of EU member countries in total intra EU export

		% of Intra EU export				INDEX
	GEO/TIME	**2005**	**2006**	**2007**	**2008**	**2008/2005**
1	European Union (27 countries)	100	100.00	100.00	100.00	122.57
2	Belgium	9.31	8.94	9.08	9.08	119.57
3	Bulgaria	0.25	0.29	0.34	0.34	164.67
4	Czech Republic	2.42	2.60	3.12	3.12	157.85
5	Denmark	2.18	2.10	2.04	2.04	114.29
6	Germany	22.65	22.49	22.93	22.93	124.13
7	Estonia	0.22	0.20	0.22	0.22	122.36
8	Ireland	2.54	2.20	1.98	1.98	95.49
9	Greece	0.39	0.42	0.41	0.41	130.53
10	Spain	5.06	4.85	4.90	4.90	118.84
11	France	10.68	10.36	9.81	9.81	112.60
12	Italy	8.29	8.13	8.00	8.00	118.27
13	Cyprus	0.04	0.03	0.03	0.03	89.33
14	Latvia	0.14	0.14	0.17	0.17	148.93
15	Lithuania	0.28	0.29	0.36	0.36	155.60

16	Luxembourg	0.61	0.65	0.56	0.56	112.74
17	Hungary	1.85	1.90	2.12	2.12	140.93
18	Malta	0.05	0.05	0.03	0.03	91.83
19	Netherlands	11.77	11.71	12.61	12.61	131.33
20	Austria	3.26	3.14	3.28	3.28	123.17
21	Poland	2.55	2.79	3.32	3.32	159.55
22	Portugal	1.11	1.07	1.03	1.03	114.20
23	Romania	0.70	0.73	0.88	0.88	152.31
24	Slovenia	0.48	0.51	0.58	0.58	149.84
25	Slovakia	1.01	1.16	1.52	1.52	184.75
26	Finland	1.35	1.41	1.35	1.35	122.60
27	Sweden	2.80	2.84	2.76	2.76	120.50
28	United Kingdom	8.01	9.01	6.56	6.56	100.38

Source: Eurostat, 2011 Available at:
http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

Therefore in the observed period (2005-2008) the dynamic of import growth (31,6 percent) of Group 10 was considerably higher than the dynamic of growth of their export in the markets in those countries (23,6 percent). As a result, the high trade imbalance in Group 10 with the EU is obvious.

However, the conditions in the mutual exchange of goods and in the mutual exchange of services between Group 10 and the EU are quite typical.

Regarding the exchange of goods, no significant imbalances between export and import have been noted. According to Zamora (2009), EU countries are more open in that part, which indicates that the internal market provides encouraging integration of the markets of goods. In fact, statistics confirm that the internal trafficking of goods accounts for about 18 percent of the EU GDP. Moreover, the Group 10 and, especially, the newly admitted EU countries, show greater openness (almost twice as big, about 35 percent of GDP) than the "old" EU member states, which show about 17 percent of GDP in the exchange of goods on the domestic market.

Despite the high openness to trade in goods, the openness of all Member States in the exchange of services is very small (about 6 percent of GDP). Moreover, in the developed part of the EU there is a distinctive orientation towards the much larger import of services from countries outside the EU. They, in particular, demand services from the outside world in the field of financial services, information and IT services and the construction services. A possible reason for this is the higher quality of the services which are obtained outside the EU. However, in various analysis (Zamora, 2009) it is stated that the main reason for such relations in exchange regarding the services are still present high barriers that countries set for imports of services from the EU internal market. Knowing this, the European Commission in 2006 adopted Directive 2006/123/EC on services, which the Member States of the EU should have

started implementing by the end of 2009. The main objective of this Directive is to remove barriers from the sharing of services among the EU members, which will be a great benefit to businesses and consumers in all EU countries.

Accordingly, in the commercial relations between Member States there are still a number of limitations that do not allow significant improvement in trading conditions and equal identification of all Member States with a single market.

5. LIMITATIONS

In practice these fundamental values of the validity of Ricardo's theory of comparative advantage are often challenged. Actual limitations and shortcomings can be summarized as follows:

a) The model of perfect competition within the EU today virtually does not exist. Today the prevailing market structures limit the competitiveness. For example, today there are oligopolies (more differentiated sellers who agree to act on the market). Such are, for example, clusters of cars, wine, grain, oil, etc. In some areas there are monopolies (the only manufacturer of a product). This is usually the case of phone service or computer software companies. Because of their presence neither the flexibility of prices and wages, nor the mobility of production factors (labor, capital) functions, which are the basic requirements of the model of perfect competition;
b) Although efforts are made to appropriately establish freer international trade, in practice, it remains burdened by numerous restrictions. To protect the economy, many countries used protectionist measures, such as various quantitative restrictions on trade with other countries. The most illustrative example are the various quantitative restrictions which individual Member countries use in order to protect their products from competing products from other Member countries which built powerful and competitive industries, especially based on comparative advantages arising from the relatively cheap and abundant labor.

Simultaneously, in a very common use are the non-tariff barriers that some countries have introduced for the protection and promotion of their products in trade with other Member States. Often the more developed Member States require extremely high safety standards for imported goods or bring much bureaucracy to reduce the volume of goods entering the country. For example, unnecessary delays are introduced in the processing of import documentation or very high (often subjectively high) standards for health and safety of the population. Or, to boost exports of their products, some countries grant subsidies which can be public (for example, approving grants or performing other investment incentives), hidden (granting tax breaks for exporters) or exporters can even receive direct financial assistance to export (Nellis H. Parker, 2004, p. 318). The western parts of the EU often do;

c) The theory of comparative advantage puts the developing countries (Bulgaria, Poland, Hungary, Lithuania, Portugal, Slovenia, etc.) in a disadvantage. These countries have comparative advantages in the production of raw materials and products with low degree of industrial processing (finalization). The prices of these products are low compared to the prices of products with a high degree of finalization of production whose comparative advantages are on the side of developed Member States. Accordingly, there is an unfavorable relationship between the prices of raw materials and commodity prices with a high degree of processing. In other words, the terms of trade are unfavorable to the less developed member states. In the past decade, terms of trade became worse in less developed countries because the prices of the products with high degree of finalization is faster than the dynamics of growth of prices of raw materials and products with a low degree of processing. That means that less developed countries are forced to supply larger quantities of raw materials to obtain smaller quantities of industrial products. In that case the less developed countries lose as opposed to the claim of the theory of comparative advantages that in the international trade all countries have benefit;
d) The model does not explain how countries trade among themselves to establish a balance in the trading price;
e) The model does not explain how to overcome the different tastes of consumers in different Member States;
f) The original theory of Ricardo of comparative advantage does not explain how to reduce transport costs as barriers to foreign trade.

6. CONCLUSIONS: SINGLE MARKET FOR EUROPEAN IDENTITY

If the theory of Ricardo insists that foreign trade should be with strict observance of the relative comparative advantages that means that the theory actually requires the preservation of present relations, or unchanged status (status quo), which obviously does not suit the less developed countries within the EU. This means that comparative advantages of raw materials for production are on the side of less developed countries and comparative advantages for production of industrial products are on the side of developed countries. Therefore, the theory of Ricardo should be analyzed through its dynamic aspect, i.e. to take into account that the comparative advantages are not given once and for all, but that each country, with reasonable and well-established development policy, should create relative comparative advantages in strictly selected economic sectors.

That, in reality, of course, is possible. Typical examples are the countries of Southeast Asia, which gained comparative advantages in the electronics sector, which previously did not have. Or countries-producers of agricultural and food products,

which, as previously stated, fight for higher prices of their products on the world markets, which significantly improved their terms of trade within the outside world.

In addition, to be an equal field for competition for all its members, the European market should be more open than ever, and the measures which will be taken should lead to stimulation of the competition. This is possible with a greater integration of different (national) markets in a single market, and elimination, as much as possible, of the numerous restrictions which are still maintained. In fact, one cannot speak of a fully integrated market if the "economic borders" between individual Member States are not eliminated. This particularly applies to the "old" member states, which by eliminating the remaining foreign trade barriers will contribute to improving the functioning of the internal market in the EU.

The analysis confirms that the Group 10 shows a much greater willingness to trade in goods and services with other Member States. But the obvious is still present: the resistances and constraints posed by the advanced (older) member states, especially in the exchanges of various forms of services within the EU. The European economy can be considered to be fully integrated only providing that the internal market guarantees freedom of mutual exchange of services as well.

Elimination of the previously mentioned weaknesses will upgrade the theory of Ricardo and make it valid in the current economic conditions. Within the EU it is possible with further liberalization of the trade in the Member States and further enhancement of their trade integration as a condition for establishing and fostering sustainable economic development of EU integration as a whole. In this case the theory of Ricardo could really be effective in realizing the vision of a Europe without any borders, which would mean strengthening the single market that would be equally identified by all Member States.

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SOME ASPECTS OF DIRECT AND ONLINE MARKETING

Abstract

The concept of direct marketing is based upon a system of sales and/or information where the company establishes direct and personal relationship with potential buyers through interactive communication. Abundance of the mass marketing and the switch to fragmented marketing is the key factor that drives the rapid expansion of the direct marketing. The global affirmation of the Internet together with the wide range of possibilities offered by internet services lead to a development of the online, or the electronic, marketing. In essence, online marketing is an upgrade of the traditional direct marketing that enables firms to reduce costs, to establish interactive relationships, to gain competitive advantages and to access marketing information.

Key words: direct marketing; online marketing; Internet; databases; media; online services.

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Introduction

Direct marketing brought new approach in the field of sales communication. As a type of promotional activity, it dates from the begging of the 60s of the previous century. The switch from mass to fragmented marketing led to development of the direct marketing together with important changes in the communication aspect of the marketing, as well as changes in the relationship between the buyer and the seller. Unlike the classical methods of one-sided communication (seller-buyer), direct marketing is based upon two-sided, interactive communication. Firms direct their supply and communication to the needs of narrowly defined market segments or individual consumers, in order to get measurable response or transaction. Direct marketing activities are based on the marketing databases and media for interactive communication.

The global affirmation of the Internet together with the wide range of possibilities offered by internet services resulted in new trends in direct marketing activities. Online, or electronic, marketing is an upgrade of the traditional direct marketing. Practice showed that online market is powerful tool which enables firms to develop new programs, to serve consumers more effectively, and to achieve its own marketing and economic goals more efficiently.

Having all this in mind, the main objective of this article is to emphasize the importance of the direct and online marketing, and to emphasize their contribution in the process of trade expansion to foreign markets. The remainder of the article is structured as follows. Section 1 defines the concept of direct marketing and its characteristics. In Section 2 the marketing database as a key element of the direct marketing is discussed. Section 3 elaborates the media of direct marketing. Section 4 and 5 deal with the concepts of online marketing and integrated direct marketing.

1. DIRECT MARKETING – DEFINITION AND CHARACTERISTICS

Direct marketing is one of the most dynamic fields of the marketing. Its development is largely dependent upon the technological progress. As direct marketing is expanding its techniques and tools are also changing. The concept of direct marketing is mostly based upon the system of information and/or sales where the firm, through interactive communication, establishes direct and personal relationship with the consumers. This relationship, from the marketing point of view, is straight and measurable.

Direct marketing, according to the Direct Marketing Association, is defined as an interactive marketing system which uses one or more media for communication in order to obtain a response and/or transaction that is measurable on any given location[1)]. The definition outlines basic characteristics of the direct marketing. First, direct marketing is an interactive system. This implies existence of two-sided personal communication between the consumer and the seller. Second, every form of direct marketing activity is measurable. From here, the objectives of the direct marketing are also measurable. The last part of the definition i.e. on any given location implies flexibility of the direct marketing. In other words, direct marketing is not restricted to any specific media of communication i.e. any media or combination of different media can be used to get whoever and wherever[2)].

Direct marketing includes all promotional activities used to establish direct communication with previously identified potential buyers or target markets and to obtain direct response, reaction or an order from the customers. Basically, direct marketing is a combination of three marketing techniques - economic propaganda, sales improvements and market research. Additionally, direct marketing can enhance the brand loyalty, as well as the others communication objectives such as[3)]:

- Measuring the consumers' reaction,
- Stimulating potential consumers to ask for more information regarding the product,

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1) Kotler, P., Marketing management, IX Edition, Prentice Hall, New Jersey, 1997, p.718.

2) Stone, B. and Jacobs, R., Successful Direct Marketing Methods, VIII Edition, Mc-Graw Hill Professional, New York, 2008, p.5.

3) De Mooij and Keegan (1991) in Jovik M.: Internet i izmenjena paradigma 90-tih, http://pravimarketing.blogspot.com/2010/12/internet-i-izmenjena-marketing.html (visited on 19.10.2011).

- Stimulating test sales,
- Establishing system of direct sales,
- Direct contact with customers or potential customers,
- Establishing contact between sales department and potential buyers,
- Developing program to motivate the intermediaries (retail sale, distribution, dealers, agents, etc.).

Characteristics, and at the same time advantages, of the direct marketing are: complete control over the media, as well as on the messages send; no direct competition from other suppliers; accuracy i.e. uniqueness of the offer enables only specific group of consumers to be targeted; appropriate for small businesses; direct marketing has immediate effects; direct marketing allows at least the same range of objectives to be achieved as compared to the other types of promotion; allows multiple sales from same consumer; etc.[4)].

The use of direct marketing is largest in the USA. Namely, in the beginning of the 90s in the USA the sales volume from certain forms of direct marketing reached level of around 70 billion USA dollars, per year[5)]. Direct marketing is becoming more and more popular in developed Europe (United Kingdom, Benelux countries, France and in Scandinavia), as well as in the rest of the world. One can claim that the rapid expansion of the direct marketing is, generally, a result of the switch from mass marketing to fragmented marketing. In other words, direct marketing enabled sellers to focus, more efficiently, on the so-called micro markets and to adjust the supply to the specific needs of the consumers.

2. DATABASE AS AN IMPORTANT DETERMINANT FOR THE DIRECT MARKETING SUCCESS

Databases are key element of the direct marketing. Databases refer to a sum of different statistics used for computer search. Consumer databases are systematically organized collection of data for individual consumers, stakeholders or potential stakeholders. This data should be connected with the marketing objectives such as acquiring and evaluating potential stakeholders, sale of goods and services and nurturing established relationships with consumers[6)]. Database marketing, on the other hand, is the process of creating, developing and using consumers' and other databases (such as products' databases, distributors' databases, intermediaries' databases etc.) in order to establish communication and to perform business transactions[7)].

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4) http://www.scribd.com/doc/54045929/Osnovi-marketinga

5) Rakita B., 2005, p. 465.

6) http://senica.tripod.com/marketing/Knjiga5-27.pdf (visited on 19.10.2011)

7) Kotler, P., Marketing Management, The Millennium Edition, Prentice Hall International, Inc., Upper Saddle River, New Jersey, 2000 p. 652 and Kotler, P., Armstrong G., Saunders J. and Wong, V., Principles of Marketing, Second European Edition, London, 1999.

Database marketing has completely different base, profile and objective when compared to the regular consumers' lists which contain only consumers' names and addresses. Namely, databases used in the marketing activities are developed from the micromarketing and they might have additional important statistics (e.g. what was bought before, on which offers consumers reacted most, set of demographic data, etc.). Structured in this way, marketing databases enable the direct marketing firms to adjust their offers to specific segments of the market[8)].

Generally, marketing databases contain data for the consumers and the potential consumers. In this context, the most valuable database for every firm is the one that has data for past consumers, as well as data for the current consumers. Properly used database helps firms to decide on their best consumers and to establish communication on permanent loyalty. Additionally, by using a high quality database firm increases the percentage of permanent consumers and the rate of new consumers. Furthermore, it has positive effects on the sale's volume and reduces marketing costs. Marketing database has long-term value for the company because it enhances company's ability to sell to same consumers and to make different combinations.

There are different database classifications conditional on the criterion of classification[9)]:

- From the consumer perspective there are: consumer databases (active, not-active, consumers that ask for product details, consumers recommended by others); potential consumer databases; upgraded databases (new data is added to the current database); cluster databases (statistics, geographic, behavior, life style, etc.) and analytical databases (measuring answers, analyses, interpretation of the results, forecasting).
- From the firms perspective one can distinguish between firms' own database and outside database. Firms' own database refers to the list of buyers that reacted on the firms' own offers. Outside databases are developed and are owned by an entity different from the firm that uses them[10)].
- According to different classification there exist four broad categories of databases: respondents' databases, complicated databases, business databases and firms' databases. Respondents' databases are developed by using answers from the consumers of the direct marketing. Complicated databas-

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8) Jovik M.: Internet i izmenjena paradigma 90-tih, http://pravimarketing.blogspot.com/2010/12/internet-i-izmenjena-marketing.html (visited on 19.10.2011).

9) Marketing, Treæe izmjenjeno i dopunjeno izdanje, Redaktori: Prof. dr. Boris Tihi, prof. dr. Muris Èièiæ i prof. dr. Nenad Brkiæ, Ekonomski fakultet u Sarajevu, 2006, str. 477.

10) Ibidem. In USA an entire economic sector for databases' construction was developed. For example, firm, „R.I.Polk&Co" offers databases with 80 millions households, 120 millions car registration, 66 millions names from the address books, 60 millions scientific papers and school fees, 50 millions house owners, 60 millions former participants in the direct marketing, 150 millions credit card holders etc.

es are constructed by using address books, statistics on car registrations, statistics from different associations, etc. Business databases can be respondents' databases or complicated databases. Firms' databases are databases developed and owned by the firms.

Firm's database decision depends upon different factors, such as: costs, database availability, up-to date of the database, the frequency of consumers' purchases and the volume of the purchases, database source (reputation and credibility of the entity that created the database) etc.

3. TYPES (MEDIA) OF DIRECT MARKETING

Media of direct marketing are: telephone, electronic media (television, radio, interactive television, teletext, internet), print media (newspapers, magazines, articles in newspapers and magazines, flyers), direct mail (mail and catalogs) and new media (fax on demand, CD-ROMs, on-line services and internet/WWW). This section will be focused on the characteristics, advantages and disadvantages of the most important media of direct marketing[11)].

- ***Direct mail***. Direct mail is very frequently used as a synonym for direct marketing. Before the mass production era began, many products have been sold through direct mail. However, the efficiency of direct mail is largely dependent upon the availability and the quality of the address list (databases). Some of the advantages of the direct mail are selectivity, heterogeneity of the format, personal contact, no direct competition, controllability and consumers' involvement in the process. The disadvantages of direct mail are violation of consumer's privacy and possible over-supply with packages not explicitly demanded by the consumers.

Direct mail, as a form of direct marketing, is especially appropriate for businesses looking for expansion on the foreign markets. However, the tariff system may create obstacles in the process of product delivery in the foreign countries.

- ***Catalog.*** Catalogs are very important component of the integrated marketing communication. Many companies use catalogs in line with the traditional retail distribution. Catalog marketing facilitates the process of purchasing and offers wide range of products. Among the factors that explain the rapid

11) The discussion regarding the direct marketing media is based on: Marketing, Treæe izmjenjeno i dopunjeno izdanje, redaktori: Prof. dr. Boris Tihi, prof. dr. Muris Èièiæ i prof. dr. Nenad Brkiæ, Ekonomski fakultet u Sarajevu, 2006, str. 478-480, Kotler, F., Armstrong, G., Saunders, X. and Vong, V.: Ïðèíöèïè íà ìàðêåòèíã, (ïðåâîä), Òðåòî åâðîïñêî èçäàíèå, 2001, p. 969-973, http://senica.tripod.com/marketing/Knjiga5-27.pdf (posetena 19.102011),
http://www.knowledge-banks.org/medjunarodni_marketing_10_nfps_2_i_06/lekcije/lekcija15.pdf and other relevant sources.

growth of catalog marketing is the increase in the number of women working, as well as the use of credit cards as a means of payment. The success of the catalog marketing largely depends on the design of the catalog, colures, the season and the previous experience and credibility of the seller.

Catalogs are usually distributed by the direct mail to the foreign consumers; in some cases there are on-line versions available, also. The main objectives of the catalogs are: creating brand for the exporter, creating more demand for new information, increasing the number of orders, etc.

- ***Television.*** As a medium of direct marketing, television is used for direct response and support. As a medium for direct response it is used to address large number of viewers. Television marketing is performed by broadcasting messages (two minutes, one minute or 30 seconds long) and it is usually combined with the telephone. Additionally, television can be used as a medium of support for other forms of direct marketing, such as direct mail and/or newspapers.
- ***Telemarketing.*** Telemarketing can be defined as planned use of telephone together with traditional marketing methods and techniques. There are two basic types of telemarketing: inside and outside telemarketing. Inside telemarketing refers to a use of a free telephone number for consumers; this increases the response rate up to 20%. Namely, experience showed that sale through phone is four times higher than the sale done by using direct mail. Outside telemarketing refers to a combined use of the telephone as a sale channel together with direct mail, fairs, seminars etc. Outside telemarketing can, also be used in the construction of the databases.
- ***New media.*** Fax on demand, interactive television, CD-ROMs, electronic shop, on-line services and Internet/WWW are considered as new media of the direct marketing. These types of media allow immediate access to a large base of information with fairly reasonable costs. In comparison with the direct mail and the print media, new media are not limited by the number of pages, the size of the page or the weight. Information is always available for the consumer, not only at moments suitable for the seller. The number of targeted groups is not limited – there might be many, as well as little targeted groups. Consumer is actively demanding for contact, whereas the seller creates and promotes the offer. The contents are ought to be informative and relevant. Usual content formats are electronic shopping mail, shop, catalog, demonstration of a certain product, ad or directory.

Direct marketing strategy is directed towards making decisions regarding: the products and the services, total supply offered, choices between different databases, media, the mode of ordering and paying and the message design. After the strategy of the direct marketing is decided a plan of the direct marketing is developed with the following structure: introduction, product description, surrounding, media, market potential and plan and implementation of the strategy.

Direct marketing promotions, as the practice have shown, are especially valuable for the international marketing activities because of their efficiency and the speed of reaction[12]. Namely, direct marketing, as an instrument of the promotional mix, is based on personalized messages i.e. the seller directly addresses the potential consumer on his/her address. This is very important advantage in the developed countries' markets. However, when direct market is used as part of the international marketing certain obstacles may arise. These usually refer to differences in the process of decision making in different countries, the degree of the development of the market, cultural differences and different consumer habits. Another important obstacle is the language barrier as the main objective of the message content is to draw consumer's attention.

4. ONLINE MARKETING – DEFINITION, CHARACTERISTICS AND CHANNELS

Online marketing is traditional marketing combined based on the use of information technologies such as interactive online computer systems and electronic connections between the consumers and the sellers. Consumer's computer is connected to different online services by using modem and telephone line. Online marketing is also known as multimedia marketing, computer integrated marketing, cyber marketing and internet marketing.

There are two basic online marketing channels[13]:

- **Commercial online services**. Different companies have established online information and commercial services accessible for all consumers that applied for such services and that are paying certain monthly membership fees. These commercial online services can be: consumer online services (such as, "CompuServe", "America Online", "Prodigy", "Delphi", "eWorld" "Microsoft Network") and specialized business online services (such as, "Ari Network Service", "Data Transmission Network", "Industry Net", "LEXIS/NEXIS", "Digital"). The latter offer more heterogynous services – information (news, library, education, travel, sports, etc), recreation (fun and games), shopping services, conversation (forums, etc.), e-mail, etc. Commercial online services were extremely popular in the middle of the 90s. Nowadays, commercial online services are largely replaced by the Internet, as primary online marketing channel[14].

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12) Jovik, M., "Internet i izmenjena paradigma 90-tih", http://pravimarketing.blogspot.com/2010/12/internet-i-izmenjena-marketing.html (visited on 19.10.2011).

13) Ibid, p. 975.

14) http://senica.tripod.com/marketing/Knjiga5-27.pdf.

- **Internet**. The Internet is a global system of interconnected computer networks that provides immediate and decentralized opportunity for global communication. Its integral parts are intranet, entranet and World Wide Web. The Internet consists of millions of corporative, government, business and private computers. Internet users can send messages, exchange photographs, buy products, read news, art related or business information, etc. The most important characteristics of the Internet are its strong independence and cooperative nature.

The use of the Internet for marketing activities is very wide – from online propaganda, online buying and selling, to online services[15]. Even though the Internet offers large set of services for the users, the most powerful and the most popular service is the World Wide Web (WWW), usually known as web. Most people use terms internet and web interchangeable. WWW offers exquisite possibilities for direct sale of the products to the clients. The Internet on its own is free; however individual users must pay certain fee to their internet providers if they want to connect to internet.

An important assumption for successful use of the online marketing is having a knowledge of the marketing basis (the system and the process), or, in other words knowledge of the traditional marketing concepts. More specifically, this means being educated in the field of marketing research, planning and development of the product, pricing, distribution and promotion of the products. To conclude, the core principles and methods of the online marketing are derived from the traditional marketing, whereas the essential difference between the online marketing and the traditional marketing is the interactivity[16].

Online marketing can be conducted by using the following four approaches: creating electronic shops, using online ads for promoting products or services, participation in forums (Newsgroup, Bulletin Board System (BBS) and Web Communities) and by using e-mail.

- **Electronic shops.** One of the most important advantages of the Internet is its use as an electronic shop or an electronic sales center, where the consumer matches the seller, makes its order, pays for the order by using credit card and receives the order by a regular mail service. The company might engage in electronic selling on two different ways – by buying space on a commercial online service or by creating its own web site[17]. Commercial online services design the shop's appearance and therefore, the compa-

15) Ibidem.

16) Mandarik M.: Savremeni pristup direktnom marketingu na poslovnom tržištu, www.singipedia.com/attachment.php?attachmentid=2326&d... (visited on 19.10.2011).

17) http://www.serbia-business.com/serb/images/stories/pdfs/Marketing_strategic/Direktni%20i%20online%20marketing.pdf

ny must pay an annual fee plus certain percent from its sales for the online services. Companies might create its own web site, usually with a help of professional agencies for web design. Websites have two basic forms – corporate and marketing websites[18]. The so-called corporate website includes company's basic information, its mission, philosophy, products, services and company's location, as well as certain events, financial results and job opportunities. The marketing website is designed with a purpose to direct current or potential web buyers towards buying or other marketing result. In order to attract web users, the company must promote its website through ads in the newspapers, radio and television, through banners or other media.

- **Online ads for promoting product (propaganda messages).** Companies can announce ads on internet by using the space for organized advertising, as sponsor ads, graphical ads or by using lists. The later refers to title banners, windows ads, tickers (banners that are moving all over the monitor) and roadblocks (ads that are displayed on the entire screen) [19].
- **Participation in forums (Newsgroup, Bulletin Board System (BBS) and Web Communities).** Companies can decide to participate in different online, non-commercial groups. Their participation in such groups will enhance companies' name and credibility and therefore, it can increase the consumers' awareness for companies' products and services. Besides participation, companies can act as a sponsor on such groups.
- **E-mail.** E-mail has similar characteristics as regular mail; however it is much cheaper and efficient – the receiver can receive the message much faster than the regular or express mail. By using e-mail company can: advertise its products and services, promote its identity, send information regarding the products, receive orders, offer after-sales services etc. However, when using e-mails as a media of direct marketing, companies must be very cautious not to create "disturbing and boring company" reputation.

Online services for information and shopping originated from the USA. However, in the last few years the use of internet is becoming more popular in Western Europe and in the more developed Asian economies. It is predicted that the use of internet and online marketing will experience rapid growth. The explosive growth of the online marketing can be easily explained with the many advantages for the sellers, as well as for the potential consumers[20].

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18) Ibidem.

19) Kotler, F., 2000, in http://www.serbia-business.com/serb/images/stories/pdfs/Marketing_strategic/Direktni%20i%20online%20marketing.pdf.

20) For more information see Marketing, Treæe izmjenjeno i dopunjeno izdanje, *redaktori:* Prof. dr. Boris Tihi, prof. dr. Muris Èièiæ i prof. dr. Nenad Brkiæ, Ekonomski fakultet u Sarajevu, 2006, p. 483.

The online marketing has at least, five big advantages[21]. First, it is affordable for big, as well as for small companies. Second, there is no real limit for the advertising space, unlike in the print media or in the radio and the television. Third, the access to and search for information are very fast in comparison to the express mail and fax. Fourth, website is easily accessible by whomever and in whatever time. Fifth, the buying can be done privately and very fast.

The Internet is especially useful for comfort requiring products and services (e.g. books or music), for lowering costs (reading news on the internet), or when consumers ask for more information regarding the product characteristic or price differences (e.g. cars or computers). However, besides the above mentioned advantages, online marketing cannot be applied in every company and for every product because of the following factors[22]:

- **Limited exposure and buying from the consumers.** Even though online marketing is experiencing rapid growth, it is still accessible only for a limited market segment.
- **Not representative demographic and physiographic characteristics of online users.** Namely, online users are generally richer and more technically orientated than the rest of the population. Therefore, online marketing is ideal for promoting computer hardware and software, electronic devices for personal consumption and specific types of products, but it is less efficient when it comes to conventional products.
- **The large amount of information can lead to turbulence and chaos.** The Internet offers millions websites and vast sets of information. Therefore, the search on internet can, sometimes, be very frustrating, confusing and time-consuming experience for the buyers. Many advertisements are unnoticed; some of them are not even opened. Unimportant and distressing commercials are considered to be disturbing for the consumers.
- **Safety.** Consumers are worried that someone might be following their online shopping, or much worse, that someone might perform unauthorized shopping by identifying their credit cards' numbers. Companies that perform online marketing are worried that someone might use the internet to spy their computer systems.
- **Ethical problems.** Privacy is primary concern. Marketers might follow website users easily. On the other hand, many consumers by participating in the website activities reveal significant part of their personal information.

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21) Kotler, P., Marketing Management, The Millennium Edition, Prentice Hall International, Inc., Upper Saddle River, New Jersey, 2000, p. 665.

22) More information in Kotler, P., Armstrong, G., Saunders, X. and Vong, V.: Принципи на маркетинг, (превод на македонски - Влада на РМ), Трето европско издание, 2001, p. 993-994.

Additional issue is the segmentation and possible discrimination. At the moment, internet is being used largely, by richer consumers. Poor consumers don't have full time access to internet, which makes them less informed for the products, services and the prices.

These limitations do not deteriorate the importance and the effectiveness of the online marketing. Moreover, every company that wants to expand its operations on the foreign markets needs to have online marketing as an integral part of its strategy. As it develops, online marketing is becoming more and more powerful instrument for development business relationships, establishing contacts with the consumers, increasing sales, promoting company's name and products and for more efficient and effective marketing research[23)].

5. INTEGRATED DIRECT MARKETING

All of the above mentioned promotional activities, on one way or another, contribute to companies' success and promotion on the domestic, as well as on the foreign markets. However, very often, companies fail to integrate well the individual marketing activities, one with another or with the other elements of companies' promotional or marketing mix. Namely, different marketing activities are managed by different persons, for e.g. advertising campaigns are managed by the department for advertising, direct marketing is managed by the direct marketing experts, website is developed by an outside internet firm etc. This can leads to poor final results. **Integrated direct marketing** overcomes these disadvantages. The concept of integrated direct marketing refers to a use of more tools and more phases in order to improve the reaction[24)].

Integrated direct marketing means integrated use of more types of the direct marketing. Namely, integrated direct marketing is about the use of the direct marketing as a part of the integrated marketing mix. Moreover, direct marketing becomes a complement to the other marketing activities. New consumers are recruited through different media – newspapers, television or, even by direct mail. Once consumers are recruited, direct marketing is used to increase the benefit of these consumers for the company – by direct sale of other product lines to the consumers or by asking current consumers to "recommend the product to their friends"[25)]. In such circumstance direct marketing is becoming an integral part of a wide marketing mix.

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23) Ibid, p. 994.

24) More information in Kotler, P., Armstrong, G., Saunders, X. and Vong, V.: Принципи на маркетинг, (превод на македонски - Влада на РМ), Трето европско издание, 2001, p. 995.

25) http://senica.tripod.com/marketing/Knjiga5-27.pdf (visited on 19.102011)

Conclusion

Direct marketing is one of the most dynamic fields of the marketing. The concept of direct marketing is based upon the system of information and/or sales where the firm, through interactive communication, establishes direct and personal relationship with the consumers. In essence, direct marketing is a combination of three marketing techniques: economic propaganda, sales improvements and market research.

Marketing databases are essential for the success of the direct marketing. Generally, databases are sum of data used for computer search. Database marketing, on the other hand, is the process of creating, developing and using consumers' and other databases (such as products' databases, distributors' databases, intermediaries' databases etc.) in order to establish communication and to perform business transactions. Media of the direct marketing are: direct mail, catalog, telephone, television, telemarketing etc.

Online marketing is traditional marketing combined with the use of information technologies i.e. interactive online computer systems and electronic connections between the buyers and the sellers. Basically, there are two main types of online marketing channels – commercial online services and Internet. The latter can be defined as a global system of interconnected computer networks which allow for a possibility of immediate and decentralized communication.

Marketers can conduct online marketing on four different ways: by creating electronic shops, using online ads for promoting products or services, participation in forums and by using e-mail.

Event though relatively new, it is expected that Internet and online marketing will experience rapid growth. The explosive growth of the online marketing can be easily explained with the many advantages for the sellers, as well as for the potential consumers.

Integrated direct marketing is about integrated use of different types of direct marketing i.e. promotional campaigns with more marketing tools and more phases in order to improve the reaction.

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Professional paper

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CONTRIBUTION OF ORGANIC AGRICULTURE FOR BALKAN REGIONAL COOPERATION

Abstract

Economic transition in the countries of Balkan Region caused rather drastic changes of agricultural sector and resulted with large price disparity between the agricultural outputs and agricultural inputs. Low-input traditional systems and small-scale labour intensive farming are the main attributes of the agricultural production in the Balkans. Low-input farming refers to reduction of external agricultural inputs (typically fertilizers, herbicides and pesticides) or refrains from using them altogether. This simple reduction of agro-chemical inputs should be considered as the consequence of a socio-political evolution from central planned to market economy and not as the result of a designed agricultural policy. Only because the low-input traditional systems are organic by default, that is, those do not use synthetic external agricultural inputs, not necessarily leads to an organic and environmentally friendly production. Quite contrary, currently, the majority of agricultural production in the Balkans is far away from being sustainable and organic, either from economic or environmental aspect.

Potential specific contribution of organic farming to some of the key agricultural policy objectives in each of the Balkan economies, such as competitiveness of agriculture, farm income, food supply, food quality aspects and minimization of negative environmental impact of agricultural production, needs to be discussed on regional level. These issues should be the main drives raising the Balkan policy makers' interest in organic agriculture and its benefits that are relevant for policymaking and sustainable regional development.

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Currently, on the Balkans there are EU-member countries Greece, Slovenia and Bulgaria where organic agriculture is rapidly developing and the supporting institutions structure (regulation, inspection, certification, market, research and education) are established and the activities are completely performed under EU regulation for organic farming (Council Regulation (EC) No 834/2007). Then, there are Balkan EU-candidate-Macedonia and Croatia, where organic production and marketing, as well as regulations, inspection, certification and education system is still not properly functioning, but is emerging. At the end, there are Balkan EU potential candidate countries-Montenegro, Serbia, Bosnia and Herzegovina, Albania, Kosovo under EU Council Resolution 1244, where organic agriculture is still at a relatively low level and where any help and experience are welcomed. In such a situation, it is more than obvious what benefit will bring exchange of experience and regional co-operation.

Key words: organic agriculture; Balkan region; regional co-operation; sustainable regional development; environmental sustainability.

Introduction

According to the natural climate and soil characteristics as well as to tradition and the level of development, agriculture is a key factor in the Balkan countries, of primary importance in every sphere-economic, social and political. In the Balkan countries even after a decade of widespread political and economic changes, there is still requirement for comprehensive agricultural development strategies, related policy instruments, education and effective institutional arrangements that comply with the requirements of sustainable development. Organic agriculture could be a tool on the way to achieve these goals through coordinated regional co-operation. In the same time, there is an intensive pressure from the local NGOs', EU accession process and market opportunities to incubate organic production as a main concept for further development of Balkan agricultural sector. The enforcement of a regional co-operation trough organic agriculture, in order to harmonize, co-ordinate and enhance the respective policies of the Balkan countries, could be a good start.

In the new market economies of the Balkan countries, specific common opportunities are influencing the further development of organic agriculture and the possibility of exploring its potentials of making strong synergy between multifunctional objectives. Generally speaking, those opportunities can be seen in relatively extensive agriculture, cheap labor and land, large areas with good agricultural land and high biodiversity values.

Beside the opportunities, there are always common constraints. In all Balkan countries organic agriculture is still relatively low at the political and other agendas and is not seen as a political option for problem solving. Agriculture production in the region is characterized by low-external inputs and it is not at all profitable occupation. Furthermore, little attention is given to proper education as a powerful vehicle between human and natural potentials and possibilities to take their advantages.

Development of organic agriculture is strongly affected by the above-mentioned issues. The idea is that if the strategy for overcoming this constraints is decussated on regional level, they can easily be transformed into opportunities and strengthen the organic agriculture in the Balkans. Finally, if the aim is sustainable development of the region, than for sure organic agriculture is a highly relevant tool, which contains the

potential to participate in solving simultaneously a range of problems related to agricultural production, environment and rural development.

Therefore, for the Balkans it is important organic agriculture not to be seen as static and strictly national but as a dynamic process, serving as an innovator for benefiting the whole region.

ORGANIC AGRICULTURE IN THE BALKANS

The story of organic agriculture in Balkan countries started in the late 80-es of the last century and was promotes mostly of weekend gardeners, environmentalist, people interested in natural healing methods and those who simply wanted to fallow a reformed way of life. As the organic agriculture growth in developed countries, it become clear that it offers an interesting contribution in solving economic, social and environmental problems. Shortly after, more organizations were founded, mainly in Slovenia and Bulgaria and a proper legislation started being adopted, as shown in Tabele 1.

Table 1

Historic review of adoption of organic legislation in Balkan countries

Country	Year
Albania	n a
Bosnia and Herzegovina	in progress
Bulgaria	2001
Croatia	2001
Greece	1998
Macedonia	2006
Montenegro	2004
Slovenia	1998
Srbia*	2006

Source: http://www.organic-world.net/statistics-europe-production.html?&L=2
**** Incorporated data for Kosovo***

Regarding data on surface under organic agriculture in Balkan countries, it has to be taken with caution. Due to the dynamic development of the sector and the calculation methodology, reliable data for some countries is difficult to obtain. We should also bear on mind that some statistics include only certified lend, while others include in-conversion land, as well. The situation becomes more complicated if we know that significant percentage of the area under organic agriculture (mainly for export to the EU) has been certified by foreign certified bodies. That figure is difficult to obtain too. Additional problem is that the growth of the sector brought to the scene some local certifying organizations with quite liberal and questionable certification scheme.

Table 2

Estimation of certified organic land in Balkan countries

Country	Hectares	In %
Albania	280	0
Bosnia and Herzegovina	580	0.03
Bulgaria	16633	0.55
Croatia	14194	1.10
Macedonia	988	0.09
Slovenia	29388	6.01
Serbia*	8661	0.17
Montenegro	4600	0.09

Source: IFOAM, Reports on Organic Agriculture Worldwide, 2009
**** Incorporated data for Kosovo***

LOW-EXTERNAL INPUTS-MAIN ATTRIBUTE OF THE AGRICULTURE IN THE BALKANS

It has often been seed that agricultural production on the Balkans is "organic" or "ecological" since the low-external input is one of its main characteristics. Unfortunately the simple reduction of agro-chemical inputs, unless followed by better management does not necessarily lead to organic (ecological) production. Besides, it need to be mentioned that this low-external input agriculture in the Balkans is rather "forced" decision than free, individual choice because it should be considered as the consequence of a socio-political evolution from central planned to market economy and not as the result of a designed agricultural policy.

Namely, during the transition process from central planned to market economy the price of agricultural inputs increased substantially higher than the price of agricultural products. Since the price of the inputs was very high and the cheap agricultural products couldn't cover the investments, Balkan farmers opted for reduction of external agricultural inputs (typically fertilizers, herbicides and pesticides) or refrain from using them altogether. In Macedonia for instance, in the last decade the use of synthetic fertilizer dropped for some 45%, in Bulgaria for nearly 60% and the price of agricultural products increased for more or less the same percentage in comparison with the increase of the synthetic fertilizer price[1)]. Therefore, the organic production has become a tempting alternative for many Balkan farmers and all advantages of this situation must be taken.

AGRI-ENVIRONMENTAL POLICIES IN THE BALKANS

Agricultural production affects both quantity and quality of nature and environment. It is must probably the unique case that in the same time is the source of

1) IFOAM, Reports on Organic Agriculture Worldwide, 2009.

environmental degradations and a victim of environmental problems, but it is always an important factor in preserving natural resources and biodiversity.

As far as organic agriculture is concerned, it is well known that it gives great contribution to the conservation of the regenerative and reproductive capacity of the natural resource base. From the other hand, present and future policy development for organic agriculture will always have multiple objectives: income generation, natural resource conservation, food self-reliance and rural development-but with different levels of emphasis.

For instance, in the European Union (EU) the demand for organic agriculture, represent a perfect match to governments' priorities to reduce surplus food and to solve the environmental problems caused by the production of that food. In fact, EU organic agriculture policy reconciles agricultural and environmental policies as it represents a viable option for extension and an alternative to lend set-aside. In developing countries, policies for organic agriculture seek to earn, trough exports, foreign exchange for other domestic needs. A diversity of development visions as well as a diversity of concepts how to implement those visions characterizes the agricultural policies of the Balkan countries. Unfortunately, organic agriculture for the sake of the environment is not their prime preoccupation.

Furthermore, in the Balkan EU-members countries (Greece, Slovenia, Bulgaria) as well as in the Balkan EU-candidate and potential candidate countries (Macedonia, Croatia, Bosnia and Herzegovina, Albania, Kosovo, Montenegro, Serbia) the accession process puts tremendous pressure on policy makers and their policies always fails at the environmental questions. Environmentally friendly (organic) agriculture has to be seen as a serious political option for the Balkans.

Finally, it is true that ecological problems don't stop at the borders, so the work on sustainable development cannot be carried out inside borders in an isolate way. Regional co-operation is required which will give to all of us opportunity to work together on policies, discussing of strategies and developing actions for a sustainable Balkan agriculture. In this context, the principle of crossing borders in the widest sense should be one of the leading ideas.

STANDARDS, INSPECTIONS AND CERTIFICATIONS

It is clear that standards, inspection and certification are crucial elements in the guaranteed system of organic agriculture. The standard settings is an important tool in organic agriculture, not only as a set of rules, but also as the meeting place for farmers, consumers, processors, retailers and policy makers of the region, where the idea of organic agriculture and sustainable development can be defined and developed.

Even if the most Balkan countries have already adopted the regulation on organic agriculture (or it is in procedure), the system of inspection and certification that is in place in the Balkan is rather vague and liberal. This is especially true if we bear in

mind that these regulations are more the government's response on the pressure to harmonize their own regulation with that of EU than a product of real interest in organic agriculture by the Balkan policy makers.

However, the final aim of each Balkan country should be to set up a national body, accredited according to the EU standards and with responsibility for control and certification of organically produced goods that will fit international standards.[2)] Unfortunately, the accreditation process is quite expensive and takes considerable time and involvement to carry through.

Since all Balkan countries are more or less at the very beginning with setting standards and legislation for organic agriculture, they should help to each other by firstly setting the regional rules.

For that aim, it is very important to have a good balance between detailed rules and the possibility for regional implementation, which will bring a continuing process of developing new areas of regulations. This has to be built on practice, so before becoming legislation, standards can be used and developed on the basis of a set of regional principles.

STATE SUPPORT TO ORGANIC AGRICULTURE

No doubt that organic agriculture on the Balkans need guidance and support systems. A number of constraints have to be exceeded, such as (un /under)developed national policies, unclear situation of land ownership, lack of management skills, lack of investment capital, lack of institutional development, lack of knowledge. From the other side, the market already reacts on the organic agriculture as a challenge and explores the potentials. Without the facilitating and controlling role of the Balkan countries governments the good prospects for regional co-operation cannot be realized.

Other than this, active government support to inspection and certification for organic agricultural products is necessary in order to provide equal opportunities. In particular, development of organic agriculture can be facilitated if technical problems and certification cost are decreased. Government policies can play a key role in this respect. Namely, a legislative framework that provides definitions, standards and accreditation to certifiers is needed to protect responsible producers. If this condition fails, organic agriculture (production and distribution) risks becoming a business that only large farm, or highly organized group of small farms, can afford.

Finally, it is of great importance to race governments interest in organic agriculture, since together with the local NGOs, the EU accession process and international

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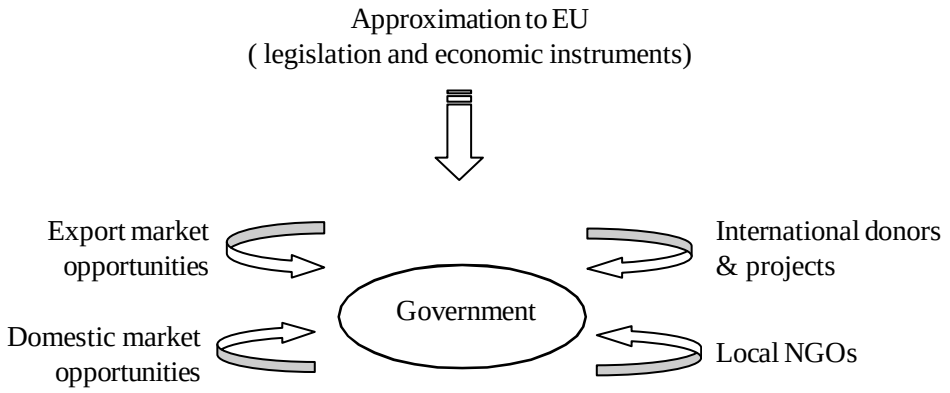
2) IFOAM basic standards and/or relevant EU 834/2007 that should act as a minimum criteria standard for the standards drawn up by organic agriculture organizations.

Figure 1. The Balkan countries governments and organic agriculture: field-forces analysis [3].



donors, the market opportunities (both export and domestic), it will accelerate the regional co-operation on the Balkan .

BUILD UP A FIRM KNOWLEDGE-BASIS

Organic agriculture in the Balkans is a sector in development. Therefore, it is important to build up a firm knowledge basis. Traditional knowledge must be improved through selective introduction of results of modern science in areas such as energy flows, biotic and abiotic factors that regulate plant development, renewable energy technologies and management techniques.

On the Balkans, in all parts of the organic production further research and development of knowledge is needed in all its segments. There is little attention on the market for organic products, and hardly any to social issues related to organic farming. Organic agriculture needs a full place in the curricula of agricultural education.

Research in agricultural centers and universities is vital for further development of agricultural methods which are sustainable in agronomic terms and which meet the quality standards. Current conventional research on how to handle organic products, production methods and the environment is not responding to farmers' need.

Also, an awareness rising of consumers is lacking too. A better understanding of consumers' behavior, their perception of product quality and their knowledge of the benefits of organic products is essential in order to develop successful communication between consumers and producer, as a crucial precondition for further growth of organic agriculture in the Balkans.

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[3] Mr. Znaor Darko, Organic Food and Farming-Towards Partnership and Action in Europe, Copenhagen, Denmark, 2001,p.4.

In order to be successful, the development of the organic agriculture in the Balkans should be based on an interactive process between farmers, consumers and research institutions and universities. That's why there has to be education and training of producers, consumers and respective authorities at all levels and continuously.

Conclusions

Balkan countries are quite diverse from a geographic, economic, ethnic and cultural point of view. Jet, they do have one major factor to their advantage, which is the great agro-potential of the region.

The turbulent political climate in the Balkan countries, frequent political changes and replacement of the key policy makers make it difficult to set up and implement mid or long term policy. Still, since the Balkans other than common opportunities and constraints, have also many common needs, the regional co-operation at all levels and each field should be top priority for any government.

Regarding organic agriculture common specific needs of the Balkan region are:

- Develop and harmonize legislation and certification
- Close the gap between regulations and their enforcement
- Institutional strengthening (in particular of organic farmers organizations)
- Establishing and strengthening of international networks on different levels, aiming to exchange experiences within Balkans and between Balkans and EU
- Information (research and education, consumer awareness)
- Financing opportunities (meager state budgets and lack of private capital)
- Specific financing instruments/investment schemes for the organic market chain
- International support facility for policy and technical assistance
- Development of both internal and export markets, the latter with proper access to the EU
- Promote social context of sustainable rural development

The specific situation calls for a Regional Sustainable Development on the Balkans. That means common action, in good partnership between all countries of the Balkan Region. Of course, this co-operation needs to receive specific support from international financing institutions and programs as well as bilateral programs and national budgets.

Finally, organic agriculture is hardly the only solution for the future sustainable development of the Balkan region but it is certainly an important part of a whole.

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Professional paper

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EQUALIZATION FRAMEWORK FOR MUNICIPALITIES IN THE REPUBLIC OF MACEDONIA THROUGH GRANTS

Abstract

According to the analysis of inter-governmental system of transfers to municipalities in Macedonia came to the conclusion of the existence of "relative fiscal imbalance" for each municipality as well as transparent and impartial formulas for allocating funds for equalization among local governments in order to provide more resources to local governments with a lower capacity to higher taxation and expenditure needs, incentives for revenue mobilization by local governments.

The current system of allocation of transfers to Macedonia to refer to this general idea of fair distribution of funds. Specifically, the proposed framework initiated formalized care that most funds are allocated to municipalities with a greater need for capacity charges and lower revenue. Considering that this formalization is a rather generalized framework, with its shifting parameters may come to very different distribution of grants, including the current allocation of revenues from VAT in Macedonia. The current allocation of revenue from VAT is equivalent to equalization fiscal disparities for all communities where it is assumed that they have capacity for tax revenues zero (0); this way fiscal imbalance is equal expenditure needs. This means that the current system does not correspond to differences in the capacity to collect revenue. We also know that the existing system effectively assess the needs of expenditure of the municipalities that use only financial norm "top-down" which covers all local costs except those financed through sectoral grants.

Furthermore, the current system this unique financial norm effectively adjusted up (down) for municipalities that have more (less) land area per person and settlements. Simulations aim clearly show by the introduction effects of the proposed mech-

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anism for transfer on local Finance to set up a framework of transparency, to show the potential winners and losers, and to indicate whether it would be necessary to establish a process of gradually introducing for new methodology for transfer.

Keywords: municipality; grant; transfer; fiscal disparity; own sources of revenue; revenues from value added tax; budget.

Introduction

The process of fiscal decentralization in the Republic of Macedonia started in July 2005 with the transfer of responsibilities for maintenance of facilities in education, social protection, culture and fire unit with earmarked grants. Local expenditures as a share of GDP increased from 1.72 in 2004 to 2.6 percent for 2006, mostly due to a doubling of costs for goods and services. From September 2007 was implement the second phase of fiscal decentralization in 70 municipalities earmarked grants have changed in block grants, including salaries and teaching staff. Local expenditures have increased from 26.2 percent 2006 to 5.53 percent in 2010, largely because wage costs have increased over five times. In Macedonia, the expenditure level of local governments have reached 4.39% of GDP and only 1.14% of GDP in capital spending. In the EU, Malta is 0.59% of GDP in Greece and 1.74% of GDP. But there are significant differences between urban communities and among rural communities. That increase the fiscal disparity between them due to lack of specific regulations and criteria for allocation of transfers from the central budget.

Also, its own sources that represent more than half of the budget, show very large differences. The criteria used for the transfer determination number of inhabitants, area land, the number of settlements does not contain information on the capacity for revenue (tax base) and are only indirectly related to expenditure needs. Determining the total amount of grants based on the collection of VAT is not related to policy objectives, priorities and macroeconomic trends affecting price services at the local level. The sectoral allocations are made according to the existence of physical objects that discriminate against rural communities, which historically have no such facilities. According to the historical cost of providing earmarked transfers is problematic in terms of aggregate financing of decentralized responsibilities in relation to the allocation of these funds by municipalities in Macedonia.

It is necessary for a formula for awarding grants for various municipalities, each municipality would otherwise receiving the same amount of grants. Therefore, it should focus on the formula of the differences between municipalities. Macedonian municipalities differ in size of the tax base, the need for services and cost of municipal services. A typical formula for equalization grants are awarded in proportion to the fiscal difference (FG):

FGi = ENi-RCi,

ENi = expenditure needs in the municipality i

RCi = capacity for municipal income i,

For fiscal disparities can be comparable, often expressed per capita:

FGi / Popi = ENi / Popi-RCi / Popi = eni-rci

The distribution of grants in proportion to the fiscal disparities, sometimes using different proportions of the three components of the differences:

And grant to Macedonia for VAT is: 1 * [eni-en] + b * [en-rc] +0 * [rc-rci]

Fiscal differences should be resolved completely or partially, a = b = c = 1?, Grants should cover the same proportion of fiscal difference for all groups of municipalities (below average vs above average) and should also grant to cover the same proportion of revenue and expenditure differences as differences (a = c?)

The existing system can be reformuliate compared to fiscal disparities. Expenditure needs can be defined as expenditure needs per client (peer Capito) adjusted coefficient of cost. The size of the transfer equals the aggregate fiscal matter, can be defined in a framework based on multi-year macroeconomic projections.

Ability to translate some sectoral equalization grants, and redefining some given local competences funded by conditional grants (block grants for education, culture etc..

Estimated income disparities can be partly reduced by general purpose grants. The calculation of earnings capacity can be made based BA proxy variable for example: collecting taxes on personal income, housing fund, etc.. Calculation of expenditure needs through specific rules for specific sectors. Should we reform the basis for revenues in order to allow greater autonomy in the achievement of revenue?

1. FISCAL DISPARITY AND ITS EXTENT IN MACEDONIA.

The concept of *fiscal disparities* provides a useful framework to design and analyze a system of grants[1] . Fiscal disparity can be defined, for any government unit as the excess of its expenditure needs and/or its revenue capacity relative to some benchmarks. For example, in 2010, per capita own revenues of rural municipalities before grants on average deviated by 85 percent from the rural average, while per capita own revenues of urban municipalities outside Skopje on average deviated by 43 percent from the urban average. At the same time, per capita expenditures of rural municipalities out of the principal budget on average deviated by 86 percent from the rural average, while per capita expenditures of urban municipalities outside Skopje on average deviated by 41 percent from the urban average. This might suggest that the allocation of the VAT grants hardly made a dent in the extent of disparities within those two groups of municipalities (although it did eliminate the disparities between rural municipalities and urban municipalities outside Skopje). However, as we explain below, rather actual revenues and expenditures, a sound system of grants should be based on the objective notions of expenditures needs and revenue capacity.

2. EXPENDITURE NEEDS AND REVENUE CAPACITY—TWO KEY CONCEPTS

Traditionally, *expenditure needs* represent funding necessary to cover all expenditure responsibilities assigned to the government at a standard level of service provision. *Revenue capacity* can be broadly defined as the ability of a government to raise revenues from available revenue sources, exerting a standard level of revenue effort. In general, local governments with larger disparities on the revenue and/or expenditure sides require a larger amount of transfers in order to discharge their competencies at some standard level.

In practice, however, measuring fiscal imbalances is an extremely difficult and challenging matter, and most of the problems related with the design and performance of the existing transfer systems deal in one way or another with the measurement of fiscal disparities. This is because revenue capacity and expenditure needs are notional values that can rarely be estimated accurately. In a sense, both concepts retain a great deal of subjectivity, because the decisions about what can be considered a “standard

level of service provision" (and the associated expenditure need) or "a standard level of revenue effort" (to measure revenue capacity) are subject to debate. Therefore, there is a great need for reaching consensus through a policy debate involving relevant stakeholders regarding acceptable ways of measuring revenue capacity and expenditure needs that would be perceived as fair.

In addition, usually there are restrictions imposed by data availability that limit the use of statistical techniques for estimating expenditure needs and revenue capacity. As a consequence, often the measures of fiscal disparities actually used can be quite imperfect, and sometimes they become a source of perverse incentives for local governments. Thus, special care must be taken in the designing of a transfer program in order to achieve adequate treatment of fiscal disparities without creating perverse incentives for local governments. In summary, fiscal disparities arise because the expenditure needs associated with the assigned expenditures responsibilities typically do not match the capacity of the governments to collect revenues from own sources. The revenue capacity in turn is a function of tax base endowments across jurisdictions. For these reasons, the effectiveness of the equalization transfer program depends crucially on the quality of the estimations of expenditure needs and revenue capacity. However, before specific measures of expenditure need and revenue capacity can be developed, a policy decision should be made on the overall fiscal equalization framework.

3. TYPICAL FORMULAS FOR MEASURING FISCAL DISPARITIES

A typical formula for fiscal disparities captures the difference between expenditure needs and revenue capacity for each local jurisdiction; or arithmetically:

$$FD_i = EN_i - RC_{i,} \qquad (1)$$

where FD_i represents the fiscal disparity of local government ***i***, EN_i stands for its expenditure needs and RC_i stands for its revenue capacity. Alternatively, some countries define fiscal disparities by combining with certain weights a shortfall in revenue capacity $\mathbf{RC}–RC_{i,}$ and an excess of expenditure $EN_i – EN$ over some benchmarks **RC** and **EN**, such as national averages. Arithmetically, such generalized definition of a fiscal gap, another term to indicate the difference between need and capacity, can be expressed in per capita terms as:

$$fg_i = a\bullet [en_i – en] + b\bullet [en – rc] + c\bullet [rc_{,} – rc_i] \qquad (2)$$

where fg_i represents the fiscal gap of local government ***i***, $en–en$ stands for its per capita expenditure disparity relative to the benchmark ***en*** and $rc– rc_i$ stands for its per capita revenue shortfall relative to the benchmark ***rc***. The gap between the per capita expenditure benchmark ***en*** and the per capita revenue benchmark ***rc*** is called the *vertical imbalance,* capturing the shortfall in the yield of tax handles given to all

local governments together relative to their expenditure needs, the latter worked on the basis of expenditure assignment. By contrast, the other two parts of the fiscal gap, that is $en_i - en$ and $rc_{i,} - rc$, are referred to as *horizontal fiscal imbalances*.

Under the classical approach (1), transfers equally threat differences in revenue capacity and expenditure needs. In practice, some countries treat disparities in revenue capacity differently than disparities in expenditure needs. For example, in Sweden differences in expenditure needs are fully equalized while differences in revenue capacity are narrowed by 95 percent:

$$fg_i = 1 \bullet [en_i - en] + 0.95 \bullet [rc_{,} - rc_i]$$

However, those countries do it by choice rather than as an inadvertent result of the formula design. Thus, less than complete equalization of revenue capacity in Sweden is expected to provide localities with incentives to grow their revenue base.

4. POLICY OPTIONS IN MACEDONIA

In Macedonia, revenue disparities are currently treated very differently from expenditure disparities as the VAT grant formula does not take into account own-source revenues at all, i.e. $c=0$ in expression (2).

Complete equalization of potential revenue can create the usual disincentives for economic development. Other options for Macedonia to consider:

a. Bringing to the fixed level of potential revenues only those municipalities below some threshold, i.e. complete filling of the revenue gap for the poorest municipalities;
b. Narrowing the fiscal gap by a certain percentage, at least for those municipalities above certain minimum level of revenue capacity. This effectively means partial closing of the same percentage of the revenue gap and the expenditure gap.
c. Explicit policy choice of the three separate equalization parameters: the extent of equalization of the revenue gap $\mathbf{rc - rc_i}$, the extent of equalization of the expenditure gap $\mathbf{en_i - en}$, and the extent of closing the vertical gap $\mathbf{en - rc}$.

The analysis aims to work toward consensus building on these policy choices for the overall design of the equalization framework. Different options will be laid before the stakeholders to concretize the policy discussions toward specific options. In particular, consensus needs to be reached with respect to the following policy choices:

1. How to redefine the rules determining the total amount of transfers (or the amount of per capita financial norms) as to reflect government objectives and priorities and multi-year macroeconomic projections affecting the costs

of local government services (negotiated public pay, energy price deregulation, etc)?

2. Whether and, if so, to what extent should the equalization framework address revenue capacity in addition to establishing expenditure norms to be targeted by the transfers?
3. Should a measure of revenue capacity will be included with some weight in the VAT grant formula for the fiscal year? Initially, proxy measures from the available data can be used such as the collections of the national Personal Income Tax; in time refined measures like market values of taxable property could be included in the formula.
4. Should a funding mechanism outside the equalization framework be established for services that are provided by one municipality for residents of other municipalities (currently firefighting, high schools and elderly homes)?
5. For the sectors with current ring-fenced financing (education, kindergartens, elderly homes, firefighting, and culture), should the general purpose grant account for the need to provide these services in municipalities that currently do not receive block grants? A possible reason to fund these services through the principal budget is because for smaller municipalities it would not be feasible to have stand-alone facilities used for one sector only. For example, in some smaller municipalities the provision of early child development would only be feasible through multi-functional centers (part from inter-municipal cooperation).

Conclusion

Changes to the Regulation on the methodology for allocation of revenues from value added tax by municipalities for fiscal year in Republic of Macedonia:

Actually formula:

$$D_i = \frac{0,65 * EF_n}{BZ_n} * Bz_i + \frac{0,27 * EF_n}{P_n} * P_i + \frac{0,08 * EF_n}{BNM_n} * BNM_i$$

- It need to reformulate the existing formula in the form of per capita, adjusted for factors: population, land and number of settlements) with multiplikativ form: norm per capita x population x coefficient of adjustment. While retaining the current pattern of allocation of grants will offer more transparent framework for the current grant would also lay the foundation for the level of reform as envisaged in the medium term.
- Examining the current values ??of factors for the award based on the estimated average impact of each factor on municipal expenditures. Elasticity of per capita expenditure in relation to land are estimated at 0.30 for general

municipal services, and establishes a significant statistical impact on the number of settlements per capita expenditure per capita on local services.

- Inclusion of an additional factor in the formula to explain the difference in terms of capacity revenues. Little value can be placed on this factor (20%). Regulation may need factors, differences in income, and improving the availability of data applied an indirect indicator may be preferred. For the next fiscal year this difference can be estimated using the national income and eventually PIT housholds size are shown in the census of households as part of the census. The value of the difference in income can be pointed in the future more general acceptance and availability of data on indirect indicators will be better, more precise measurements of differences in income may also be adopted.

In a new formula:

$$Di = \frac{w1 * EFn}{BZn} * BZi + \frac{w2 * EFn}{Pn} * Pi + \frac{w3 * EFn}{BNMn} * BNMi + \frac{w4 * EFn}{PRn} * PRi$$

Possible changes depend on more detailed analysis approved by the central and local government. The above recommendations are welcome to reduce fiscal disparities between municipalities should also be found in sunadequate arrangements as capital grants where there is no clearly defined criteria for allocating them to the municipalities which in turn affect local budgets to increase fiscal disparities when compared with one another on municipalities budgets.

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Professional paper

Danco ARSOV[*)]

FINANCING OF OHE SMALL AND MEDIUM ENTERPRISES THROUGH THE BANKING SECTOR

Abstract

The advisory role of the banking sector and the role of external sources of financing for the small and media enterprises (SMEs) is huge, especially when development of the SMEs is an important input to the overall economic development of the country. In the Republic of Macedonia in terms of sufficient undeveloped non-traditional sources, the banking sector is a important source of financing.

Financing, as one of the most important areas for encouraging the development of SMEs and has special features compared with the financing of large companies and businesses.

The main distinction consists in the level of risk that is associated with SMEs as well as insufficient management capacity.

In this kind of asterism of relationships, and business environment ,is evident the growing interdependence of SMEs from the operations and performance of banks, which depend on the level of interest rates on loans, which are input to the financing of the activities of SMEs.

So it is possible to point out that the development of the banking sector is conditioned by the development of SMEs, because they represent a significant market for banking sector.

From this we can conclude that the attitude of banks and SME sector is based on long term basis, and lately, especially in developed market systems, SMEs for the banks represent the most important target group.

The common denominator of this ratio, beside the economic interest, is the joint management of the risk, that exists for each of the two sides of this relationship.

Keywords: Small and medium enterprises; banking sector; SME financing; SME - market for the banking sector.

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Those who do not know, let them learn, and those who know, let them find the pleasure to be reminded.
Latin proverb

Introduction

The beginnings of banking operations can be seen since 3000 year BC. In the period from 7 to 5th century BC, at Babylon have arisen first private houses that ,basically were engaged in banking operations known as "tezauri working", and people were known as " tezauri"./[1)] Tezauri working have dealt with organized storage of relevant goods, usually wheat and other types of product. With the receiving of goods for storage, further it has been given or traded within a certain validity date.

With the changes in socio-economic formation, with the evolution of man, and thus the form of organization, the banking sustain changes although the essence of the first forms of appearance till today has been saved.

The fundamentals of modern banking are set during the XVIII and XIX century, when were established the large banking institutions, which, with own and foreign resources have become an important factor in the development of economy and trade, not only in countries where banks have been established but in overall international relations./[2)]

The overall social economic change, although in fact ,have not changed organization and form of the operations of banks from their first forms, which caused to come to significant change in terms of their importance, and their interaction in terms of economic development of companies, countries and regions.

So in condition of undeveloped non-traditional forms of financing of SMEs and increased role of banks in this regard, considering the fact that SMEs constitute the most dynamic segment of any economy, the state must find a way to protect their interests because SMEs have the least bargaining power in the economic environment.

On the other hand, and SMEs have to find a way to help themselves, dedicating more attention of education and training, joining in associations, which will strengthen their negotiating position. By analyzing the forms of loans that are supported kept by

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1) Tezauri working (Greek Thesauros-treasure trove, accumulated wealth,). Nowadays, a withdrawal of money or other valuables from the market in general has a deflator action.

2) www.scribd.com

the commercial banks, the structure of loans as well as analysis of the situation for lending to SMEs by the commercial banks in the Republic of Macedonia, the objective of this paper is to present the necessity of SMEs to acquire the basic understanding of the types of lending that support the commercial banks, to enable it through the preparation of a business plan and application requirements for credit, to get easier to the necessary financial resources.

1. THE BANKING SECTOR AS A SOURCE OF FINANCING OF SMES

The financing of SMEs, is the most important question related to the entrepreneurial company. It is completely understandable if we consider that the commencement of the business and its development is related to the provision of financial resources to a large extent is related to the business environment in each economy. The economic theory of the sources of funding are divided into formal and informal.[3)]

The table that follows present these two types of funding.

Possible sources of financing SMEs

Informal sources of funding	*Formal sources of funding*
- founder of the informal investors (friends and relatives), or 3F pairs (founder, family, friends) - Informal risky capital, business angels;	- Formal venture capital (official resources) - Money from the banks (commercial, developed and International) Money-mobilized by exchange.

Source: Fiti Taki "Entrepreneurial company", Skopje, Faculty of Economics-Skopje. 2007, p.119-120

In the part of the formal sources of funding, as shown on the table occupy its place the money from the banking sector, because the biggest transactions are happening exactly the case here. Finance from formal sources, are especially significant in less developed countries, and not by chance represent a single source, especially considering that the alternative ways of funding (informal sources), are very little developed or represent a large unknown.

3) Fiti Taki "Entrepreneurial company", Skopje, Faculty of Economics-Skopje. 2007, p.119.

1.1. Loaning to SMEs

Loaning to small and medium enterprises in the last 2-3 decades is increased, this trend among the developed market systems as a need impose among the developing countries, and also among underdeveloped. In that direction, governments of various countries, within its jurisdiction, have to assist about creating favorable conditions and alleviating in lending to SMEs. In this context banks as an important link in the ways of lending within its operations have established several forms of lending, which are conditioned mainly by the amount of resources that are required, the time of return of the loan, accuracy, as well as the credit rating of lender.

Short-term loans to reverse the resources. This form of bank loans is approved in principle for the occasional stock or to cover claims from the customer, in principle it is a periodic rotation resources. Starting with the fact that the permanent reverse-equity resources are covered by their own reverse capital, or of medium-term or long-term loans, commercial banks tend to have precise picture of the balance sheet and success among lender or the company. In practice it is often used CREDIT lines that enable companies to take funds at time when they need a maximum credit limit that is previously agreed and with a specified period of duration of the credit line.

Investment loans refer to long-term loans which are approved in order to be used to finance permanent fixed assets and reverse the permanent working capital. There are two forms of funding: institutional financing at the banks and by way of negotiable instruments.

Repayment of investment credits is done according to annual program which must be provided in monthly, quarterly, semiannual or annual term limits, if the company of such a loan customer wants to pay the credit before the deadline for payment , the bank can accept it only if it is paid out of the profit of the company. The interest rate on these loans depends on the movement of the interest rates on the financial market, the level of the creditworthiness of the debtor as well as the amount and maturity of the loan. While, the assessment of the creditworthiness of the debtor is conditioned by the level of its profitability. In practice the signing of the contract for the approved loan between the bank and the company, the bank retains the right for non-fulfillment of some articles of the agreement, on the base of acceleration clause, the loan can be proclaimed, matured immediately.

Revolving loans are of medium-term character from 1 to 3 years. The main characteristic of this type of loans is when conclude a loan agreement, the user of the credit from the bank withdraw funds when he need to repay them ,according his financial position, but within the period prescribed in the achieved agreement. In the agreement is determined the maximum amount of indebtedness which may take the company. If the revolving credit contains conversion clause can be converted to the investment loan which can be paid on the base of the annual program.

Loans for financial restructuring. This type of loan is related to the purchase of the company (acquisition), and in this case, the investment group buys the company with the use of bank credits. Specificity for groups of investment is ,to purchase low-profitable companies, so with the use of the bank loans for restructuring, to ensure bigger profitability, better team for management, improving the business strategy, introduction of new technology, in order to increase the competitiveness of market and increase the value of the firm, which in the future can be sold.

2. STRUCTURING OF THE LOANS

Structuring of loans includes deadlines for the maturity of the loans, interests, as well as, protective clause. Informing, relative to these components, is necessary from the aspect of the loaner, because they are related with the decision on the submission of application for credit, as well as the type of credit.

Maturity determine the type of credit, and in relation of that ,the credits are divided into: short-term loans up to 1 year (in the main be used to finance current uses among reverse funds); medium-term loans from 1 to 7 years (refer to the long-term financing of the company, thus the bank financing can change the company - debtor may convert in exchangeable financing with emission of the negotiable instruments) and long-term loans usually term is over 10 years (these types of credits are used to finance permanent assets of the company or their permanent reversed capital).

Interest rates are established on the financial market, where the nominal interest rate is made up of the real interest rate and inflation. The banks calculating the interest rates, calculate the margin, which represents individualization, according to the level of risk for specific debtors, simultaneously with margin is forming the margin which cover the eventual loss of the loan.

Collateral or the real coverage In relation to the approved loans, there are two approaches as follows: the first approach, the bank concluding the loan agreement acquires the right to be charged with the sale of the real assets of the company, if the debtor fails to pay the loan, and when the bank is not looking for real coverage for the approved loans but consider that the payment of the loan is based on the real flow of money in the company.

Protective clause are assurance of the debtor in the bank. In practice there are various protective clause and are related to the financial condition of the debtor, as well as the quality of the management. The most frequent protective clause are: the submission of periodic reports by the debtor to the bank, the debtor is obligated during the payment of the credit to keep his own resources on a certain minimum level; the debtor shall not do any transactions without approval from the bank; the debtor can't withdraw the second credits, and increases the fixed assets of the company without approval from the bank and the debtor cant buy negotiable instruments other than governmental. /4

2.1. Loan process

The fulfillment of the requirements for applying for a loan, does not mean that the decision is made by automatism; with the application itself, starts the process of credit by the bank which includes:

- The process of drafting and adopting of the decision which begins with submission of the request for a loan which on base of the information submitted , available data, external data available to the bank, is making valuation of the creditworthiness.
- Monitoring of credit, a process that takes place after the adoption of the credit decision, and its aim is to be seen the quality of the whole loan, as well as the performances of each individual on the loan.
- Preparation of remediation scenarios in case of a problem, in case of liquidation of the debtor company.[4)]

3. BANKING SECTOR AND FINANCING OF SMEs IN THE REPUBLIC OF MACEDONIA

In Macedonia most frequent source of funding for SMEs represent the banks, and that is due to the underdevelopment of alternative ways of funding, particularly non-traditional sources of funding such as initial funds, funds of financing, leasing, business angels, etc. The researches about the source of funding indicate that the participation of the banks is dominant, and almost all SMEs believe that bank loans represent the main source of funding.[5)]

The increase of the credit activity is due to several factors , without making analysis of the reasons for the such increase, from the topic of this study should be noted that according to the structure and the purpose of loans, most are intended for consumers, according to the purpose or the loans, the increase for the loans for the households is higher compared to the increase for the loans for enterprises. From the aspect of the commercial banks , the decisions of solvency of the clients is a factor and has exceptional importance for the assessment of the creditworthiness of the company, and from there the issue what is happening with those businesses that should start.

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4) *ibidem*

5) Poposka Klimentina. Entrepreneurial problems, dilemmas and perspectives,. Institute of Economics-Skopje. 2007: 86.

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In relation to the change in the banking sector, despite the General improvement of the banking environment and the improved performance of banking in the last few years, the Macedonian banks believe that there are certain constraints among SMEs in the application for the loans. From the aspect of the Macedonian companies, they believe that the bank loans are very expensive way of funding and that there are a number of restrictions in the providing financial funds. Such a ascertainment by the both sectors is justified, but despite the fact that bank loans represent the dominant and in the greatest number of cases, the only way of funding.

3.1. Limitation in the financing of SMEs from the aspect of the banks

Limitations that appear from the aspect of the banks, in relation to the financing of SMEs are: lack of long-term resources; the regulations; low preparation of SMEs for the cooperation with the banks, management among small and medium enterprises often is not sufficiently prepared and experienced; the production program of SMEs often is based on only one non reputable product; The SMEs rarely have to offer coverage for resources (credit), lack of good projects, non prepared exposure to SMEs for preparation of the projects and business plans; unsafe or suspicious reports for the balance, uncertain credit history, inadequate guarantees, there is a mistrust of SMEs from the side of the banks, the banks are not satisfied with the quality of the arrangement of the business plans, a high percentage of written off fixed funds and obsolete technology by SMEs, as well as the fact that most of the small enterprises are micro enterprises, or have the status of an individual.

Because of this, from the aspect of the banks, the main interest is concentrated towards: short-term lending, lending among big enterprises, unpreparedness for sharing the risk with SMEs.

3.2. Organization in financing from the aspect of the SME

According to empirical researches, most of the SMEs the access to finance, they see as main obstacle in their own functioning, while the experience with financing through the banking sector, although shows a bigger use of financial instruments, as well as the use of certain credit lines are characterized certain restrictions from the aspect of the SMEs, as follows: conservative approach of the banks to loans, high requirements for collateral, the existing judicial system, poorly defined legislation;

high interest rates, lack of medium-term and long-term loans; Non standardized methodology of the preparation of a business plan, slow, expensive and complicated procedures of the credit assessment of the loan applicant and the huge number of documents which are required to be submitted at the application for the loan, presents a significant obstacle for SMEs.

Conclusion

Finances are the most important support, which is needed to ensure the entry of new participants and the development of their enterprises. Without widely developed financial market, it is very difficult to maintain a certain level of development. The questions related of financing are the most significant in the part of encouraging the development of small and medium businesses.

Financing of SMEs is a major problem in all countries including the Republic of Macedonia, and also in conditions of not sufficiently developed financial market, the traditional sources of funding, as well as the alternative ways, the banks as a traditional source have a fulminating role.

Banks as most typical of any participants in the capital market, are important because provide two types of support, as follows: cash and advisory support.

The performance and functioning of the banking sector affects on the interest rate at which SMEs shall provide financial resources for its functioning. In the years backwards was registered moving forward in the banking sector, aimed at increasing credit activity, however the results of some observations indicate that in such conditions, the financial sector is approximately towards the requests of the companies, but not sufficient to satisfy the needs of the new and small companies.

The need to overcome the limitations in terms of the two involved parties, the banking sector and SMEs is inevitable, just as it is inevitable the joint risk management. In the interlaced and dependent relationship between the banking and the SME sector, are inevitable changes. The decrease on interest rates, as well as the need for new technology to the procedure for processing and approval of loans, simplification of the procedure and facilitating the access to finance, as a change is inevitable, that must implement the banking sector. The companies have to improve their negotiating position, a part with the help of the state and part and with the production of quality programs and business plans through which banks will see endurance, as well as the ability of SMEs, regular and timely servicing of the matured liabilities, on the base of principal and also on the base of interests.

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Professional paper

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THE PROCESS OF SECURITIZATION AND THE IMPACT OF NEW FINANCIAL PRODUCTS ON THE OCCURRENCE OF THE GLOBAL FINANCIAL CRISIS

Abstract

One of the most conspicuous phenomena observed in recent financial markets is the development of new financial products. With rapid development in financial techniques and engineering, new financial products are being constantly developed and introduced into the financial markets. New financial products have both positive and negative effects on financial development. They induce financial innovation and accelerate the growth of financial markets; they can also be widely used as the tools for risk management. In addition, new financial products widen the source of financing, such as structured finance, to financial institutions. However, these products also have the potential to destabilize financial markets, especially when actively used as speculative investments. Since speculators take advantage of the leverage implicit in these products, investment failure may result in great losses that can affect entire financial markets, as seen in the recent sub-prime mortgage turmoil in the U.S.

The major idea behind this study was to provide an overview of one of the most important new financial products, the securitization process, to understand the essence of the process, to identify its main features, as well as the relevant consequences of the process to the global financial system and to implement measures to minimize the impact of the current crisis and prevent recurrence.

Key words: securitization; new financial products; collateral debt obligations (CDO's); financial crisis; investment banking.

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1. THE PROCESS OF SECURITIZATION

Securitization[1)] is the process in which certain types of assets are pooled so that they can be repackaged into interest-bearing securities. The interest and principal payments from the assets are passed through to the purchasers of the securities. There are mortgage-backed securities (MBS) and asset-backed securities (ABS). Asset-backed securities (ABS) are backed by receivables other than mortgage loans. Asset types used in securitization include also, automobile loans, credit card receivables, equipment leases, high-yield bonds, tax liens, and tobacco settlements. Securitized financing is one of the ways the global marketplace has grown. It provides businesses with access to new sources of capital at lower costs, even when upfront analysis, structuring, and credit enhancement costs are factored in. Also, securitization provides a crucial source of funding for companies with limited access to other forms of credit, because ABC (Asset-backed securities) are rated on their own merit, independent of the issuing company's financial standing.

1.1 Securitization Structure

Securitization programs usually involve several participants (Figure 1), each carrying out a specialist function, such as, creating and analysing the asset pool, administration, credit rating, accounting, legal negotiation, etc.

According to Figure 1, process of securitization was implemented through several phases: creation of asset pool and its sale, issuance of the securitised paper, credit enhancement and tranching, servicing and repayment.

The originator (may be a bank, a finance company, a credit card issuer, or a securities firm) initially owns the assets engaged in the deal. In structuring a securitization program, it is essential that the originator achieves a true sale in the transfer of assets to the trust holding the collateral, called a ***special purpose vehicle (SPV).***

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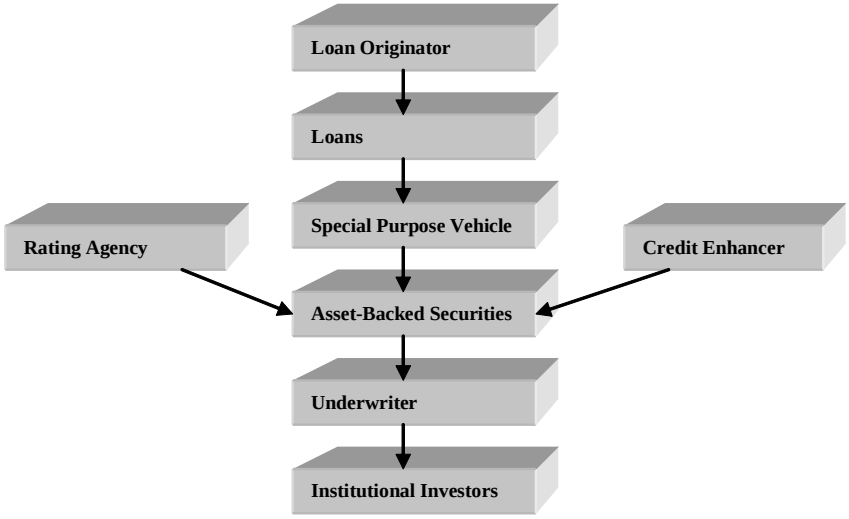
1) The term "securitization" is derived from the fact that the form of financial instruments used to obtain funds from the investors are called securities. Liaw K.Thomas, The Business of Investment Banking, A Comprehensive Overview, Second Edition, John Wiley &Sons, Inc., 2006, pg. 168.

Figure 1, Securitization Structure



Source: Liaw K.Thomas, The Business of Investment Banking, A Comprehensive Overview, Second Edition, John Wiley &Sons, Inc., 2006, pg. 171.

The collateral held in the special purpose vehicle (SPV) can be either existing or future income producing assets.[2)] In an asset backed securities (ABS), the originator sells an existing pool of assets, such as mortgages, to the special purpose vehicle (SPV). In this case, investors who purchase the securities do not assume any originator performance risk, or the risk that the originator will fail to remain in business and produce assets. In contrast, under a future cash-flow securitization, the originator sells assets to the SPV before the assets have come into existence. The SPV then issues the securities and uses the proceeds to make a prepayment to the originator. Investors assume the originator performance risk because the interest and principal on the securities will be paid only if the originator stays in business and creates the assets.

Unlike conventional corporate bonds which are unsecured, securities generated in a securitization deal are ***"credit enhanced,"*** meaning their credit quality is increased above that of the originator's unsecured debt or underlying asset pool. This increases the likelihood that the investors will receive cash flows to which they are entitled, and thus causes the securities to have a higher credit rating than the originator. The amount and type of credit enhancement depend on the historical loss experience of similar loans and the rating sought by the issuer. Internal credit enhancements include over

2) Liaw K.Thomas, The Business of Investment Banking, A Comprehensive Overview, Second Edition, John Wiley &Sons, Inc., 2006, pg. 172.

collateralization, excess spread, or a reserve account. External credit enhancement may be in the form of a bank letter of credit, a surety bond, or a financial guarantee from a bond insurance company.

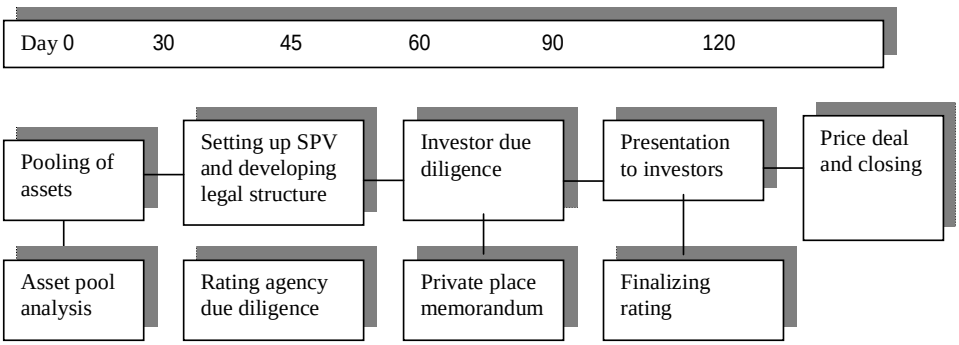
In the phase of distribution, ***investment banks*** play a vital role. They underwrite and market the securities to investors.

The ***servicer*** collects money from debtors and distributes the funds, net of fees, to the SPV and to investors. The servicer can often be the originator, because the servicer needs very similar expertise to the originator and would want to ensure that loan repayments are paid to the Special Purpose Vehicle. The servicer can significantly affect the cash flows to the investors because it controls the collection policy, which influences the proceeds collected, the charge-offs and the recoveries on the loans. Any income remaining after payments and expenses is usually accumulated to some extent in a reserve or spread account, and any further excess is returned to the seller. Bond rating agencies publish ratings of asset-backed securities based on the performance of the collateral pool, the credit enhancements and the probability of default.[3)]

Credit ratings provide investors with an indication of the likelihood that they will be repaid on time and full. In a securitization process, rating agencies examine the legal and structural protections provided to investors. In future cash-flow transactions, the agencies also review the generation and business risks applicable to the origination.

It usually takes several mouths from the origination of the loans to the creation of the ABS.

Figure 2, Illustrative Timetable for a Securitization Transaction



Source: Liaw K.Thomas, The Business of Investment Banking, A Comprehensive Overview, Second Edition, John Wiley &Sons, Inc., 2006, pg. 173.

3) Sabarwal Tarun, Common Structures of Asset-Backed Securities and Their Risks, Department of Economics Campus Box 1208 Washington University in St. Louis, pg. 13, 2005.

Figure 2, summarize the steps which include pooling of the underlying loans (a period of 30 days), setting up the special purpose vehicle, analyzing the pool, rating agency due diligence (a period of 30-45 days), investor due diligence, preparation of memorandum (a period of 60-90 days) and presentation to investors, price and closing of the deal (a period of 90-120 days).

1.2. Benefits and costs from the securitization

Issuers, investors, and investment banks all benefit from asset securitization. However, they also face some disadvantages. At the beginning we will see the advantages of the process of securitization to issuers:[4)]

- ***Funding alternative***

Being distinct and different from the originator's own obligations, a well structured process of securitization stands on its own credit rating and thus generates genuine incremental funding. This is so as the originator's existing creditors may invest in the ABS in addition to providing lines of credit to the originator. Further, there may also be other investors in the ABS who do not have a lending relationship with the originator. It is also possible to achieve a superior credit rating for the ABS than the originator's own through appropriate structuring and credit enhancement.

This could mean accessing an investor base focusing on high grades, which otherwise may not be possible for an originator. Also, where the originator is not permitted to issue capital market instruments on his own, ABS could help overcome such constraints.

- ***Balance sheet management***

Fundamental benefit of a true sale, i.e., freeing up the capital of the originator would apply in the case of all securitization transactions. In response, the balance sheet gets compressed and becomes more robust. Its ratios improve. Alternately, reduction in leverage post-securitised sale can be restored by adding on new assets to the balance sheet. Thus the asset through-put of the originator's balance sheet increases. Securitization can also generate matched funding for balance sheet assets. Further, it may also enable the disposal of non-core assets through suitable structuring.

- ***Re-allocation of risks***

Securitization transfers much of the credit risk in the portfolio to the ABS investors and helps to quantify the residual credit risk that the originator is exposed to. This is very useful, as the originator can take larger exposure to individual obligors, as

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4) G. Shiva, Securitization of Debt, Head – Fixed Income & Money Markets, Citibank, N.A., India Paper presented in October 1997, pg. 201-202.

well as provide a higher degree of comfort to his creditors. Securitization also transfers the originator's market risks, i.e., liquidity, interest rate and prepayment risks, to ABS investors and reduces risk capital requirement. This can lead to more competitive pricing of the underlying asset products.

- ***Securitization improves operating leverage***

The originator usually assumes the function of the servicer, the issuing and paying agent, and sometimes that of the credit enhancer. Fees accrue on account of all of these. Excess servicing, i.e., the difference between the asset yield and the cost of funds, is also normally extracted by the originator. These income streams can push up the operating leverage of the originator generating income from a larger asset base than what may be otherwise possible for a given capital structure.

Apart from the advantages that it offers to originators, securitization confer several benefits to its investors as well. These include:

- ***Low event risk***

The diversity that the securitization pool represents makes the ABS largely immune to event risks.

- ***Higher yields for lower/similar risk***

ABS usually offer higher yields over securities of comparable credit and maturities. In some cases, ABS also provide an opportunity to invest into a pool of otherwise illiquid and inaccessible assets.

- ***Structured issuances***

Working with a pool of receivables gives the originator the needed flexibility to be able to offer investors a menu of options around which issuances could be made.

- ***Secondary Market Liquidity.***

The securitization process also benefits to investment banks. The securities created generate profits to bankers, there are the underwriter spreads and potential proprietary trading profits. More importantly, the process produces a continuous flow of underwriting income.

However, securitization process also faces some disadvantages:

- May reduce portfolio quality;
- Securitizations are expensive due to management and system costs, legal fees, underwriting fees, rating fees and ongoing administration. An allowance for unforeseen costs is usually essential in securitizations, especially if it is an atypical securitization;
- Securitizations often require large scale structuring, and thus may not be cost-efficient for small and medium transactions;

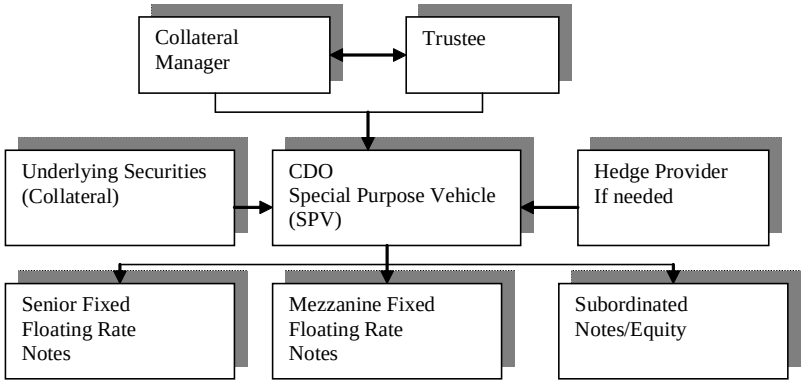
- Since securitization is a structured transaction, it may include par structures as well as credit enhancements that are subject to risks of impairment, such as prepayment, as well as credit loss, especially for structures where there are some retained strips.

Despite the disadvantages, the process of securitization is most used financial product, because the benefits of this process are far greater than the costs.

2. COLLATERALIZED DEBT OBLIGATION –CDO

A CDO is a debt security whose underlying collateral is typically a portfolio of bonds (corporate or sovereign) or bank loans. A typical contractual framework for CDOs is pictured in Figure 3.

Figure 3. Typical CDO contractual relationships



Source: *Duffie Darrell,* ***BIS Working Papers*** *No 255 Innovations in credit risk transfer: implications for financial stability, Monetary and Economic Department July 2008, pg. 13.*

As we see from Figure 3, the collateral is held by a special purpose vehicle (SPV), a corporation or trust whose only purpose is to collect collateral cash flows and pass them to CDO investors. CDOs backed by consumer loans, such as mortgages or credit card debt, are often called asset-backed securities (ABSs). Those backed by corporate loans are usually called collateralised loan obligations (CLOs). CDOs allocate interest income and principal repayments from the asset collateral pool to prioritised CDO securities, often called ***tranches.*** While there are many variations, a standard prioritisation scheme is simple subordination: senior CDO notes are paid before mezzanine and lower-subordinated notes, with any residual cash flow paid to an equity piece.

The first CDO was issued in 1987 by bankers at now-defunct Drexel Burnham Lambert Inc. for Imperial Savings Association, a savings institution. In 1990s, CDOs became a fast growing sector of the asset-backed securities market. Based on whether the CDOs own underlying assets, they can be classified as cash CDOs which own underlying assets and synthetic CDOs which do not own underlying assets. The underlying assets in cash CDOs are a portfolio of cash assets, such as loans, corporate bonds, asset-backed securities or mortgage-backed securities. Synthetic CDOs do not own cash assets like bonds or loans. They provide credit protection to a portfolio of fixed income assets without owning those assets through the use of credit default swaps -CDSs.

CDOs can be divided into following four categories based on their underlying assets:[5] 1) collateralized loan obligations (CLOs) where CDOs are backed primarily by leveraged bank loans; 2) collateralized bond obligations (CBOs) where CDOs are backed primarily by leveraged fixed income securities; 3) collateralized synthetic obligations (CSOs) where CDOs are backed primarily by credit derivatives; 4) structured finance CDOs (SFCDOs) where CDOs backed primarily by structured products (such as asset-backed securities and mortgage-backed securities).

CDOs offered returns that were sometimes 2-3 percentage points higher than corporate bonds with the same credit rating.[6] This made CDO backed by mortgages a relatively more attractive investment versus say treasury bonds or other low-yielding, safe investments. This search for yield by global investors caused many to purchase CDOs, trusting the credit rating and without fully understanding the risks.

Table 1, shows data for global CDO Issuance Volume.

Table 1. Global CDO Issuance Volume

Year	2004	2005	2006	2007	2008	2009	2010
USD bil.	**157.4**	**271.8**	**520.6**	**481.6**	**61.09**	**4.3**	**8.0**

Source: Securities Industry and Financial Markets Association, http://www.sifma.org/research/pdf/CDO-Data2010-Q4.pdf

The data in Table 1 shows that CDO issuance grew from an estimated $157,4 billion in 2004 to its peak of over $520 billion by 2006, then declined to $4.3 billion by 2009, and grew again to $8 billion by 2010.

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5) Qing-Ping Ma, Financial innovations and risks in the financial system, Paper presented at The 2nd GEP Conference in China *The Global Financial Crisis*, 10-11 November 2009, University of Nottingham Ningbo China, pg.5-6.

6) Douglas J. Lucas, Laurie S. Goodman, Frank J. Fabozzi, Collateralized Debt Obligations: structures and analysis, Second Edition, John Wiley & Sons, Inc, 2006, pg. 5-15.

CDOs, like all asset backed securities, enable the originators of the underlying assets to transfer credit risk to institutional or individual investors. The risk and return for investment in CDOs depends directly on how the CDOs and their tranches are defined and on the assumptions and methods used to define the risk and return of the tranches. The performance of the underlying assets in the CDOs also affects the risk and returns for the investors. The issuers of CDOs earn a commission at time of issue and management fees during the life of the CDO. The transfer of credit risk and the ability to earn substantial fees from originating and securitizing loans may provide the incentives for CDO originators to favor loan volumes rather than loan quality. Since the issuers of CDOs may have better knowledge about the underlying assets than the investors, if the rating agencies underestimate the risk of CDOs, will unwittingly take on too much risk.

The transfer of credit risk in this business model distances the borrower from the (end) lenders, and leads to two disadvantages in terms of risk control and management. First, it is difficult to know who holds what risk. By selling the CDO's to other financial institutions, banks may think that they have got rid of the credit risk. Second, the banks incentives to carefully examine the loan applications and to monitor (and even to collect) the approved loans are drastically reduced because the risk is now mainly borne by other financial institutions.

Financial innovations including CDOs can be useful tools for improving risk management and provide the synthetic assets for investors. The current financial crisis is not inherently due to the financial innovations. It is more because people underestimated risk in applying these financial models.

3. THE ROLE OF NEW FINANCIAL PRODUCTS ON THE OCCURRENCE OF THE GLOBAL FINANCIAL CRISIS

The current financial crisis is an outgrowth of a set of potent *long-term* structural changes in business and financial markets. Among the microeconomic systemic failures were: securitisation, fundamental flaws in the rating agencies, the Basel capital adequacy requirements, and competitive international de-regulation.[7)]

In addition we will perform analysis of the impact of securitization on the occurrence of the recent global crises. There are several problems associated with securitisation (and the generally associated creation of off-balance sheet vehicles).[8)]

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7) Wil lem H. Buiter, Professor of European Political Economy European Institute London School of Economics and Political Science, Lessons from the 2007 financial crisis, Universiteit van Amsterdam, CEPR and NBER 11 December 2007, pg. 1.

8) Ibidem, pg. 3-4.

1. Credit risk management.

The process of securitization created the greater opportunities for risk trading and made it possible to hedge risk better. It also permitted investors to seek out and take on additional risk, to further "unhedge" risk and to create open positions not achievable before. When risk-trading opportunities are enhanced through the creation of new instruments or new institutions, and when new populations of potential investors enter the risk-trading markets, we can only be sure that the risk will end up with those most willing to bear it. There can be no guarantee that risk will end up being borne by those most able to bear it.

2. Liquidity risk management.

In the process of securitization the pooling and tranching of credit assets, generated complex structured products that appeared to meet the credit rating agencies (CRAs) criteria for high ratings. Credit enhancements by financial guarantors contributed further to the perception of unlimited high-quality investment opportunities. The growth of the credit default swap market and related index markets made credit risk easier to trade and to hedge. This greatly increased the perceived liquidity of credit instruments. Financial institutions established off-balance sheet funding and investment vehicles, which in many cases invested in highly rated structured credit products, in turn often largely backed by mortgage-backed securities (MBSs). These vehicles, which benefited from regulatory and accounting incentives, operated without capital buffers, with significant liquidity and maturity mismatches and with asset compositions that were often misunderstood by investors in them.

Investment banks misjudged the liquidity and concentration risks that deterioration in general economic conditions would pose. Banks also misjudged the risks that were created by their explicit and implicit commitments to these vehicles, including the reputational risks arising from the sponsorship of the vehicles.

Worsening underwriting standards for subprime mortgages and a weakening in the US housing market led to a steady rise in delinquencies and, from early 2007 onwards, sharply falling prices for indices based on subprime-related assets. This produced losses and margin calls for leveraged holders of highly rated products backed by subprime mortgages. The problems in the subprime market provided the trigger for a broad reversal in market risk-taking. As CRAs made multiple-level downgrades of subprime-backed structured products, investors lost confidence in the ratings of a wider range of structured assets.

As the turmoil spread, increased risk aversion, reduced liquidity, market uncertainty about the soundness of major financial institutions, questions about the quality of structured credit products, and uncertainty about the macroeconomic outlook fed on each other. New issuance in securitisation markets fell sharply. As large banks reabsorbed assets and sustained large valuation losses, their balance sheets swelled and their capital cushions shrank. This caused banks to tighten lending conditions. Both bank-based and capital-market channels of credit intermediation slowed.

3. Transparency risk management

The "originate and distribute" model destroys information compared to the "originate and hold" model. The information destruction occurs at the level of the originator of the assets that are to be securitized. Securitisation puts information in the wrong place. Whatever information is collected by the loan originator about the collateral value of the underlying assets and the credit worthiness of the ultimate borrower, remains with the originator and is not effectively transmitted to the SPV, let alone to the subsequent buyers of the securities issued by the SPV that are backed by these assets.

With asymmetric information and costly monitoring, the agency relationship dilutes the incentive for information gathering at the origination stage. Reputation considerations will mitigate this problem, but will not eliminate it.

4. Rating agencies

There are a small number of internationally recognised rating agencies (really no more than three: Standard & Poor's, Moody's and Fitch) which account for most of the rating of complex financial instruments, including ABS. They have been given a formal regulatory role, because their ratings determine the risk weighting of a whole range of assets bank hold on their balance sheets. Their role raises a number of important issues because it creates a number of problems.[9)]

First, they only rate default risk**.** Rating agencies provide estimates of default risk (the probability of default and the expected loss conditional on a default occurring). Even if default risk is absent, market risk or price risk can be abundant. Liquidity risk is one source of price risk. As long as the liquidity risk does not mutate into insolvency risk, the liquidity risk is not reflected in the ratings provided by the rating agencies. The fact that many "consumers" of credit ratings misunderstood the narrow scope of theses ratings is not the fault of the rating agencies, but it does point to a problem that needs to be addressed.

Second, they are conflicted**.** Rating agencies are subject to multiple potential conflicts of interest. They are the only example of an industry where the appraiser is paid by the seller rather than the buyer, even though the buyers is likely to have the greatest information deficiency.

They are multi-product firms that sell advisory and consulting services to the same clients to whom they sell ratings. This can include selling advice to a client on how to structure a security so as to obtain the best rating and subsequently rating the security designed according to these specifications.

The complexity of some of the structured finance products they are asked to evaluate makes it inevitable that the rating agencies will have to work closely with the

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9) Ibidem, pg. 4-6.

designers of the structured products. The models used to evaluate default risk will tend to be the models designed by the clients.

The market turmoil has revealed weaknesses in risk management at the banks and securities firms at the core of the global financial system, and in the system of incentives that regulators and supervisors provide through capital and liquidity requirements and oversight.

It is especially important to strengthen the prudential framework for securitisation and off-balance sheet activities. This requires action by market participants to better manage risks, as well as by supervisory and regulatory authorities to better align incentives, reduce regulatory arbitrage and strengthen market discipline for structured products and for financial institutions' off-balance sheet activities. Moreover, initiatives are required to make the operational infrastructure for over-the-counter (OTC) derivatives more robust.

The goal of future activities will be to strengthen the efficiency and resilience of the system, without hindering the processes of market discipline and innovation that are essential to the financial system's contribution to economic growth.

The crisis has provided many important lessons including those involving:[10)]

- **Liquidity risk management.** Firms will need to factor in more severe price jumps ("gapping") and correlation movements in their market risk models, employing adjustments to risk measures where possible. Better stress tests could be undertaken with longer periods of funding illiquidity and improved contingency plans. More transparency regarding how liquidity risk is managed within the firm could be available to investors.
- **More realistic assumptions about the liquidity of complex structured securities.** Firms reliance on highly structured securities to generate collateral proved problematic during the crisis. Greater availability on balance sheets of highly liquid assets to use as collateral could allow institutions easier access to funding sources during periods of stress. Financial regulators and supervisory authorities also need to take a more active role in reviewing liquidity management issues and supervisory guidance, and considering other regulatory improvements.
- **Bank balance sheet repair.** Writedowns, undertaken as soon as reasonable estimates of their size can be established, will help cleanse banks balance sheets. Weakly capitalized institutions should immediately seek to raise fresh equity and medium-term funding even if the cost of doing so appears high.
- **Consistency of treatment.** Along with auditors, supervisors can encourage transparency and ensure the consistency of approach for difficult-to-

10) Global Financial Stability Report, Containing Systemic Risks and Restoring Financial Soundness, IMF, Washington DC, April 2008.

value securities so that accounting and valuation discrepancies across global financial institutions are minimized. Supervisors should be able to evaluate the robustness of the models used by regulated entities to value securities. Some latitude in the strict application of fair value accounting during stressful events may need to be more formally recognized.

- **Changing the role and importance of rating agencies.** First, reputation is a key asset of rating agencies. That, plus the fear of law suits will mitigate the conflict of interest problem. Second, the potential for conflict of interest when a rating agency sells consultancy and advisory services is inescapable and unacceptable. The obvious solution is to require any firm offering rating services to provide just that. Third, payment by the buyer (the investors) is desirable but subject to a "free rider" problem. One solution would be to have the ratings paid for by a representative body for the (corporate) investor side of the market. This could be financed through a levy on the firms in the industry. Paying the levy could be made mandatory for all firms in a regulated industry. Conceivably, the security issuers could also be asked to contribute. Conflict of interest is avoided as long as no individual issuer pays for his own ratings. Fourth, competition in the rating process is desirable. Entry should be easier when rating agencies become single-product firms, although establishing a reputation will inevitably take time.
- **More intense supervision.** Supervisors will need to better assess capital adequacy related to risks that may not be covered in Pillar 1 of the Basel II framework. More attention could be paid to ensuring that banks have an appropriate risk management system (including for market and liquidity risks) and a strong internal governance structure. When supervisors are not satisfied that risk is being appropriately managed or that adequate contingency plans are in place, they should be able to insist on greater capital and liquidity buffers.
- **Special stability reports.** To help reduce uncertainty and correct negative public misperceptions, especially in the current context of illiquid, hard-to-value structured credit securities, special stability reports could be helpful. Such reports could usefully draw on relevant supervisory information, assess current risks objectively, and highlight plans to address vulnerabilities in the countries involved.
- **Early action to resolve troubled institutions.** The public sector should proactively stand ready to promptly address stress within troubled financial institutions. In such cases, early remedial action or intervention may be warranted.
- **Public plans for impaired assets.** National authorities may wish to prepare contingency plans for dealing with large stocks of impaired assets if writedowns lead to disruptive dynamics and significant negative effects on

the real economy. The modalities of doing so will differ across countries and sectors, but successful instances in which fire sales of impaired assets have been prevented could usefully be emulated.

Conclusion

The major idea behind this study was to provide an overview of the securitization process, to understand the essence of the process, to identify its major features, as well as the relevant consequences of the process to the global financial system.

The beginning it was important to be underlined the explanation of the process of the securitization. Asset securitization is the issuance of securities using a pool of similar assets as collateral. Securitized financing is one of the ways the global marketplace has grown and has played an important role in development of the derivatives market. Securitization generates fee income for bankers and provides them with additional trading opportunities.

But that was only one side from the medal. The other side was the implication of the process of securitization in genesis the financial crisis in 2007. The crisis can be attributed to a number of factors pervasive in both housing and credit markets, factors which emerged over a number of years. Causes proposed include the inability of homeowners to make their mortgage payments (due primarily to adjustable-rate mortgages resetting, borrowers overextending, predatory lending, and speculation), overbuilding during the boom period, risky mortgage products, high personal and corporate debt levels, financial products that distributed and perhaps concealed the risk of mortgage default, bad monetary and housing policies, international trade imbalances, and inappropriate government regulation.

A variety of regulatory changes have been proposed by economists, politicians, journalists, and business leaders to minimize the impact of the current crisis and prevent recurrence. The proposals address consumer protection, executive pay, bank financial cushions or capital requirements, expanded regulation of the shadow banking system and derivatives, and enhanced authority for the Federal Reserve to safely wind-down systemically important institutions, among others.

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Professional paper

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INTRODUCTION OF MODELS FOR RISK-BASED CONTRIBUTION TO DEPOSIT GUARANTEE SCHEME OF REPUBLIC OF MACEDONIA

Abstract

Republic of Macedonia can improve its deposit insurance system by introduction of risk based deposit insurance premium system. The purpose of this research is to provide a preliminary quantitative assessment of the impact that the introduction of two risk-based models proposed by European Commission (Single Indicator Model and Multiple Indicators Model) would have on the contributions of the banks in Republic of Macedonia. Results for the Single Indicator Model show that the selection of a single ratio would ignore valuable information on the risk profile of the bank, since the impact on contributions is very different, depending on the indicator selected. The Multiple Indicators Model overcomes the main drawbacks of the Single Indicator Model. First, by considering information from different classes, the aggregated risk coefficient is better at capturing a bank's overall risk; secondly, numerical experiments show that the variability of the impact on contributions is significantly reduced.

Keywords: deposit insurance; risked based premium; Macedonia; banking; models.

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Introduction

One of the central factors connected with the implementation of a modern deposit insurance scheme is the question as to the premiums that should be paid by the insured institutions to the deposit insurance fund. Theory and practice agree that 'fair' premiums are one of the basic prerequisites of a credible national deposit insurance scheme. Deposit insurers**,** collecting premiums from member financial institutions which accept deposits from the public**,** can usually choose between two premium systems: flat-rate and differential (risk-adjusted) premium system. Although flat-rate premium systems have the advantage of being relatively easy to understand and administer, they do not take into account the level of risk that a bank poses to the deposit insurance system and can be perceived as unfair in that the same premium rate is charged to all banks regardless of their risk profile. Primarily for these reasons, differential premium system has been recommended and increasingly adopted in recent years.

As early as September 2001, the Financial Stability Forum in its 'recommendations' pointed explicitly to the importance of a risk-based calculation of premiums[46]. The European Forum of Deposit Insurers (EFDI) established a working group in 2002 that concerns itself with the integration of risk-based factors into the pricing of deposit insurance benefits and the monitoring of corresponding developments in European deposit insurance schemes. The International Association of Deposit Insurers (IADI) recommended even in the basic version of its Core Principles published in 2002 the adoption of risk-based price models. In the revised version of 2009 this recommendation was repeated and strengthened. A multitude of other international financial institutions, including the International Monetary Fund (IMF) and the World Bank, have also made recommendations in recent years regarding the introduction of risk-based premium models. The recommendation of the risk based system is not only based on its fairness, but also on its function as a central factor of moral hazard reduction. (Bernet, B., Walter, S., 2009).

Republic of Macedonia is applying flat-rate deposit insurance premium system. The literature recommendations indicate that Republic of Macedonia can improve its deposit insurance system by introduction of risk based system. The purpose of this research is to provide a preliminary quantitative assessment of the impact that the introduction of two risk-based models proposed by European Commission (Single Indicator Model and Multiple Indicators Model) would have on the contributions of the banks in Republic of Macedonia.

1. POSSIBLE MODELS FOR RISK-BASED CONTRIBUTION TO EU DEPOSIT GUARANTEE SCHEMES

The EC Joint Research Centre (JRC), in close cooperation with the European Forum of Deposit Insurers (EFDI), has developed and proposed three risk-based models for computing contributions of EU Deposit Guarantee Schemes (DGS). These models are presented below.

1.1. Single Indicator Model

The most common risk-based approach is to define members' contributions as the product of a contribution base, x_i (generally the total amount of eligible or covered deposits), increased or decreased by a percentage β_i proportional to the risk attitude of the *i*-th member and a percentage, α, common to all members, reflecting the overall conditions in the banking system in the country. In formula, the contribution c_i is expressed as follows:

$$c_i = \alpha\beta_i x_i$$

In operative terms, the coefficient α is often set in the statutes (or by-laws) regulating the DGS and/or revised on a regular basis by the board of the scheme. For instance, it can reflect improvements or deteriorations in the soundness of the national banking sector and, consequently, leads to an increase or decrease in the total amount of resources collected. Alternatively, α could be connected to a technical procedure identifying the target size of the fund or to a mechanism forecasting the future funding need of the DGS.

Coefficient β_i explicitly takes into account the friskiness of the DGS members: a lower risk leads to a lower contribution and a higher risk to a higher one. In this basic proposal, β_i can vary between 80 % (for the least risky banks) and 150 % (for the most risky banks) and is determined using one of the indicators presented in Table 1.

The coefficient β_i to be applied to each member relies on their classification into rating classes defined in terms of the distribution of the ratios of the DGS members.

1.2. Multiple Indicator Model

A multiple indicators approach is clearly more complex, since it aims to overcome the main drawback of the Single Indicator Model, namely the fact that it relies on only one indicator. The Multiple Indicator Model uses combination of indicators. Eight indicators, covering four risk classes are proposed. These are presented in the table below:

Table 1

List of indicators applied in the proposed models

Class	Name	Abbreviation	Formula
Capital adequacy	Tier 1 capital ratio	CA1	Tier I Capital / Risk weighted assets
	Total capital ratio	CA2	Total capital / Risk weighted assets
Asset quality	Non Performing Loan (NPL ratio)	AQ1	Non Performing Loans / Gross Loans
	Loan loss provision	AQ2	Loan loss provision / Net Interest Revenue
Profitability	Cost-to-income rati	P1	Operating Expenses / Operating income
	Return on average assets (ROA)	P2	Net income / Average Total Assets
Liquidity	Liquid assets to deposits ratio	L1	Liquid Assets /Customer & Short Term Funding
	Loan to deposit ratio	L2	Net Loans /Customer & Short Term Funding

Source: European Commission, Joint Research Centre: Possible models for risk-based contribution to EU Deposit Guarantee Schemes

The Multiple Indicators Model is based on the assumption that the total amount of contributions collected by the scheme needs to be decided *a priori* (e.g. by the DGS board or the government) and then apportioned among members. The members' contributions are calculated by multiplying the total amount of contributions (TC) to be collected by the scheme by a coefficient which will be labelled as Risk Share (RS) since it represents the relative risk weight of each member. In formula**,** the contribution c_i for the *i*-th member can be expressed as follows:

$$c_i = \mathrm{TC} \bullet \mathrm{RS}_i$$

The set of weights RS_i is obtained by combining the contribution base of the members and their risk behaviour, as follows:

1) The overall risk behaviour of each member is described by a coefficient β_i determined by combining the information given by 4 indicators, one for each class. Each member is assigned a score depending on the values of the 4 indicators and the scores are subsequently translated into β_i via a linear relationship.
2) For each member the risk amount is obtained by multiplying β_i by its contribution base *xi*, represented by the amount of eligible or covered deposits:

$$\mathrm{RA}_i = x_i \bullet \beta_i$$

The risk amount represents the DGS exposure towards one member, corrected by the risk coefficient of the member itself.

3) The risk share of each member is obtained by normalised risk amounts:

$$\mathrm{RS}_i = \frac{\mathrm{RA}_i}{\sum_{j=1}^{N} \mathrm{RA}_j}$$

where *j* sums up all the N credit institutions members of the DGS.

The risk factor βi is allowed to vary between 80 % and 150 % and is calculated by means of a linear transformation of another variable, ρ_i, assessing the overall behaviour of the DGS members based on a set of indicators.

In detail, the variable ρ_i, which will be referred to as the *composite score*, is defined as the average of 4 scores, each covering a different aspect of DGS members' behaviour:

$$\rho_i = \frac{1}{4}\left[\rho_i^{(1)} + \rho_i^{(2)} + \rho_i^{(3)} + \rho_i^{(4)}\right]$$

For all classes, scores range from a minimum score of 1 describing a 'very low risk' situation, to a maximum score of 5 to indicate a 'very high risk' situation as shown in the **T**able 2.

Table 2

Scores to be assigned to the DGS members, based on the set of indicators

Class	Capital adequacy	Assets quality	Profitability	Liquidity
Very low risk	1	1	1	1
Low risk	2	2	2	2
Medium risk	3	3	3	3
High risk	4	4	4	4
Very high risk	5	5	5	5

Source: European Commission, Joint Research Centre: Possible models for risk-based contribution to EU Deposit Guarantee Schemes

1.3. Default Risk model

The Default Risk model is based on the option pricing theory and calculates the contribution of a bank taking into account its estimated probability of default. Compared to the first two models**,** it is more sophisticated from a mathematical point of view and overcomes the main drawback of the first two models by taking into consideration market information. But, due to the mathematical complexity of this model and to the fact that it relies not only on accounting data but also on market data (i.e. data on equity prices), its application at DGS level is not currently recommended.

2. PROJECTION OF MODELS INTRODUCTION TO DGS OF REPUBLIC OF MACEDONIA

The purpose of this section is to provide a preliminary quantitative assessment of the impact that the introduction of the first two risk-based models proposed (Single Indicator Model and Multiple Indicators Model) would have on banks in Republic of Macedonia.

The data at bank level required to estimate contributions for the two model proposals is not available for every particular bank in Republic of Macedonia. Therefore, the calculation of risk-based deposit insurance premium is made on groups of banks. Grouping of banks is made according to the size of their assets: the group of small size banks consists of banks whose assets are less then Denar 5 billions, the group of medium-size banks are banks whose assets range between Denar 5 and 20 billions and the groups of large banks consists of banks whose assets are higher than Denar 20 billions.

The calculation of banks' contributions under the two models (Single Indicator Model and Multiple Indicators Model) relies on:

- bank's financial ratios: one ratio in the case of the Single Indicator Model, and a combination of ratios for the Multiple Indicators Model (indicators from Table 1 will be applied in the models projection, except for Not Performing Loan ratio, which as result of data non-availability is replaced with the ratio - % of "C", "D" and "E" in total credit risk exposure;
- the contribution base, i.e. the amount of eligible deposits;
- the amount of premium collected by the deposit insurance fund.

Data of the bank's financial ratios and the amount and distribution of household deposits are taken from the Report of banking system and banking supervision of the Republic of Macedonia, published by the National bank of Republic of Macedonia. Regarding the amount of household deposits an average data is applied, i.e. the sum of household deposits at the end of every calendar month is divided to the number of months in the year. The application of average data is made because it corresponds with the currently applied methodology for deposit insurance premium calculation.

Under the current methodology**,** banks are charged with deposit insurance premium on a monthly basis. Data of the amount of the deposit insurance premium collected by the fund are taken from the audit reports of Deposit Insurance Fund Skopje.

Calculations under both models will be made on data basis from year 2009.

The purpose of the numerical experiments that will be described below is to provide a quantitative assessment of the impact that the introduction of both the Single Indicator Model and the Multiple Indicators Model would have on DGS members' contributions, highlighting their differences, advantages and weaknesses.

To give an indication of the impact that the introduction of each model would have, contributions under the Single Indicator Model and the Multiple Indicators Model are compared with those really paid by the banks in Republic of Macedonia under the funding mechanism currently used. In particular, the relative percentage change in contribution is calculated and presented as contribution's increase or decrease.

2.1. Projection of the Single Indicator Model's introduction

Assumptions

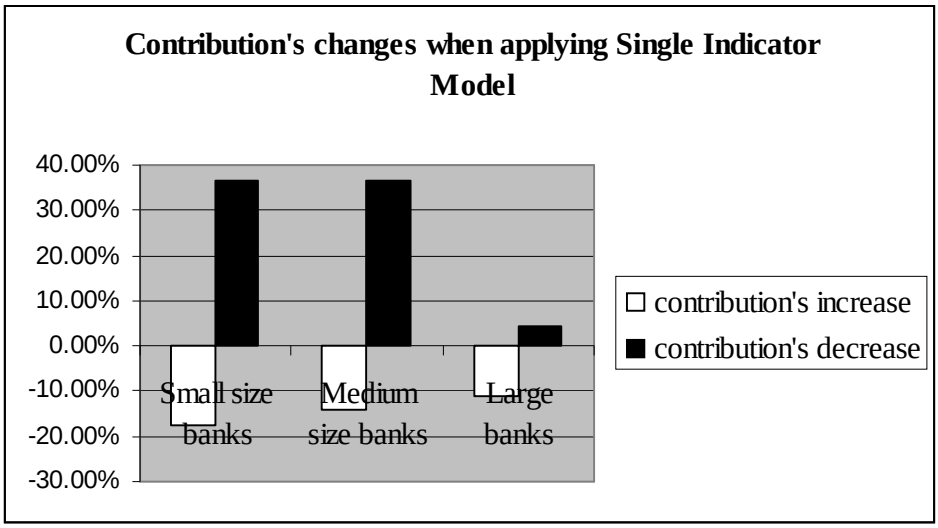
To obtain contributions under the Single Indicator Model, we need to set the values of coefficients α and β_i. The value of the first coefficient is the same for all banks and depends for instance upon specific conditions in the banking market or is related to the target fund of the deposit guarantee scheme; the second describes the risk behaviour of particular bank or in this case group of banks. Two main assumptions are made to set the values of these coefficients:

1) The overall contribution under the Single Indicator Model (i.e. the sum of the contributions paid by all the banks in the Republic of Macedonia) equals the overall contribution made in the Deposit Insurance Fund Skopje under the current funding systems. In other words, the coefficient α in the first model is chosen so that the aggregated amount of current and risk-based contributions is the same. This assumption is made in order to compare the two sets of contributions;
2) The values for the β_i coefficient are set within the range of 80 % (for the least risky banks) and 150 % (for the most risky banks).

Analysis of results

After particular calculation of the contributions' change, using each of the 8 indicators, an overall amount of contributions' changes for group of banks has been calculated. Those changes are presented in the figure below.

Figure 1: Contribution's changes when applying Single Indicator Model



Source: Author

Two main observations should be highlighted from this figure:

1) The figure shows wide variability that the adoption of the Singe Indicator Model would have on banks' contribution. The smallest variability has been observed in the contribution of group of large banks and the biggest variability in the contribution of group of small sized banks. When applying the Single Indicator Model, using any of the 8 indicators, the group of large banks would have maximum increase in contributions of 4,42%, and maximum reduction of 11,27%. The maximum increase and the maximum decrease in the contributions of group of medium-size banks would be 36,50% and -14,32% respectively. The biggest variation in the contribution of group of small banks would be in range of -17,70% to 36,50%.
2) The variability of results, especially of group of small banks and group of medium size banks, is significant. Therefore**,** a change in the indicator selected could have a significant impact on the level of contribution paid by individual banks.

The analysis presented above is focused on the maximum cumulative increase/decrease that the introduction of Single Indicator Model would have on banks' contributions, taking into consideration all 8 indicators proposed. To have an idea of how the contributions vary for a given indicator, the average and the standard deviation of the relative percentage change in banks' contributions has been calculated for each individual indicator. The results are presented in the table below.

Table 3

Single Indicator Model – Mean (μ) and standard deviation (s) of the relative percentage change in banks' contributions

	Small size banks	Medium size banks	Large banks	μ	σ
CA1	-14,32%	-14,32%	4,42%	-8,07%	10,82%
CA2	0,00%	0,00%	0,00%	0,00%	0,00%
AQ1	21,37%	-0,41%	-0,41%	6,85%	12,58%
AQ2	21,37%	-0,41%	-0,41%	-2,92%	14,77%
P1	21,70%	21,70%	-6,70%	12,23%	16,39%
P2	36,50%	36,50%	-11,27%	20,58%	27,58%
L1	0,00%	0,00%	0,00%	0,00%	0,00%
L2	-15,42%	10,32%	-2,55%	-2,55%	12,87%

Source: Author

Several observations can be highlighted from this table:

1) The choice of an indicator has a significant impact on the contribution. For example, the contribution of group of small size banks would reduce for 17,70%, when the indicator Loan loss provision is applied, but the same contribution would increase for 36,50%, when the indicator ROA is applied;
2) When indicators: Total capital ratio and Liquid assets to deposits ratio are applied, the average and the standard deviation are zero, which is due to a lack of change in the contributions, because regarding these indicators all banks have been assigned with the same risk coefficient.
3) When the other 6 indicators are applied, depending on which indicator is chosen**,** the contributions of banks show an increase or a decrease.

To assess whether this model properly captures the risk profile of the banks we look at the correlation between the 8 financial indicators. A risk-based model where only one of the indicators is taken into account would be acceptable for consideration if there is evidence that all the indicators are highly correlated, and are therefore measuring the same underlying phenomenon.

Table 4 plots the correlation coefficient between indicators belonging to different categories ('inter-categories' correlation). In other words, we measure all possible pair wise correlations except those between indicators belonging to the same category, (i.e. between CA1 and CA2, between AQ1 and AQ2, between P1 and P2, and between L1 and L2). The correlation coefficients are intended to measure how related each pair of indicators is.

Table 4

Correlation coefficient between financial indicators

Indicators	Correlation coefficient	Indicators	Correlation coefficient
CA1/AQ1	-0,50	AQ1/P1	0,50
CA1/AQ2	-0,50	AQ1/P2	0,50
CA1/P1	-1,00	AQ1/L1	0,80
CA1/P2	-1,00	AQ1/L2	-0,87
CA1/L1	-0,92	AQ2/P1	0,50
CA1/L2	0,00	AQ2/P2	0,50
CA2/AQ1	0,80	AQ2/L1	0,80
CA2/AQ2	0,80	AQ2/L2	-0,87
CA2/P1	0,92	P1/L1	0,92
CA2/P2	0,92	P1/L2	0,00
CA2/L1	1,00	P2/L1	0,92
CA2/L2	-0,39	P2/L2	0,00

Source: Author

High level of correlation between certain indicators exists if the correlation coefficient is close to +1 or -1. Table 4 shows that there is a perfect correlation between some indicators and no correlation between others. The fact that there isn't high level of correlation between all of the financial indicators is an indication that by combining indicators from different categories additional information might be captured.

2.2. Projection of the Multiple Indicators Model's introduction

In contrast with the Single Indicator Model, under the Multiple Indicators Model the risk profile is set by combining multiple indicators from the 4 classes of risks (capital adequacy, asset quality, profitability, and liquidity).

The purpose of this chapter is to present the results from a simulation of the contributions the banks in the Republic of Macedonia would have made under the Multiple Indicator Model. The simulation covers two scenarios (A and B) shown in the table below.

Table 5

Multiple Indicators Model: choice of scenarios

RISK CLASS	Scenario A	Scenario B
Capital adequacy	Tier 1 capital ratio	Total capital ratio
Asset quality	Not Performing Loan ratio	Loan loss provision
Profitability	Cost to income ratio	ROA
Liquidity	Liquid assets to deposits ratio	Loan to deposit ratio

Source: Author

Assumptions

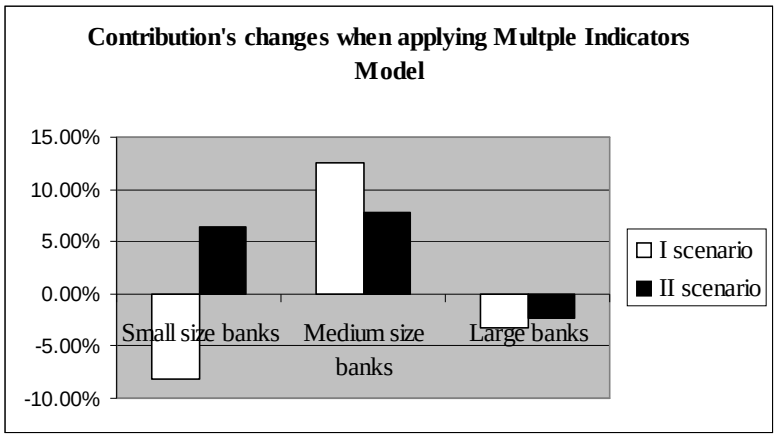
The Multiple Indicators Model is based on the assumption that the total amount of contributions collected by the scheme needs to be decided in advance, and then apportioned among the DGS members depending on their risk profile. The risk profile of a given bank is described by a coefficient β_i, which in turn is calculated using the scores ñ*i(j)* assigned for each of the 4 risk classes. Three main assumptions are made:

1) The total amount of contributions to be collected and decided in advance (i.e. the sum of contributions paid by all the banks) equals the estimated overall contribution made by the same banks under the current funding system. This assumption will facilitate comparison between the two funding systems;
2) Equal weights are given to the 4 risk classes. In other words, the composite score for a given bank is calculated as the arithmetic average of the scores obtained for each one of the 4 risk classes;
3) Same as in the Single Indicator Model, the values for the β_i coefficient are set within the range of 80% (for the least risky banks) and 150% (for the most risky banks).

Analysis of results

The contributions that particular groups of banks would have paid under the Multiple Indicators Model are calculated for two scenarios. These contributions are compared with the really paid contributions and a relative percentage change is calculated. The changes are shown in the figure number 2.

Figure 2: Contribution's changes when applying Multiple Indicator Model



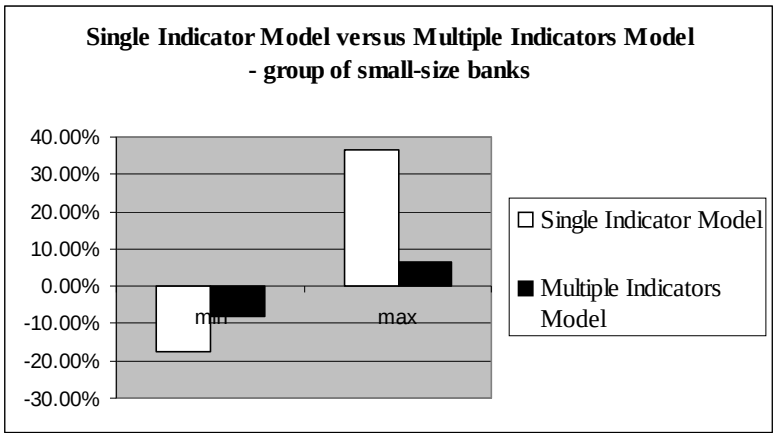
Source: Author

The figure shows that the biggest variability of the changes in contributions is observed in the contributions of the group of small banks. Depending on the applied

scenario the contribution of the group of small banks would reduce by 8,15%, or would increase by 6,47%. In the case of the group of medium-size banks the contribution would increase in both scenarios by 12,49%, i.e. 7,76%, and in the case of group of large banks would decrease in both scenarios by 3,32%, i.e. 2,36%.

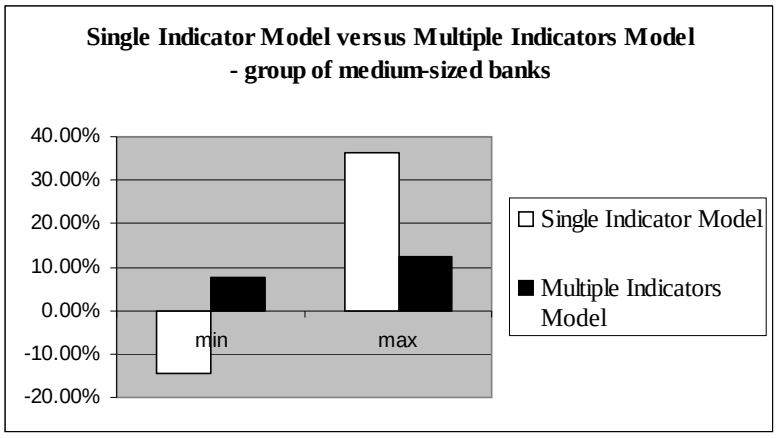
Figures number 3, 4 and 5 presented below aim to compare the Single Indicator Model and Multiple Indicators Model by looking at the range of variation of the percentage changes in contributions resulting from the introduction of these models. A comparative overview is given for every group of banks in particular.

Figure 3: Single Indicator Model versus Multiple Indicators Model – group of small-size banks



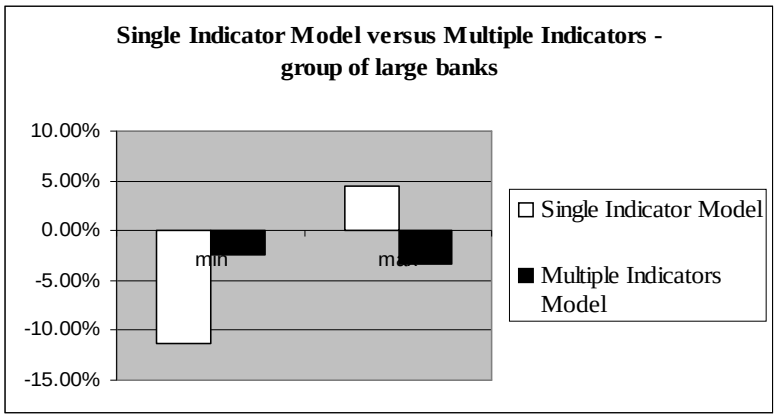
Source: Author

Figure 4: Single Indicator Model versus Multiple Indicators Model – group of medium-size banks



Source: Author

Figure 5: Single Indicator Model versus Multiple Indicators Model – group of large banks



Source: Author

These figures highlight how the Multiple Indicators Model significantly reduces the variability of the changes in contributions.

To have an idea of how the contributions vary for a specific scenario, the average and the standard deviation of the relative percentage change in banks' contributions have been calculated for the two scenarios considered (A and B). These results are presented in table 6.

Table 6

Multiple Indicators Model - Mean (μ) and standard deviation (σ) of the relative percentage change in banks' contributions

	Small-size banks	Medium-size banks	Large banks	μ	σ
Scenario I	-8,15%	12,49%	-3,32%	-7,73%	10,80%
Scenario II	6,47%	7,76%	-2,36%	3,96%	4,50%

Source: Author

Conclusion

The EC Joint Research Centre (JRC), in close cooperation with the European Forum of Deposit Insurers (EFDI), has developed and proposed three risk-based models for computing contributions of EU Deposit Guarantee schemes. This report presents numerical experiments aimed at assessing the impact of introducing the first two models on the contributions of the banks in Republic of Macedonia. The third approach was not numerically explored since it makes use not only of accounting data but also of market price data.

Results for the Single Indicator Model show that the selection of a single ratio would ignore valuable information on the risk profile of the bank, since the impact on contributions is very different depending on the indicator selected. Correlation analysis confirmed that indicators of different classes might be poorly correlated, thus weakening any potential robust conclusion.

The experiment demonstrated that the Multiple Indicators Model overcomes the main drawbacks of the Single Indicator Model. First, by considering information from different classes, the aggregated risk coefficient is better at capturing a bank's overall risk; secondly, numerical experiments show that the variability of the impact on contributions is significantly reduced.

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Professional paper

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FOREIGN EXCHANGE RISK MANAGEMENT IN BANKS AND COMPANIES

Abstract

Today's market environment is global and inter-connected without any significant boundaries for doing business. We are evidencing growing presence of banks and companies existing on the international scene, offering products and services globally. Those entities expend their activities in many countries having local currency other than the mother company's one and by doing that the entities are exposed to a risk arising from the movement between the original and local currency, known as *foreign exchange risk (FX risk)*. Namely, foreign exchange risk represents a risk arising from the change in the value of the currency which is involved in the business activities. Together with the credit and interest rate risk; the foreign exchange risk is among the most significant risks that directly influence the profit & loss account of a company.

Hence, the *identification* of the foreign exchange risk is very important. Some banks and companies are very much aware about this risk and they have introduced and engaged separate units that are monitoring and managing FX risk on a daily basis, but there are plenty of companies, mainly existing in non-developed markets, which are fully ignorant of the FX risk.

As it was mentioned, the FX exposure does not originates just from the transaction, there are effects that are produced from the revaluation activities of the foreign exchange positions, which is known as translation exposure. So, *measuring the foreign exchange risk* is a crucial activity aimed to protect the company to face huge material loss. The need for protection led the banks and companies to develop a lot of *tools and models* for protection against foreign exchange risk.

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The protection against FX risk depends also on the risk appetite of the company- the higher risk appetite- the higher material effects, either negative or positive.

The most common used tool for protection is *hedging*- undertaking the parallel transaction that is aimed to neutralize the negative effects of the concluded deal. But also there are much more sophisticated tools like forwards, interest rate arbitrage, swaps and many more that gives different possibilities for protection. However, the usage of this models depends on the availability and allowance from the regulators to be used and on the knowledge of the companies.The empirical evidence shows that in not developed countries the banks and companies are lagging behind and are not aware about foreign exchange risk, therefore a lot of efforts should be put in overcoming of such situation.

Key words: foreign exchange risks (FX risks); identification of FX risks; measuring FX risks; tools and models; hedging.

Introduction

The evidence of financial globalization is everywhere. Capital flows are unprecedented large. The stocks of cross-border financial assets and liabilities are growing year by year.

The foreign exchange risk (hereinafter: FER) represents a probability any trade actor to be exposed to negative material effects due to the change in the value of the local currency compared with other international currency. Every country has its own national currency that serves as legal tender for executing and/or expressing all concluded deals. However, the transactions are not performed only in the framework of one national economy, but there are plenty of deals which are concluded in the currencies different than the national one.

Traditional explanations of foreign exchange exposure have generally suffered from two deficiencies: the failure to place the foreign exchange problem within the context of the firm trying to maximize shareholder wealth, and the attempt to deal with exposure management on a transaction by transaction basis.[1)]

The value aspect of the relations among currencies is called inter-parity relations, expressed as foreign exchange rates, which are essential for understanding the foreign exchange risk.

The relevant responsible persons (treasures, risk management officers or other relevant persons) need to step back and perform a comprehensive evaluation of the risks represented by these challenges. Most corporate treasurers and CFOs are primarily concerned, and rightfully so, with eliminating volatility risk and its effect on earnings. Nevertheless, the compliance aspect must be considered as well as operational and other economic factors.

From an economic perspective, beyond mitigating risk to earnings, it has to understand the cost-effectiveness of the currency program.[2)]

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1) Eaker, Mark R.- The numeraire problem and foreign exchange risk, The Journal of Finance, 1981, p.419

2) Koester, Wolfgang- Hope Is Not a Strategy for Managing FX Risk, Financial Executive, issue May / 2007

To measure the difference in pricing of exchange risk between foreign and local investors, one needs to distinguish between foreign and local investors in the same market. It is, however, impossible to differentiate between the two investor groups unless the market is separated by regulation, each group investing as a result in a segmented market. In general, foreign investors require different risk premiums for foreign exchange risk present in international investments than do local investors. The source (exchange risk of underlying share returns or currency translation risk) and magnitude (low or high premium) of differences in exchange risk pricing, however, vary significantly across countries.[3)]

This document is consisted of five parts. In the *first part* the foreign exchange exposure is defined, explaining the three FX types. The *second part* presents the manner of identification of the foreign exchange risk, while the *third part* briefly explains the measures for protection against foreign exchange risk. The *fourth part* is related to elaboration of tools and models and the *fifth-last part* is devoted to explanation of a hedging, as one of the widely used models for foreign exchange risk management, with the separate presentation of hedging of translation and economic exposure.

3) Kwon, Taek Ho - Do foreign investors price foreign exchange risk differently?, The Journal of Financial Research, 2005. p.558 and p.571

1. TYPES OF FOREIGN EXCHANGE EXPOSURE

Basically, there are three types of FX risk exposure:

1. **Translation exposure**, which originates from the accounting aspects of evidencing the deals. This exposure refers to already past actions.
2. **Transaction exposure**, which arises from actions contained in sales. For example, if the values of any future sales deals devalue, it will affect the profit/loss account of an economic agent.
3. **Economic exposure**, which is a combination of translation and transaction exposure.

The transaction exposure is very important, but it is hard predictable.

Economic exposure measures how the value of an entity (i.e company and/or bank) present value of all future cash flows will be affected by changes in foreign exchange rates. While future foreign currency receivables / cash inflows or payables / cash outflows give rise to the transaction exposure to foreign exchange market uncertainties individually and respectively, these future foreign currency cash inflows and cash outflows give rise to the economic exposure of an entity to foreign exchange market uncertainties collectively and as a whole, accompanied by a changing economic environment that affects, among others, the discount rate applied. Yet, entities with economic exposure do necessarily have transaction exposure. Domestic cash flows can also be affected by foreign exchange risk, due to the effect of foreign exchange rate changes on foreign competition in the domestic market.

The empirical research in foreign exchange risk management investigates transaction exposure hedging activities of the companies and banks to assess their effectiveness in economic exposure management. However, economic exposure has implications beyond the reach of transaction exposure – the scope of economic exposure management is wide and the horizon of economic exposure management is distant. If transaction exposure management is tactical and technical, then economic exposure management is strategic and fundamental.[4)]

[4)] Wang, Peijie- The economics of foreign exchange and global markets, Springer Berlin, 2005. p.289

The economic exposure is correct measure for exposure, but there is a problem not only in quantifying it but also in using it as a basis for hedging risk action. For example, the accounting uses the currency value applicable at a particular time, and in case of devaluation, its new value from the moment when the currency devalues, without taking the possible offset coming in the future. In hedging the liabilities on the basis of the anticipated receipts, the company/bank could have to book a loss to reported earnings at the end of the year and wait until following year for the receipts and offset the profit. One solution to this problem might be the company/bank to allocate enough reserves until anticipated profit materializes.

In the innards of most used financial systems are cracks in the foundation. Using rigorous analytical tools and techniques, in nine cases out of ten, it is apparent that fundamental transaction data quality issues stem from two sources: underlying multicurrency accounting and system configuration issues. Basic multicurrency accounting processes are one of the most common culprits. Improperly recorded and relieved foreign currency transactions account for the kinds of errors that often go undetected by the finance team or treasury organization, unless or until the problem has a material impact on FX gains / losses. Examples include recording business transactions denominated in a foreign currency, in local currency or reconciling accounts in local currency and not transaction currency.

The other big issue stems from foreign currency-related re-measurement. Companies and banks, both large and small, use a combination of manual and systematic re-measurement as a part of the monthly close processes, many times in an uncoordinated fashion. Add a global multi-accounting / ERP system environment, and the issues increase geometrically. The process is further complicated by the re-measurement functionality in accounting / ERP systems, which require continuous maintenance and administration to keep up with changes within the enterprise. As a result, accounts that should be re-measured often are not, while accounts that are being re-measured shouldn't be. In most cases, companies are unaware of the problem and have no processes/controls or analytics to monitor the results[5)].

Several authors have viewed the foreign exchange exposure as the sensitivity of economic value or stock prices to change in relations to exchange rate changes. This approach emphasizes the valuation of cash flows rather than accounting balances and focuses on the total effect of exchange rate fluctuations taking into account coincident changes in prices, costs, and demand and production technology.[6)]

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5) Edens, Corey- Managing FX Risk from the Bottom Up, Financial Executive International, 2008, p.63

6) Heckman, Christine R.- Measuring foreign exchange exposure: Practical Application, Financial Analyst Journal, issue Sept/Oct 1983, p.59

But, there is some bias in the accounting profession related to FER. In the absence of adequate reserves, there are following possibilities: 1) to hedge the liability or the major part of it, or 2) to establish a meaningful compromise for certain items.

Foreign exchange rate fluctuations affect banks and companies both directly and indirectly. The direct effect comes from banks' holdings of assets or liabilities with net payment streams denominated in a foreign currency. Foreign exchange rate fluctuations alter the domestic currency values of such assets. This explicit source of foreign exchange risk is the easiest to identify, and it is the most easily hedged. The indirect sources of risk are more subtle, but just as important. A bank without foreign assets or liabilities can be exposed to currency risk because the exchange rate can affect the profitability of its domestic banking operations. For example, consider the value of a bank's loan to a U.S. exporter. An appreciation of the dollar might make it more difficult for the U.S. exporter to compete against foreign firms. If the appreciation thereby diminishes the exporter's profitability, it also diminishes the probability of timely loan repayment and, correspondingly, the profitability of the bank. In this case, the bank is exposed to foreign exchange risk: a stronger dollar decreases its profitability. In essence, the bank is "short" dollars against foreign currency. Any time the value of the exchange rate is linked to foreign competition, to the demand for loans, or to other aspects of banking conditions; it will affect even "domestic" banks.

Foreign exchange risk also may be linked to other types of market risk, such as interest rate risk.

The estimates of the market risk, interest rate risk and foreign exchange risk continue to be unstable. The estimates of risk differ by bank type and period. As interest rate risk declines, foreign exchange risk increases. Foreign exchange risk is positively related to foreign or less developed country loan exposure and negatively related to off-balance sheet exposure, implying foreign exchange risk explained by unhedged foreign loan activity. Market continues to reflect changes in the economic and regulatory situation of commercial banks in the pricing of bank stocks.[7)]

Interest rates and exchange rates often move simultaneously. So, a bank's interest rate position indirectly affects its overall foreign exchange exposure. The foreign exchange rate sensitivity of a bank with an open interest rate position typically differs from that of a bank with no interest rate exposure, even if the two banks have the same actual holdings of assets denominated in foreign currencies. Again, the vulnerability of the bank as a whole to foreign exchange fluctuations depends on more than just its holdings of foreign exchange.

The Foreign exchange risk findings need to be announced for appropriate treatment. When managers choose not to disclose all the relevant information in their

7) Wetmore, Jill.L. - Commercial Bank risk: Market, Interest Rate and foreign exchange, The Journal of financial Research,1994. p.594.

possession in their financial statements, there is an information gap between the managers and users, and consequently a lack of transparency.[8)]

2. IDENTIFYING FOREIGN EXCHANGE EXPOSURE

The first step in managing the foreign exchange risk is to acknowledge that such risk does exist and that managing it is in the interest of the company/bank and its shareholders. The next step, however, is much more difficult: the identification of the nature and magnitude of foreign exchange exposure. In other words, identifying what is at risk, and in what way. The task of gauging the impact of exchange rate changes begins with measuring its exposure, that is, the amount, or value, at risk. This issue has been clouded by the fact that financial results for an enterprise/ a bank tend to be compiled by methods based on the principles of accrual accounting.

Unfortunately, this approach yields data that frequently differ from those relevant for business decision-making, namely future cash flows and their associated risk profiles. As a result, considerable efforts are expended to reconcile the differences between the point-in-time effects of exchange rate changes on an enterprise in terms of accounting data, referred to as accounting or translation exposure, and the ongoing cash flow effects which are referred to as economic exposure. Both concepts have their grounding in the fundamental concept of transactions exposure. Transaction exposure is an exposure in a simple transaction.

The typical illustration of transaction exposure involves an export or import contract giving rise to a foreign currency receivable or payable. On the surface, when the exchange rate changes, the value of this export or import transaction will be affected in terms of the domestic currency. However, when analyzed carefully, it becomes apparent that the exchange risk results from a financial investment (the foreign currency receivable) or a foreign currency liability (the loan from supplier foreign bank) that is purely incidental to the underlying export or import transaction; it could have arisen in and of itself through independent foreign borrowing and lending. Thus, here are simply involved foreign currency assets and liabilities the value of which is contractually fixed in nominal terms.

While this traditional analysis of transaction exposure is correct in a narrow, it is really relevant for financial institutions, only. With returns from financial assets and liabilities being fixed in nominal terms, they can be shielded from losses with relative ease through cash payments in advance (with appropriate discounts), through the factoring of receivables, or via the use of forward exchange contracts, unless unexpected exchange rate changes have a systematic effect on credit risk. However, the essential assets of a bank have non-contractual returns, i.e. revenue and cost streams

8) Marshal, Andrew et al., Modeling Transparency in Disclosure: The Case of Foreign Exchange Risk Management, Journal of Business Finance & Accounting, 2007. p.705

from the sale of the products and services which can respond to exchange rate changes in very different ways. Consequently, they are characterized by foreign exchange exposure very different from that of a bank with contractual returns.

The concept of accounting exposure arises from the need to translate accounts that are denominated in foreign currencies into the home currency of the reporting entity. Most commonly the problem arises when a bank has foreign affiliates keeping books in the respective local currency. For consolidation purposes, these accounts must somehow be translated into the reporting currency of the parent bank. In doing this, a decision has to be made on the exchange rate that is to be used for the translation of different accounts. While income statements of foreign affiliates are typically translated at a periodic average rate, balance sheets pose a more serious challenge.

To a certain extent this difficulty is revealed by the struggle of the accounting profession to agree on appropriate translation rules and the treatment of the resulting gains and losses. A comparative historical analysis of translation rules may best illustrate the issues at hand. Over time, U.S. banks have followed essentially four types of translation methods. These four methods differ with respect to the presumed impact of exchange rate changes on the value of individual categories of assets and liabilities. Accordingly, each method can be identified by the way in which it separates assets and liabilities into those that are "exposed" and are, therefore, translated at the current rate, i.e. the rate prevailing on the date of the balance sheet, and those whose value is deemed to remain unchanged, and which are, therefore, translated at the historical rate.

The current / concurrent method of translation divides assets and liabilities into current and concurrent categories, using maturity as the distinguishing criterion; only the former are presumed to change in value when the local currency appreciates or depreciates vis-à-vis the home currency. Supporting this method is the economic rationale that foreign exchange rates are essentially fixed but subject to occasional adjustments that tend to correct themselves in time. This assumption reflected reality to some extent, particularly with respect to industrialized countries during the period of the Breton Woods system. However, with subsequent changes in the international financial environment, this translation method has become outmoded; only in a few countries is it still being used.

Under the monetary / no - monetary method all items explicitly defined in terms of monetary units are translated at the current exchange rate, regardless of their maturity. No monetary items in the balance sheet, such as tangible assets, are translated at the historical exchange rate. The underlying assumption here is that the local currency value of such assets increases (decreases) immediately after a devaluation (revaluation) to a degree that compensates fully for the exchange rate change. This is equivalent of what is known in economics as the Law of One Price, with instantaneous adjustment.

A similar but more sophisticated translation approach supports the so-called temporal method. Here, the exchange rate used to translate balance sheet items depends on the valuation method used for a particular item in the balance sheet. Thus, if an item is carried on the balance sheet of the affiliate at its current value, it is to be translated using the current exchange rate. Alternatively, items carried at historical cost are to be translated at the historical exchange rate. As a result, this method synchronizes the time dimension of valuation with the method of translation. As long as bank foreign affiliates compile balance sheets under traditional historical cost principles, the temporal method gives essentially the same results as the monetary / no - monetary method. However, when "current value accounting" is used, that is when accounts are adjusted for inflation, the temporal method calls for the use of the current exchange rate throughout the balance sheet.

The temporal method points to a more general issue: the relationship between translation and valuation methods for accounting purposes. When methods of valuation provide results that do not reflect economic reality, translation will fail to remedy that deficiency, but will tend to make the distortion very apparent.

The accounting model of exposure has many critiques. Even with the increased flexibility of accounting standards, users of accounting information must be aware that there are three system sources of error that can mislead those responsible for exchange risk management:

- Accounting data do not capture all commitments of the firm that give rise to exchange risk.
- Because of the historical cost principle, accounting values of assets and liabilities do not reflect the respective contribution to total expected net cash flow of the firm.
- Translation rules do not distinguish between expected and unexpected exchange rate changes.

Regarding the first point, it must be recognized that normally, commitments entered into by the bank in terms of foreign exchange, the offered or used banking product and services, for example, will not be booked until the deal is delivered. At best, such obligations are shown as contingent liabilities. More importantly, accounting data reveals very little about the ability of the bank to change costs, prices and markets quickly.

The second point surfaced in this discussion of the temporal method is that whenever asset values differ from market values, translation - however sophisticated - will not redress these shortcomings. Translation rules do not take account of the fact that exchange rate changes have two components: (1) expected changes that are already reflected in the prices of assets and the costs of liabilities (relative interest rates), and (2) the real products and services, the basic rationale for bank foreign exchange exposure management is to shield net cash flows, and thus the value of the bank, from unanticipated exchange rate changes.

This thumbnail sketch of the economic foreign exchange exposure concept has a number of significant implications, some of which seem to be at variance with frequently used ideas in the popular literature and apparent practices in business firms. Specifically, there are implications regarding (1) the question of whether exchange risk originates from monetary or no-monetary transactions, (2) a reevaluation of traditional perspectives such as "transactions risk," and (3) the role of forecasting exchange rates in the context of bank's foreign exchange risk management.

An assessment of the nature of the bank's assets and liabilities and their respective cash flows shows that some of them are contractual, that is to say fixed in nominal, monetary terms. Such returns, earnings from fixed interest securities and incoming payments for example, and the negative returns on various liabilities are relatively easy to analyze with respect to exchange rate changes: when they are denominated in terms of foreign currency, their terminal value changes directly in proportion to the exchange rate change. Thus, with respect to financial items, the bank is concerned only about net assets or liabilities denominated in foreign currency to the extent that maturities, actually "durations" of assets, are matched.

3. IDENTIFYING THE FOREIGN EXCHANGE RISK IN A COMPANY

Companies like banks are exposed to the foreign exchange risk when doing business internationally or are importing the raw materials for the products sold locally. The fix risk appears as a result of the possible change of the prices of buying and selling activities of the company. If the company have concluded agreements, in that case it can easy monitor and control the fix risk by matching the incoming and outgoing money flows or by using some hedge instruments that are explained bellow.

What is much more difficult, however, is to gauge the impact of an exchange rate change on assets with no contractual returns. While conventional discussions of exchange risk focus almost exclusively on financial assets, for trading and manufacturing companies at least, such assets are relatively less important than others. Indeed, equipment, real estate, buildings and inventories make the decisive contribution to the total cash flow of those firms. And returns on such assets are affected in quite complex ways by changes in exchange rates. The most essential consideration is how the prices and costs of the firm will react in response to an unexpected exchange rate change. For example, if prices and costs react immediately and fully to offset exchange rate changes, the firm's cash flows are not exposed to exchange risk since they will not be affected in terms of the base currency.

4. MEASURES OF FOREIGN EXCHANGE RISK IN BANKS

The direct sources of foreign exchange risk can be measured by tallying up the net positions on a bank's assets and liabilities that are denominated in foreign currencies. By itself, this measure of direct exposure can provide only a narrow assessment of the bank's exchange rate sensitivity since - as described above - the value of the bank's domestic assets will also vary with the exchange rate. The presented model is a standardized approach for measuring the foreign exchange risks, while in the banks that have bulk of the transactions, the measuring of this risk could and should be based on the model that inter-relates other aspects of the business as market risk, interest rate sensitivity, etc.

Table 1

Foreign exchange exposure- Balance sheet of a bank A

Assets	**In local currency**	**In foreign currency**	**Total**
Cash	121	151	272
Loans	550	320	870
Fixed assets	0	60	60
Other assets	15	20	35
Total	**686**	**551**	**1.237**

Liabilities	**In local currency**	**In foreign currency**	**Total**
Financial Institution deposits	15	140	155
Retail deposits	230	250	480
Corporate deposits	120	172	292
Credit lines	20	40	60
Other liabilities	12	15	27
Capital and reserves		223	223
Total	**397**	**840**	**1237**

FX Exposure= FX assets-FX Liabilities = 551 euro M-840 euro M = -289 euro M

Source: Personal example based on the practical knowledge

The internal models approach enables banks to take a broader view of their foreign exchange risk than does the standardized method. The internal models approach focuses on evaluating the risks arising from banks' trading activities. The approach is well-suited to incorporate the correlation between, say, the value of interest rate instruments and the value of foreign exchange. In principle, the internal models approach allows each bank to measure its exposure carefully enough to incorporate the relationships among even its non-trading operations. However, even at its best, the internal models approach is limited in its range of coverage.

An even broader approach to assessing banks' foreign exchange risks can be obtained from an analysis of banks' equity returns. Equity returns reflect changes in the value of the firm as a whole. So, if the value of a bank as a whole is sensitive to

changes in the exchange rate, the bank's equity returns will mirror that sensitivity. Whether from direct or indirect sources, foreign exchange exposure will be reflected in the behaviour of returns. Thus, the exchange rate sensitivity of a bank's equity returns provides a comprehensive measure of its foreign exchange exposure.

5. FOREIGN EXCHANGE RISK TOOLS AND MODELS

There is a significant difference in the level of education and recognition of the FX risk among the companies and banks and hence in the undertaken measures for protection.

Investors that are placing funds in the companies or banks have exposure to fluctuations in all kinds of financial prices, as a natural by-product of their operations. Financial prices include foreign exchange rates, interest rates, commodity prices and equity prices. The effect of changes in these prices on reported earnings can be overwhelming. Often, it can be seen that companies say in their financial statements that their income was reduced by falling commodity prices or that they enjoyed a windfall gain in profit attributable to the decline of their reporting currency.

One reason why companies attempt to hedge these price changes is because there are risks that are peripheral to the central business in which they operate. For example, an investor buys the stock in a company in order to gain from its management of the company's business. The investor does not buy the stock in order to take advantage of a falling currency, knowing that the company exports over 75% of its product to overseas markets. This is the insurance argument in favour of hedging. Similarly, companies are expected to take out insurance against their exposure to the effects of theft or fire. One of the most common used tools for protection against the foreign exchange risk is hedging.

By hedging, in the general sense, we can imagine the company entering into a transaction which sensitivity to movements in financial prices offsets the sensitivity of their core business to such changes. Hedging is not a simple exercise nor is it a concept that is easy to pin down. Hedging objectives vary widely from companies and banks, even though it appears to be a fairly standard problem, on the face of it. And the spectrum of hedging instruments available to the corporate treasurer is becoming more complex every day.

There is another reason for hedging the exposure to its financial price risk and that is to improve or maintain the competitiveness... Banka and companies do not exist in isolation. They compete locally and internationally.

Banks and companies that are the most sophisticated in this field recognize that the financial risks produced by their businesses present a powerful opportunity to add to their bottom line while prudently positioning so that it is not pejoratively affected by movements in these prices. This level of sophistication depends on the experience, personnel and management approach. It will also depend on their competitors. If there

are five banks or companies and three of them engage in a comprehensive financial risk management program, then that places substantial pressure on the more passive banks or companies to become more advanced in risk management or face the possibility of being priced out of some important markets. Entities that have good risk management programs can use this stability to reduce their cost of funding or to lower their prices in markets that are deemed to be strategic and essential to the future progress.

Most importantly, hedging is contingent on the preferences of the entity's shareholders. There are entities whose shareholders refuse to take anything that appears to be financial price risk while there are other entities whose shareholders have a more worldly view of such things. It is easy to imagine two entities operating in the same sector with the same exposure to fluctuations in financial prices that conduct completely different policy, purely by virtue of the differences in their shareholders' attitude towards risk.

6. HEDGING

Hedging is the most common and widely used tool for managing the FX risk. It presents a set of correlated instruments for limiting or neutralizing from the adverse movements of a deal. The risk aversion is an attitude where the economic actor is concerned with the negative impact of the shocks. From the perspective of the risk-averse producer, shocks can only have an adverse (or at best neutral) effect (a reduction in output, etc.). Consequently, risk aversion can be defined in terms of the concerns and outlook of the agent and not the derivatives of a utility function. Contrary to the traditional concept of risk-aversion, a major advantage of this framework is that the attitude toward risk is not a synonymous with the attitude toward wealth.[9)]

Hedging foreign exchange helps banks/companies to remove the uncertainty from their financial forecasts. The exchange rate may not be as favourable as last year, but at least it means that a more accurate budget can be drawn up with no nasty surprises at the end of the fiscal year.

6.1 Hedging the foreign exchange risk in companies

FX hedging is best when it is simple. For many companies buying simple forward contracts that will deliver the foreign currency in three to six months can be the most effective way to hedge FX exposure.[10)]

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9) Alghalith, Moawia - Hedging with a New Risk-Aversion Concept, International Atlantic Economic Society, 2008. p.80

10) See:(Feeling the FX volatility, www.financialdirector.co/uk/ 2154091).

A natural hedge is an investment that reduces the undesired risk by matching cash flows, i.e. revenues and expenses. For example, a company that opens a subsidiary in another country and borrows in the local currency to finance its operations, even though the local interest rate may be more expensive than in its home country: by matching the debt payments to expected revenues in the local currency, the parent company has reduced its foreign currency exposure.

Optimum hedging theories postulate that hedging firms should be less exposed to foreign exchange rate movements than non-hedging firms. Since data on hedging activities are mostly incomplete and difficult to obtain – the exact nature of derivative positions is usually not disclosed – the variables are used of proxy firms' incentives to hedge in order to examine the relationship between hedging activities and estimated exchange rate exposures. Because managing foreign exposure entails high costs that offer operational, financial and informational economies of scale, firms have a motive to hedge if hedging benefits are greater than costs. Larger firms with economies of scale in hedging cost, therefore, are more likely to hedge than smaller firms. On the contrary, smaller firms face higher bankruptcy costs as their probability of financial distress is higher. Correspondingly, these firms have more incentives to hedge than larger firms and should be less exposed to foreign currency risks. Thus, the impact of firm size on exposure is ambiguous and has to be empirically verified.

According to some authors, there are three strategies for hedging exposure to foreign exchange risk: (1) to hedge always, (2) to hedge or not to hedge depending on the expected spot exchange rate, and (3) not to hedge always. The three strategies are applied to historical data involving three currencies to obtain results showing that there is no significant difference in the performance of the three strategies if the measure of performance is the domestic currency value of payables. In the long run, the three different strategies produce more or less similar results, indicating that there is no need to worry about hedging exposure to foreign exchange risk. Even the availability of perfect forecasts does not make any difference for the outcome.

The discussion leads to the following conclusion. If the company faces a regularly arising foreign currency exposure over a long period of time, and provided that on no occasion is the exposure significantly large, hedging will be irrelevant, since various hedging strategies will produce similar results. However, if the exposure is large and arises only infrequently, then hedging is imperative to avoid the consequences of adverse movements in exchange rates. If the sole objective is to eliminate risk, then forward hedging should be used in preference to money market hedging. However, the advantages of hedging via currency options must be considered against the costs of using the appropriate instrument[11)].

[11)] Moosa, Imad A.- Is there a need for hedging exposure to foreign exchange risk?, Applied Financial Economics, 2004, p.283

Another way to measure a firm's probability of financial distress is its long-term debt ratio. Indeed, firms with higher debt ratios (DE) tend to be confronted with higher bankruptcy costs and have therefore more incentives to hedge, thereby reducing the expected costs of financial distress. As these firms have more incentives to engage in hedging activities, they are expected to be less exposed to foreign exchange rate risk. In addition, a firm can reduce its probability of financial distress and agency costs by maintaining a larger short-term liquidity position. By keeping a higher quick ratio or by deciding on a more restrictive dividend payout policy, a firm is therefore less compelled to hedge and hence more exposed to exchange rate risk.[12)]

There are many types of risk that are subject of hedging. Credit risk is the risk that money owing will not be paid by an obligor. Since credit risk is the natural business of banks, but an unwanted risk for commercial traders, naturally an early market developed between banks and traders: that involves selling obligations at a discounted rate. Currency hedging (also known as Foreign Exchange Risk hedging) is used both by financial investors to parse out the risks they encounter when investing abroad, as well as by non-financial actors in the global economy for whom multi-currency activities are a necessary evil rather than a desired state of exposure.

Currency hedging, like many other forms of financial hedging, can be done in two primary ways: with standardized contracts or with customized contracts (also known as over-the-counter or OTC).

The financial investor may be a hedge fund that decides to invest in a company in, for example Albania, but does not want to necessarily invest in the Albanian currency. The hedge fund can separate out the credit risk (i.e. the risk of the company defaulting), from the currency risk of the Albanian lek by "hedging" out the currency risk. Actually, this means that the investment is effectively a USD investment in Albania. Hedging allows the investor to transfer the currency risk to someone else that wants to take up a position in the currency. The hedge fund has to pay this other investor to take on the currency exposure, similar to insuring against other types of events.

Compared to other types of financial products, hedging may allow economic activity to take place that would otherwise not have been possible. The increased investment is assumed in this way to raise economic efficiency.

The foreign exchange exposure is increasing in inherent exposure. Also, exposure is decreasing in firm size. The larger firms may have lower inherent exposure due to their ability to use operational hedges. The financial hedges are effective in reducing firms' foreign exchange exposure. Financial hedging is associated with risk reduction for firms that use currency derivatives and/or foreign denominated debt. Particular

12) Muller, Aline - European Foreign Exchange Risk Exposure, European Financial Management, 2006. P.215

interest is directed towards the impact from transaction exposure hedges and translation exposure hedges respectively. This is of interest because translation exposure and transaction exposure tend to affect firms differently. The results suggest that there are risks reducing effects from transaction exposure hedges as well as from translation exposure hedges. A possible explanation for the latter is that translation exposure approximates the exposed value of future cash flows from operations in foreign subsidiaries (i.e. economic exposure). If so, by hedging translation exposure, economic exposure is reduced.[13)]

6.2 Hedging instruments in banks and companies

There are many hedging instruments that serve both banks and companies for hedging their positions like forwards, forward rate agreements, currency options, on-deliverable forwards, futures and others, which are briefly described hereinafter.

Forward is a simple derivative and it is assumed that one party has long position and agrees to buy the underlying asset at a certain specified date in the future at today's agreed price. The other party has the opposite position i.e. short position and agrees to sell the asset at the agreed price. Here, we must distinguish between the forward price and the delivery price. Forward price is the market price that would be agreed today for the delivery of the assets. It is usually based on the spot market price corrected with the interest rate differentials of the contracted currencies. [14)]

There is a large literature that documents the existence of significant differences between the forward exchange rate and its ex post realisation. The bias of the forward exchange rate as a predictor of the future spot exchange rate can be viewed as evidence of market inefficiency; or the existence of time-varying risk premia in a rational expectations world; or of irrational expectations, or possibly a combination of the above. Much of the literature is trying to explore the statistical properties of the ex post foreign exchange risk premium on the assumption of market efficiency. Any test of market efficiency needs to assume a specific equilibrium model, and therefore, will be a joint test of market efficiency and validity of the equilibrium model.[15)]

A Forward Rate Agreement is a contract agreement specifying an interest rate amount to be settled at a pre-determined interest rate on the date of the contract. This is also known as FRAs.

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13) Hagelin, Niclas et al.- Hedging Foreign Exchange Exposure: Risk Reduction from Transaction and Translation Hedging, Journal of International Financial Management and Accounting, issue 15:1 2004, p.15

14) Hull, John, C. - Options, Futures and other derivatives, Prentice Hall, 2000. p. 437

15) Panigirtzoglou, Nikolaos- Implied Foreign Exchange Risk Premia, European Financial Management, Vol. 10, No. 2, 2004, p.321–338

Currency option is a contract that gives the owner the right, but not the obligation, to take (call option) or deliver (put option) a specified amount of currency at an exchange rate decided at the date of purchase. The advantages of the options are the following: they control more assets with less money, trade with the leverage because the costs are low, the position is much more sensitive to the underlying stock's price movements and hence percentage returns might be much higher, trade for income if the designed strategy is channeled for constant income generating, reduce or eliminate risk.

Having in mind all above advantages, one might ask the questions why traders are not using options to eliminate the risk. The answer to this question is the fact that entry barriers are quite high and the options are very complex instruments and it is quite hard to understand them.[16)]

In considering whether an option should be perceived as a hedge or as a speculative instrument, a hedger's main concern is the value of the option at maturity. For this reason, any fluctuation of the option's intrinsic value during its life is important, but any change in its time value is largely irrelevant. Also, as the option is itself a hedge, no further hedging is required and therefore there are no extra costs.[17)]

Non-Deliverable Forwards (NDF) is strictly risk-transfer financial product similar to a Forward Rate Agreement, but only used where monetary policy restrictions on the currency in question limit the free flow and conversion of capital. NDFs are, as the name suggests, not delivered, but rather, these are settled in a reference currency, usually USD or EUR, where the parties exchange the gain or loss that the NDF instrument yields, and if the buyer of the controlled currency truly needs that hard currency, he can take the reference payout and go to the government in question and convert the USD or EUR payout. The insurance effect is the same, it's just that the supply of insured currency is restricted and controlled by government.

Interest rate parity and Covered interest arbitrage is a simple concept that two similar investments in two different currencies ought to yield the same return. If the two similar investments are not at face value offering the same interest rate return, the difference should conceptually be made up by changes in the exchange rate over the life of the investment. IRP basically gives the math to calculate a projected or implied forward rate of exchange. This calculated rate is not and cannot be considered a prediction or forecast, but rather is the arbitrage-free calculation for what the exchange rate is implied to be in order for it to be impossible to make a free profit by converting money to one currency, investing it for a period, then converting back and making more money than if you had invested in the same opportunity in the original currency.

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16) Cohen, Guy- The bible of options strategies, FT Prentice Hall, 2005. p.33

17) Shani Samah- A Currency Options Primer, John Willey& Sons, Ltd, 2004. p.44

Hedging equity & equity futures - Equity in a portfolio can be hedged by taking an opposite position in futures. To protect the stock picking against systematic market risk, one might short futures when buying equity.

The perfect hedge can be created using the money market. That hedge eliminates the random element in money market hedge and is the appropriate hedge to compare with a forward exchange hedge. The choice of hedging techniques depends on the validity of the interest parity relationship for a particular hedger.[18)]

7. HEDGING TRANSLATION EXPOSURE IN A BANK

Balance sheet risk is largely made up of foreign investments or debt structure of the bank. On a daily basis, there are a large number of deals that affect the balance sheet positions, or it is affected by the simple change of the fixing rate at which the booking should be done. Therefore, the ideal situation for a bank is to have squared balance sheet position at any time. However, this is neither possible nor real situation, so many banks have introduced their own policies how to manage the balance sheet position, which instruments to use and how frequent.

In case of a currency structure mismatch, the best possible hedging scenario is to make the opposite deals at rates that provide profit for the bank. For example, if a bank has approved loan, it has to sell amount equal to the approved loan for neutralizing the position, and opposite, to buy foreign currency when the loan is collected.

When a bank has a "long position" in a foreign currency, it has surplus of assets in that currency versus its base or home currency. A sale in a foreign currency generates a receivable and consequently contributes to a long position or exposure in that currency until it is paid and converted. A bank can offset that asset and the related currency risk exposure without entering into a forward FX contract or option by creating a counter liability. Such a counter liability, for foreign currency purposes, would be borrowing an amount of money in that foreign currency equal to that receivable. When the foreign buyer pays the receivable, the company can use the proceeds to pay off the foreign currency loan. However, there are costs associated with this type of hedging, such as those related to the loan itself as well as legal or other possible costs. This type of hedging is best suited for banks that engage in numerous foreign transactions and investments.[19)]

Usually, the banks dispose with the software applications that provide correct data on the position, so they close them at the end of day.

In some cases, where the rates are not favorable, the banks might intentionally leave open position, which becomes speculative position.

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18) Eaker, Mark R.- Covering foreign exchange risk, The Journal of Finance, 1980, p.65

19) Diana, Tom- How to hedge the foreign exchange risk, Business Credit, issue April 2007

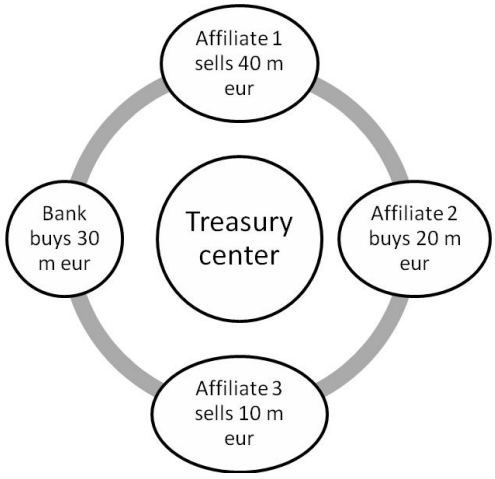
8. HEDGING ECONOMIC EXPOSURE OF A BANK

Economic risk reflects the degree to which the present value of future cash flows might be affected by exchange rate movements. Exchange rate moves are themselves related trough purchasing price policies to differences in inflation rate. For example, if the costs are in line with the exchange rate move, the original value is restored in line with purchasing price parity and economic exposure does not matter. However, cost inflation differs from general inflation rate, which in turn affects the competitiveness relative to competitors of the banks, so in this case economic exposure does matter and the best way to hedge it is to finance operations in the currency to which the bank's value is sensitive.

The reliance on the Treasury Centres to manage exchange rate hedges on a centralised basis is the "classic" approach adopted by most multinational companies. Such "netting" allows the reduction of the foreign exchange risk basis by taking advantage of natural hedges to enhance the efficiency of internal control by specializing and concentrating the expertise at treasury centre level obtaining in that way one single entity in the market that results in a better and fairer distribution of operations among banks.

The problem of netting opposite positions becomes apparent in a strategy model of the Cash Flow Hedge type. **20)**

Figure 1. Netting



Source: Masquelier, François, July-September 2005, p.19

20) Masquelier, François- Centralization of foreign exchange risks under IAS: Problems of netting foreign exchange risks at the level of treasury centers, Treasury affairs, Vol.1 (3), July-September 2005, p.19

This model is mainly used by the banks having many branches or affiliates and by netting of all individual position, the bank is focused to hedge just the net position because individual deals are hedged internally and what remains is just residual part.

Conclusion

Doing business internationally has a lot of advantages for both-banks and companies offering products and services and for the customers who are the final users. But international business exposes the providers of products and services to a risk coming from different inter-currency relation between the currency of a mother company and the local currency, where the business is opened. So, the most important fact in such cases is identification that this risk exists and undertaking appropriate measures for prevention from unwilling effects.

From the presented material it is evident that there are three types of risk-transaction, translation and economic FX risk out of which the last two are more crucial and need attention to be monitored and managed.

The level of protection against the foreign exchange risk depends on the awareness of the companies / banks that are somehow connected with the international activities and the risk appetite willing to be accepted. There is evidence that less educated companies and banks without introduced treasury units are much more exposed to the foreign exchange risk than the ones who are paying much attention to it. The negligence of such behavior might severely deteriorate the financial results of the entity even to the level to the closing the business. And on the contrary, even in the banks with established advanced treasury departments, there is evidence that due to big risk appetite have materialized huge fx losses to the level that jeopardizes the further existence in the market.

The practice shows that there are a lot of tools and models designed for identification, measuring and managing the foreign exchange risk. Which tool and model will be selected depends on the decision of each bank/company i.e. the size and the type of the business, the international financial instruments used, the accounting standards etc. Banks with pretty simple international activities and financial instruments are using plain vanilla hedges, while the ones who have big FX positions and are using different financial instruments must protect themselves with a range of available hedging tools like: swaps, forwards, futures, non-deliverable forwards etc. However, international connection gives the full benefit to all stakeholders only if all connected risks are identified, measured and managed.

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Professional paper

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OPPORTUNITIES FOR COST REDUCTION OF THE MACEDONIAN BANKS BY INTRODUCING SOLUTIONS FOR INTELLIGENT CASH MANAGEMENT IN THE FIELD OF ATM OPERATIONS

Abstract

Payment card business in Republic of Macedonia in past few years was one of the segments with biggest level of expansion into the banking sector. Except by the commercial banks, the growing tendency of credit card business was adequately supported by the government policy through the introduction of project payment cards for public administration as well as with many campaigns for promotion of payment cards as a payment instrument. Expansion of payment card business in the last decade was duly followed by an increase in the number of ATM devices on the Macedonian market.

The costs of the cash, without a doubt, presents a segment that should be given considerable attention in ATM operations. Banks in Macedonia, in the area of surplus funds immobilized in ATM devices, fall within the global average of around 35-40%. This part is especially important for banks that have ATM networks constituted by a large number of ATM devices. Most modern network solutions for cash management of ATM devices operate in order to ensure a satisfactory level of quality to users of ATM services and reduce operational costs in ATM operations. Almost all the solutions to anticipating the needs of cash in ATM devices on commercial banks as a basis for calculating future demand for cash has taken some historical values for shorter or longer period of time. Optimization of operating costs within the offered solutions, often despite projections of cash into account, includes other costs in this part of banking: financial costs, costs of transportation and cash management, and others. Some solutions have the opportunity for integrated alarm breach of the security level

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to the level of individual ATM device. By introducing methods for intelligent cash management, banks should expect higher profitability of their ATMs as a banking channel. Although banks must balance between the amount of funds, necessary to provide some solutions for intelligent cash management and the amount of saved costs connected to cash.

The benefits of introducing intelligent solutions for cash management would have real positive effects in the banking operations, only if the revenues exceed the costs of implementation and maintenance of systems. Therefore banks should perform analysis based on qualitative principles before choosing the solution for intelligent management of cash depending on its own market position and business opportunities.

Keywords: costs of the cash; optimization of operating costs; intelligent solution for cash management; market position; business opportunities.

Introduction

Payment card business in Republic of Macedonia in recent years was one of the segments with the highest degree of expansion in banking operations. Besides the activities by commercial banks, spreading payment card business was supported by public policy through the project for issuing cards to employees in public administration and a number of campaigns aimed to promote the cards as a payment instrument.

The expansion of the payment card operations in the last decade was adequately followed by an increase in the number of ATM devices on the Macedonian market. The use of ATM devices as self service banking terminals and benefits of their use are well known and they not need to be elaborated separately. However, despite the large number of advantages, both for customers and for commercial banks, ATM devices are generators of a many different types of costs in banking operations.

In recent years, a majority of developed economies have started activities related to optimization of the costs in ATM operations. In this field some of the banks conduct cost analysis of viability of the outsourcing contracts for maintenance of this type of specialized banking equipment, installation of security systems as a measure of protection of property as well as a measure of protection of vandalistic planting activities and acts intended to prevent abuses, measures designed to optimize the level of immobilized assets in the ATM devices and their maintenance at an optimal level and so on. The costs associated with cash are one of the highest expenditure items into ATM operations of commercial banks.

Therefore, the subject of the study in this paper are the costs of immobilized assets in ATM devices and the opportunities for their minimization/optimization by introducing intelligent methods for cash management. The research is mainly theoretical. Several research methods have been applied characteristic for the social sciences such as: inductive - deductive, logical, and analytical and comparative method.

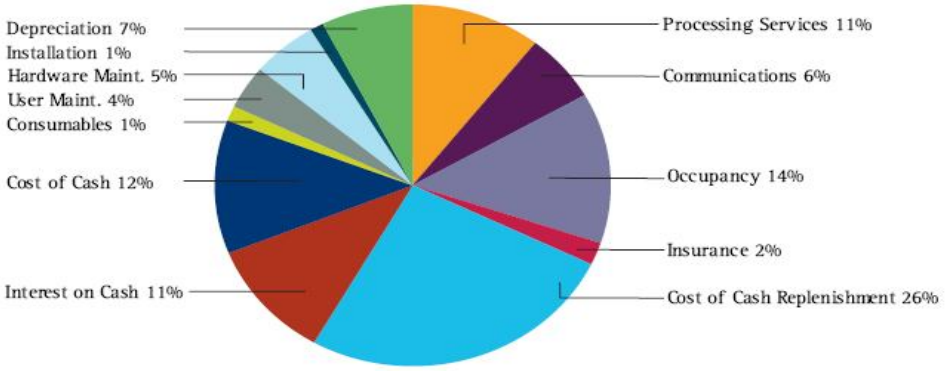
The main purpose of this research paper is introducing the topic to the Macedonian banks and encourage them to evaluate different solutions for intelligent management of cash. Basic assumption in this paper is that through the implementation of appropriate solutions for cash management on intelligent basis, could be realized significant savings of the costs in this field of banking operations. The information in this paper is mainly obtained from secondary data sources.

1. ROLE OF THE COSTS OF CASH AS A COST FACTOR INTO ATM OPERATIONS OF COMMERCIAL BANKS

Costs associated with deposits represent one of the largest generators of expenditures in banking operations. Their role is particularly expressed in the field of ATM operations. There are a number of factors affecting the amount of costs arising from cash in ATM operations. Therefore, this segment is drastically different from traditional banking products.

In ATM operations, there are a lot of cost categories such as: expenditures generated by the need of continuous pumping cash and charging ATM devices, costs arising from interest rates, fees for cash, etc... Through the Graph No. 1 are presented some of the key costs categories generated by ATM operations.

Figure 1: Average annual costs generated by an ATM device in the ATM industry



Source: UK Banking, Point of view series, Taking control of the cash Cycle, Accenture 2007, p.6.

1) BS2 Penki kontinental group, ATM IQ, April 2010, p.13.

From the figure 1, we come to the conclusion that the cost of cash representing more than 30% of total costs of ATM operations. According to results from a large number of surveys of relevant stakeholders, we come to conclusion that there is a consensus with the above calculations regarding the costs associated with cash into ATM operations. According BS2 Penki kontinentai group, the cost for provision of the cash is about 8%; costs of cash 9% and 9% are the calculated cost of interest rates.[1] According to the Simutis Rimvydas, Dilijonas Darius, Bastina Lidija, Friman Josif and Drobinov Pavel, some banks hold 40% more cash into their ATM devices than needed, while the amount of 15-20% according to the calculations of a number of experts would be quite sufficient. According to the research of these authors, the costs associated with the cash in ATM operations are ranging between 35-60% of total costs in this field of banking operations.**2)**

The costs associated with the cash of ATM operations largely depend on the level of interest rates in the national economy and the cost of deposit insurance. Regarding the costs of cash management, significant differences in the various commercial banks may arise depending on the prevalence of ATM networks of devices within the national economy. Commercial banks must conduct the transport of cash to fill the ATM devices from one location to another, which is a significant expense for the banks regardless of whether the banks in this area use their own resources or services by an external provider.

From the above we conclude that the cost of cash is undoubtedly a segment that should be given considerable attention in ATM operations. This section is particularly important for banks that have acceptance networks constituted by a large number of ATM devices. The sequel will be given the networks of ATM devices in Republic of Macedonia and existing approaches applied by commercial banks in the area of cash management.

2. EXISTING ATM NETWORKS AND COMMERCIAL BANKS APPROACHES FOR CASH MANAGEMENT IN THE MACEDONIAN MARKET

The networks of ATM devices on the Macedonian market show a tendency of continuous growth. Data on the movement of acceptance ATM networks can be seen through the payment reports published by the National Bank of Republic of Macedonia. A review of the movement in the number of ATM devices is summarized and presented through Table 1.

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2) Simutis Rimvydas, Dilijonas Darius, Bastina Lidija, Friman Josif, Drobinov Pavel, Optimization of Cash Management for ATM Network, ISSN 1392 – 124X INFORMATION TECHNOLOGY AND CONTROL, 2007, Vol.36, No.1A, p.117.

Table 1

Preview of the number of ATM devices installed on the Macedonian market 31.12.2005 - 31.12.2009.

Year	2005	2006	2007	2008	2009
Number of ATM devices at the end of period	157	297	529	761	832
The net increase in the number of installed devices	/	140	232	232	71
Growth rate - %	/	89.2	78.1	43.9	9.3

Source: National Bank of Republic of Macedonia, Reports of the usage of payment cards and number of devices on which they are used in the country, http://www.nbrm.gov.mk/?ItemID=20D183EF6CE94947A7A2274A89161B37 .

From Table 1, we can conclude that the number of ATM devices on the Macedonian market has already passed the period of its greatest expansion. In the following period, it could be expected that ATM network on Macedonian market will grow with significantly slower pace, compared with the previous period. A brief comparative analysis of the number of ATM devices in RM with EU economies is presented through Table 2.

Table 2

Comparison of the number of ATM terminals per million inhabitants in the Republic of Macedonia and certain members of the European Union [3)]

Country	Number of credit institutions*	Number of ATM terminals per million inhabitants
Macedonia	18	411
Bulgaria	30	667
Greece	66	692
Slovenia	24	848
Slovakia	26	416
Poland	712	356
Romania	43	431
Estonia	17	692
Czech Republic	54	327
Italy	818	914
Netherlands	302	526
Belgium	105	1,456
Germany	1,989	968
Spain	362	1,353
France	728	832
Hungary	197	460
Malta	23	395
Austria	803	916
Sweden	182	305
UK	391	1,047
EU 27	8,510	855

Source: National Bank of Macedonia, Report on Banking System and Banking Supervision of the Republic of Macedonia in 2009.

[3)] Excerpt from Annex 1 Comparison of the activity indicators of credit institutions in the Republic and certain countries of the European Union report on the banking system

From the comparative analysis presented by Table 2, it can be concluded that Macedonian banks for the purposes of 1 (one) million inhabitants set 411 devices. This number is quite close to the situation into the markets in many of these European economies. According to these data, is objective to be expected that the investments in ATM equipment into the Macedonian banking sector in the forthcoming period will be drastically reduced to a lower level compared with the last few years. On the other hand, the networks of ATM devices are large enough for banks to begin to create a strategy aimed for optimization of the costs in this segment of its work.

Currently the most commercial in Republic of Macedonia are projecting the cash needs of ATM their devices according on the movements of the indicators and historical trends of cash withdrawing. A key role in this part has the experience of banking experts and their use in current operations.

The historical demand model is overlaid with additional factors, such as paydays, holidays, and seasonal demand in a specific area. Analytical models are aligned with the experience of resources that have intimate knowledge of the banks daily operations. The bank experts know additional events that occur under certain conditions so their qualitative input could be reflected in the overall currency management plan. [4]

The historical cash demand for every ATM varies with time and is often overlaid non stationary behavior of users and with additional factors, such ad paydays, holidays, and seasonal demand in a specific area. Cash drawings are subject to trends and generally follow weekly, monthly and annual cycles. For example, people tend to draw relatively large sums of cash at the beginning of each month. Before Christmas, drawings rates soar, whereas in August, during the summer holidays, rates tend to drop considerably. ATMs that are located in shopping centers, for example, are most heaped on Fridays and Saturdays. Typical example for real ATM during three years time interval is presented in figure 2. **5)**

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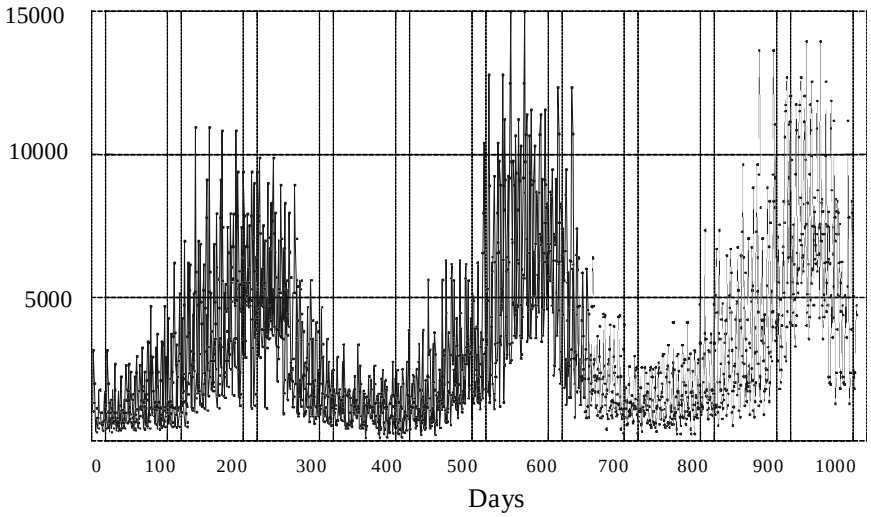
and banking supervision of the Republic of Macedonia in 2009, published by the National Bank of Macedonia, http://www.nbrm.gov.mk/default.asp?ItemID=3AE17B38DABA984DBA132A61DCD297E8_30.08.2010.

4) Simutis Rimvydas, Dilijonas Darius, Bastina Lidija, Friman Josif, Drobinov Pavel, ***Optimization of Cash Management for ATM Network***, ISSN 1392 – 124X INFORMATION TECHNOLOGY AND CONTROL, 2007, Vol.36, No.1A, p.118.

5) Rimvydas Simutis, Darius Dilijonas, Lidija Bastina, CASH DEMAND FORECASTING FOR ATM USING NEURAL NETWORKS AND SUPPORT VECTOR REGRESSION ALGORITHMS, International Conference, 20th EURO Mini Conference "Continuous Optimization and Knowledge-Based Technologies"(EurOPT-2008), May 20–23, 2008, Neringa, LITHUANIA, p.417.

Figure 2 Cash demand for real ATM during three years time interval



Source: Rimvydas Simutis, Darius Dilijonas, Lidija Bastina, CASH DEMAND FORECASTING FOR ATM USING NEURAL NETWORKS AND SUPPORT VECTOR REGRESSION ALGORITHMS. [6)]

It should be noted that most of the solutions for intelligent cash management, generate projections based on historical cash needs. Banks in Macedonia, in the area of surplus funds immobilized in ATM devices, fall within the global average of around 35-40%. However, it is necessary to note that experienced banking experts in certain commercial banks, can make measurements with greater precision, creating quality reports and advanced analysis. The following section will be referred to specific advanced solutions for predicting the need for cash at ATM devices and the benefits of their implementation for commercial banks in ATM operations on the Macedonian market.

3. SOLUTIONS FOR INTELLIGENT CASH MANAGEMENT IN ATM OPERATIONS AND EXPECTED EFFECTS OF THEIR IMPLEMENTATION FOR COMMERCIAL BANKS

There are a number of solutions that provide intelligent management of the amount of cash required to serve the users of ATM devices. The different solutions provide varying degrees of success in the realization of the projections in this domain.

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6) Rimvydas Simutis, Darius Dilijonas, Lidija Bastina, CASH DEMAND FORECASTING FOR ATM USING NEURAL NETWORKS AND SUPPORT VECTOR REGRESSION ALGORITHMS, International Conference, 20th EURO Mini Conference "Continuous Optimization and Knowledge-Based Technologies"(EurOPT-2008), May 20–23, 2008, Neringa, LITHUANIA, p.417.

A number of companies operating in this field, for realization of the projections of cash, offer different types of software solutions. Some of the most famous systems for cash management of ATM networks are provided by the following companies: iCom (Carreker Corporation), MorphisCM (Morphis, Inc), OptiCa$h (Transoft International), Pro Cash Analyzer (Wincor Nixdorf), Simutis et al,. etc. [7)]

Most modern solutions for intelligent management of ATM cash devices operate in order to provide a satisfactory level of quality to users of ATM services and reduce operational costs generated from ATM operations. Banks in this part have the choice between simple software solutions, advanced solutions based on artificial neural intelligence, or solutions based on vector regression etc. Almost all of the solutions for predicting the need for cash at ATM devices on commercial banks as a basis for calculating future demand for cash taken some historical values ??for shorter or longer period of time.

The optimization of operating costs within the solutions offered often despite projections of cash into account includes other costs in this part of banking operations: financial costs, transportation costs and cash management, etc...

Table 3

ATM cash management systems comparison [8)]

Feature/System*	PCA	OptiCash	iCom	Siemens	GTM Cash Master
Single CP (cash point)	Yes	Yes	Yes	Yes	Yes
Multiple location	Yes	Yes	No data	Yes	No data
Location	Yes	Yes	Yes	No data	Yes
Multiple CP as one location (single CP may run empty)	No	Yes	No data	No	No data
CIT route planning	No	No	No data	No	No data
Stamp and coupon Forecasting	No	Yes	No data	No data	No data
Considering weather forecast	No	No	No	No	No

Source: Retail banking optimization system based on multi-agents technology [9)]

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7) http://www.scribd.com/doc/18194999/Cash-Management-at-Atm_15.10.2010.

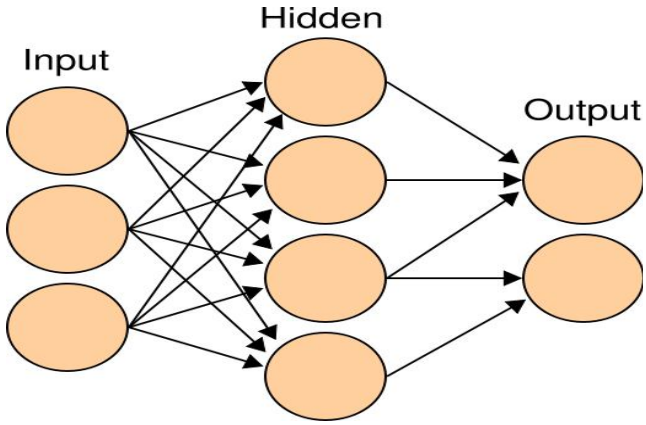
8) It should be pointed out that the evaluation of the solutions presented is not intended to favor / advertise any of the above solutions. It presents one of the possible ways of evaluating systems for intelligent management of cash. The presented solutions do not necessarily represent the latest version/cash management solution released from individual companies.

9) Bastina Lidija, Dilijonas Darius, Kaunas Faculty of Humanities, Vilnius University, LT-44280 Kaunas Lithuania, JSC"Penkiu kontinentu bankines technologijos", LT-08221 Vilnius Lithuania, 6th WSEAS Int., ***Retail banking optimization system based on multy-agents technology*** , Conference on Computational Intelligence, Man-Machine Systems and Cubernetics, Tenerife, Spain, December 14-16, 2007, p.205.

Some solutions have an integrated option for alarm breach of the security level to the level of individual ATM device. In Table 3 is presented one of the possible approaches for evaluation of different solutions for cash management based of an intelligent platform. Most of the solutions offered by different vendors, allowing saving rate of the costs connected to cash ranging between 20 and 40%. Certainly, in this area should be mentioned the improved quality of service and time saving management of employees. Many of the offered solutions have integrated automated procedures and controls for monitoring of the results of operation. Especially important in this part is the visibility of the decision and the possibility for easy management by the end users.

In recent years, many experts work on the field of designing and implementation of cash management solutions based on artificial intelligence. An artificial neural network (ANN) is a system based on the operation of biological neural networks, in other words, is an emulation of biological neural system.[10] Artificial Neural Networks are universal and highly flexible function approximors first used in pattern recognition, classification and time series forecasting (Haykin, 1999; Bishop, 2006,; Nrgaard and Norgaard, 2006)...[11] Through figure 3 is presented a typical example of the key parameters of the ANN.

Figure 3. An example of the principles of operation of the ANN



Source: http://glennwatson.net/wp-content/uploads/2010/06/560px-Artificial_neural_network.svg_.png.

[10] http://www.learnartificialneuralnetworks.com/_14.11.2010.

[11] Rimvydas Simutis, Darius Dilijonas, Lidija Bastina, CASH DEMAND FORECASTING FOR ATM USING NEURAL NETWORKS AND SUPPORT VECTOR REGRESSION ALGORITHMS, International Conference, 20th EURO Mini Conference "Continuous Optimization and Knowledge-Based Technologies"(EurOPT-2008), May 20–23, 2008, Neringa, LITHUANIA, p.417-418.

Neural network is a distributed information processing structure that is able to perform both linear and non-linear mappings for several difficult tasks, such as pattern recognition and adaptive control. Neural prediction of traffic pattern basically involves four stages. The first stage involves designing neural network architecture. Next is the generation of training data. The third stage is neural network training where it will adapt itself to the desired characteristic. The final stage is using the neural network to predict different data series and evaluate its performance. **12)**

Neural networks are noted for their ability to process large amounts of data quickly using a copious number of highly interconnected processors.**13)** The general idea behind the ANN is to allow the network to map the nonlinear relationships between various factors affecting the cash withdrawal and the actual cash demand. Once this relationship between inputs and outputs is identified, it gives the output variable-cash demand forecast using values of various input variables. One of the most important components in the success of neural network is the structure of the ANN and the data necessary to train the network. **14)**

Cost reduction via one of the solutions based on ANN, are presented through figure 4 and 5

Figure 4: ATMs network management costs

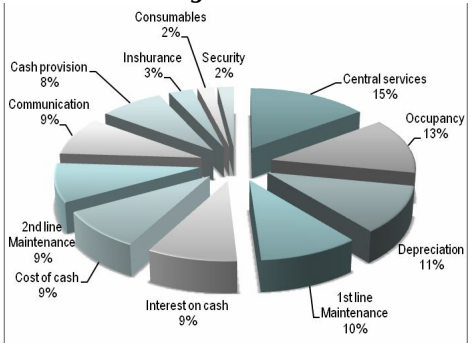
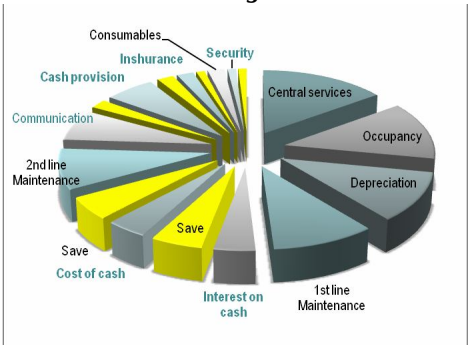


Figure 5: Cost reduction with Cash Management. *iQ*



Source: BS2 Penki continental group, ATM IQ, April 2010, p.13.

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12) Chow C.O., Noordin K.A, ***Neural Approach Self-Similar Traffic Prediction in ATM Networks***, Department of Electrical Engineering, Faculty of Engineering, university of Malaya, 50603 Kuala Lumpur, Malaysia, Georgian Electronic Scientific Journal: Computer Science and Telecommunications 2005, No.1 (5), p.28.

13) VIJAYAKUMAR Dr. R., SUSHAMA G., ***Neural Network Based Switching Models for VLSI Design of ATM Networks,*** Computer Science & Engg, N.S.S. College of Engg.,Palakkad, Kerala, India, May, 2009, p.387.

14) Rimvydas Simutis, Darius Dilijonas, Lidija Bastina, CASH DEMAND FORECASTING FOR ATM USING NEURAL NETWORKS AND SUPPORT VECTOR REGRESSION ALGORITHMS, International Conference, 20th EURO Mini Conference "Continuous Optimization and Knowledge-Based Technologies"(EurOPT-2008), May 20–23, 2008, Neringa, LITHUANIA,p.418.

According to the research and simulation created by BS2 Penki kontinentai group, ***ATM IQ***, the results showed that Cash Management.iQ allows keeping the average daily cash demands' forecasting error under 10%. In practice, the optimization procedure allows to decrease daily costs for ATMs network maintenance approximately **18% - 25%** based on present cost and expected cost optimization.[15)]

Software implementation of a neural network can be made with their advantages and disadvantages: [16)]

A) Advantages

a. A neural network can perform tasks that a linear program cannot.
b. When an element of the neural network fails, it can continue without any problem by their parallel nature.
c. A neural network learns and does not need to be reprogrammed.
d. It can be implemented in any application.
e. It can be implemented without any problem.

B) Disadvantages

a. The neural network needs training to operate.
b. The architecture of a neural network is different from the architecture of microprocessors therefore needs to be emulated.
c. Requires high processing time for large neural networks.

Most solutions for intelligent management of cash in ATM devices present on the global market, enabling more accurate rate of successful prediction of the cash needs of ATM devices in comparison with the analysis carried out by applying the historical model of projection by the banking experts. Part of the presented solutions can be applied on the Macedonian market whereby we should expect to be achieved substantial improvements.

4. POSSIBLE BARRIERS AND KEY ELEMENTS THAT SHOULD BE EVALUATED WITH THE INTRODUCTION OF CASH MANAGEMENT INTELLIGENT SOLUTIONS IN THE MACEDONIAN MARKET

The introduction of cash management solutions based on intelligent platform initiate evaluation of number of elements and potential barriers that may occur during the processes of evaluation, implementation and usage. The elements are generally common to all commercial banks. However, every segment must be adequately eval-

15) BS2 Penki kontinentai group, ATM IQ, April 2010, p.14.

16) http://www.learnartificialneuralnetworks.com/_14.11.2010.

uated by each commercial bank individually, depending on its position in this domain of operations.

The number of ATM devices is a key factor that should be taken into consideration during the evaluation of offered cash management solutions. Certainly, the cost of implementing of the chosen solution is viable only if the amount of savings 0allows exceeding the cost of an optimal time period. Here, we suggest that the banks that have ATM network constituted by smaller number of ATM devices, should review certain opportunities for internal development through creating number of reports for cash demand based on the historical events.

No less important factor that appears as a generator of the costs in ATM operations represents the amount of immobilized cash into each individual ATM device. Charging with higher amounts of cash is drastically increasing the expenditures for commercial banks. On the other hand, lower amounts of supplying of cash initiate more frequent need for service activities by the banks resource which generates additional costs of operations.

As part of the potential barriers in the process of evaluation, implementation and usage of solutions for management of cash based on intelligent platform, we can specify:

- The vendor of the cash management solution should have local establishment which will be able to provide adequate support and maintenance of the cash management solution;
- Compatibility of the cash management solution with the existing (core) banking infrastructure and banking system;
- Software platform and opportunities for further upgrading;
- Risks in the ATM operations and degree of autonomy of each individual bank in this domain;
- Degree of reliability of data exchange with external service provider;
- Inspect of the external service provider into the banking confidential data;
- Required knowledge and competence of the stuff in the commercial banks;
- Adaptation of the chosen solution to the specific characteristics of each individual cash point.

Optimal cash management and services availability is one of the most important factors in the ATM network services business. ATM software support companies implement computer-based tools for cash prognosis and cash loading routes planning of the ATM network both at a strategic level and for short-term optimization. Traditional ATM cash optimization and management software solutions are able to automatically create cash loading plans, describe or make prognosis on cash need, but cannot adequately handle unexpected events and produce the necessary plan deviations in real-time. In cases of last minute changes of cash withdrawals amounts or unexpected unavailability of ATMs due to technical or environment problems, break-

downs or accidents, static planning systems cannot be used, and human effort is needed to adapt the dispatch plans and control their execution, to make services available all the time. This is because these planning systems are designed for relatively stable and not overly complex ATM networks. [17)]

The development of a model for projecting cash needs of a complex procedure, because it must take into account changes in customer behavior and the various input parameters. Based on the model for predicting the need for cash, the optimization procedure determines the optimal amount of cash for each individual ATM device through the calculation of costs of transport and charge the device versus the costs arising from interest rates. [18)]

Cash management system has to guarantee the avail-ability of cash in the ATMs network, should estimate optimal amount of stocked money plus efficiently ma-nage and control day-to-day cash handling, transportation with reducing of currency transportation and servicing costs. The system should be flexible enough to allow the bank to re-forecast future demand, perform WHAT – IF analyses, and optimize the network as the cash distribution environment evolves.[19)]

However, according to the author of this paper, the possible solutions that could be implemented on the Macedonian market don't have to be based on the most sophisticated platform. According to the author, the banks are essential to perform calculations of the period required for return on investment, their own capacity/opportunities for implementation of the solutions and adequate management of the resources. The author believes that the degree of deviation that may arise as a result of non-standard movements should be considered as tolerant or risk in the cost of managing this risk and in any case must not exceed the benefits of such management.

Conclusion

The costs associated with the cash immobilized in ATM devices and dependent costs associated with cash used into ATM operations, undoubtedly represent a segment that should be followed by substantial degree of attention in order to optimization of the costs for the commercial banks. The degree of costs optimization in this area of

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17) Bastina Lidija, Dilijonas Darius, Kaunas Faculty of Humanities, Vilnius University, LT-44280 Kaunas Lithuania, JSC"Penkiu kontinentu bankines technologijos", LT-08221 Vilnius Lithuania, 6th WSEAS Int., ***Retail banking optimization system based on multy-agents technology*** , Conference on Computational Intelligence, Man-Machine Systems and Cubernetics, Tenerife, Spain, December 14-16, 2007, p.206.

18) http://www.scribd.com/doc/18194999/Cash-Management-at-Atm_15.10.2010.

19) Simutis Rimvydas, Dilijonas Darius, Bastina Lidija, Friman Josif, Drobinov Pavel, ***Optimization of Cash Management for ATM Network***, ISSN 1392 – 124X INFORMATION TECHNOLOGY AND CONTROL, 2007, Vol.36, No.1A,, p.118.

operations is particularly important in periods when the market price of the interest rate is high and/or the sources of financing of the banking operations are expensive.

ATM network devices on the Macedonian market are quite developed, so the implementations of intelligent solutions for cash management are appropriate direction to which the banking sector should be focused in the period ahead. Additionally, the rates of borrowing in the market in recent years have been extremely high, while the ability to increase revenues in the payment card operations are quite limited due to limited market.

Technological solutions for intelligent management of cash, offered by various renowned companies operating on the global market, present a satisfactory degree of accuracy in predicting the required level of resources for continuous handling of cash, for the users of ATM devices. Many of the offered solutions, in addition to optimizing the required amount of cash, have also integrated a number of additional functionalities as: security parameters that provide opportunities for raising the level of safety in ATM operations, functionalities into the field of improving the quality of services, management tools that allow adequate control during the management activities and better time management, integrated automated procedures, controls and systems for monitoring of the results.

Before choosing a cash management solution, is particularly important for the bank to evaluate all of the solutions offered in the market and the degree of their accuracy in prediction, and the opportunities for implementation and maintenance of appropriate systems. The banks must perform an adequate evaluation of potential barriers before and after the introduction of the cash management solution. Especially important parameters that should be taken into consideration by the commercial banks are solutions visibility and there simplicity for management by the end users.

Banks must balance between the expenditures necessary to provide a solution for cash management and the amount of cost savings for immobilized cash. The advantages of introducing a solution for cash management on intelligent platform would have a real positive effect in the bank ATM operations only if revenues exceed the costs of implementation and maintenance of the systems. Otherwise, commercial banks should continue to operate on the basis of traditional historical models for projections of cash needs based on the expertise of banking experts.

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