

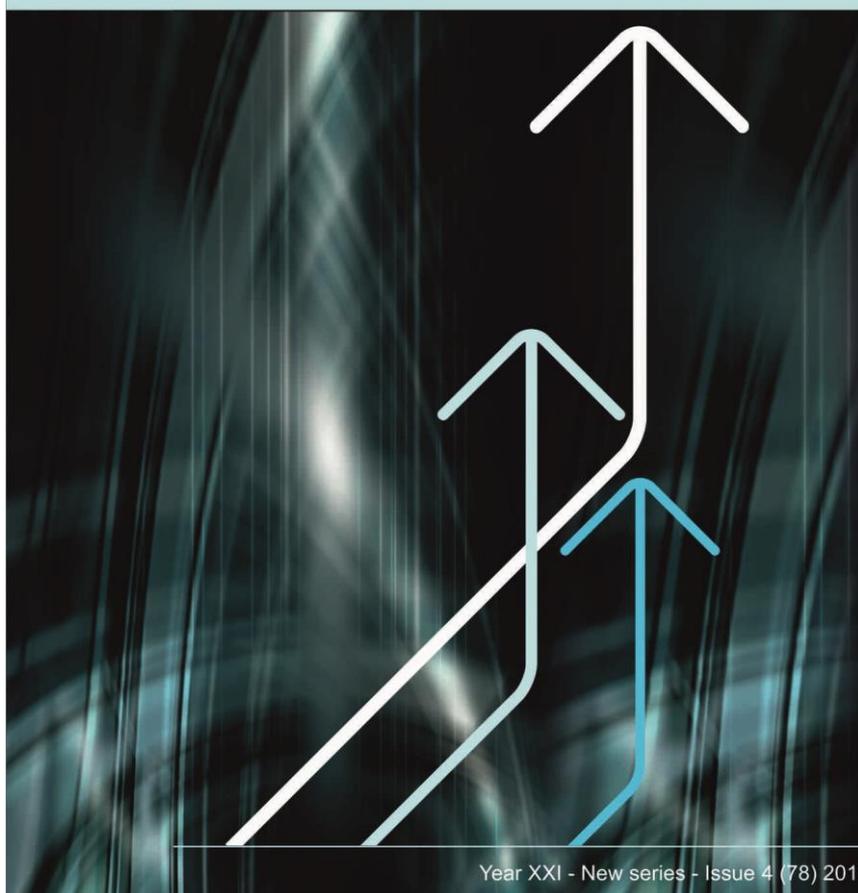


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"Costin C. Kirițescu" National Institute for Economic Research

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# Financial Studies



Year XXI - New series - Issue 4 (78) 2017

“VICTOR SLĂVESCU” CENTRE FOR FINANCIAL  
AND MONETARY RESEARCH

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**FINANCIAL STUDIES**



ROMANIAN ACADEMY  
“COSTIN C. KIRIȚESCU” NATIONAL INSTITUTE FOR  
ECONOMIC RESEARCH  
“VICTOR SLĂVESCU” CENTRE FOR FINANCIAL AND  
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## **A NOTE ON THE RELATIONSHIP LINKING REMITTANCES AND FINANCIAL DEVELOPMENT IN PAKISTAN**

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**Adnan KHURSHID, PhD\***  
**Yin KEDONG, PhD\*\***  
**Adrian Cantemir CĂLIN, PhD\*\*\***  
**Oana Cristina POPOVICI, PhD\*\*\*\***

### **Abstract**

We study the relationship among remittances, financial development and growth using the system GMM, full sample Granger causality test and the sub-sample rolling window estimation approach for the case of Pakistan. This paper uses annual and monthly series that cover the 1992 to 2015 interval. The results of the System GMM reveal that remittances negatively affect financial development and growth in the cases in which they are not directed towards investments. In theory, remittances stabilize financial institutions and accelerate the growth process. The full-sample causality results find a unidirectional causal relationship running from financial development to remittances. The parameter stability test hints at evidence of the presence of structural changes. Therefore, this investigation relied on a bootstrap subsample rolling window causality approach that has the unique characteristic of identifying time variation in the sub-sample data. Moreover, the rolling sum of coefficients exhibits the magnitude and direction of the causal relationship. The results of the dynamic sub-sample causality approach show that there is a bidirectional causal relation between remittances and financial development. This sub-sample is correlated with relevant economic occurrences, fact that demonstrates that the results are not a simple statistical artefact.

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\* *College of Economics, Department of Finance, Ocean University of China, Qingdao 266100, China.*

\*\* *College of Economics, Department of Finance, Ocean University of China, Qingdao 266100, China.*

\*\*\* *Institute for Economic Forecasting, Romanian Academy, Romania.*

\*\*\*\* *Institute for Economic Forecasting, Romanian Academy, Romania.*

**Keywords:** Remittances, Financial development, Bootstrap rolling window, Granger Causality.

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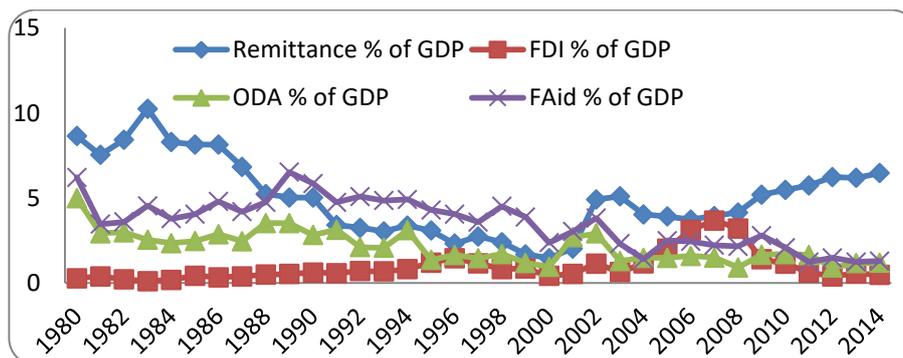
### 1. Introduction

Remittances represent the largest source of external capital, both in absolute terms and as a share of GDP in Pakistan. The flow of remittances can affect financial institutions, especially the banking sector, within the recipient economy. The formal flow through financial institutions increases the demand for financial products and enhances access to other financial services that might not exist otherwise (Orozco and Fedewa, (2007)).

It has been shown that remittances have a positive impact on the development of the credit market and on financial deepening and widening (Amuedo-Dorantes and Pozo, (2006)). Demirgüç-Kunt et al. (2011) state that financial institutions are more willing to give credit to remittances-receiving households, due to the fact that these cash flows represent a stable income source. Moreover, remittances represent cash flows that can be used by financial institutions in other credit-granting operations. In this light, it can be stated that remittances do not only affect receiving households, but also have an impact on the community or region.

**Figure 1**

**Capital inflow to Pakistan (Percentage of GDP)**



Source: Authors' computation on World Bank data

The flow of remittances is also associated with several macroeconomic challenges, despite the above mentioned benefits. At least technically, the remittances recipients go smoother over financial constraints, fact which in the long run reduces credit demand. In addition to this, the increase of remittances can appreciate the exchange rate, and this in turn will affect competitiveness in international markets (Khurshid et al. (2017)).

During the 90s Pakistan experienced a series of reforms oriented especially to the privatization of industrial units and liberalization of the exchange rate which allowed residents to hold foreign currency accounts. Given tax and *Zakat*<sup>1</sup> exemptions, the deposits in foreign currency quickly picked up, exceeding \$1 billion in March 1992. The flow of credit to the domestic sectors expanded to 17.8 percent, which boosted the private fix investment up to 24.8 percent. Despite this fact, the period was market by a marginal expansion of remittances. In the 1997 - 1998 period, the financial sector witnessed a negative dynamics, influenced mainly by the East Asia economic crisis, political and constitutional turmoil and a series of economic sanctions imposed by the international financial institutions.

After 2000, the Pakistan economy recovered and foreign exchange reserves amounted to \$10 billion. In the 2003 to 2007 interval, it experienced a tremendous growth and was included in the Goldman Sachs Global Economics Group as one of the next N-11. This growth encouraged remitters, and their flows reached \$6 billion in 2008 fact that prompted the formation of a national agency called the Pakistan Remittance Initiative.

Due to the stability of the foreign exchange reserves and an exceptional increase in remittances, the economic performance was satisfactory in 2013 – 2014. The money supply decreased, but CPI increased by 1% compared to the same period of the previous year. With 13 percent growth, Pakistan was ranked the 7<sup>th</sup> in terms of the highest remittance recipient by the World Bank. A moderate appreciation of the national currency translated in a shallow increase in exports.

In the 2014 – 2015 year, the economy of Pakistan was confronted with many challenges. These culminated with a series of floods that affected infrastructure and damaged the major crops that

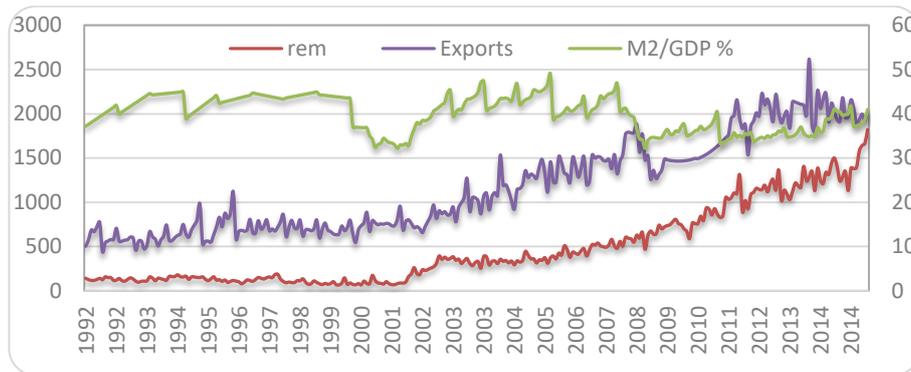
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<sup>1</sup> *A specific form of religious tax obligation.*

shattered the investor's confidence. During the first six months of 2015, the average M2/GDP ratio was slightly less than the value for the precedent year. The appreciation of the domestic currency along with the energy crisis decreased Pakistan's ranking in the Global Competitiveness Index from 128<sup>th</sup> to 129<sup>th</sup> in 2014-15. Despite this fact, remittances kept growing at a steady pace reaching \$17.26 billion in 2015. Figure 1 and Figure 2 depict the dynamics for the main variables mentioned above.

**Figure 2**

**Monthly trends of financial development, exports and remittances**



Source: Authors' computation

By considering the existing literature, we notice that little interest has been oriented to the relation between worker remittances and financial development, especially in the case of Pakistan. This study aims to fill this gap in two major ways. Firstly, in order to overcome the data limitation specific to remittances series, we use a new measure to calculate the variable by adding "worker remittances", "migrant transfers" and "compensation of employees".

Secondly, this study offers a procedure aiming to overcome inadvertences deriving from the effects of structural changes. This procedure allows for the analysis of the causal link between the international inflow of remittances and financial development and subsequently growth for the Pakistan economy.

We notice that remittances negatively affect financial development and growth when used for other purposes than investments and document some more on the causality.

The remainder of this paper is organized in the following way. Section two deals with a brief literature review. Section three covers data and methodology, and Section four presents the empirical results. Section five concludes.

## **2. Literature Review**

There is an abundant literature that covers the various effects induced by remittances on growth, relevant results being presented for example in: Giuliano and Ruiz – Arranz (2009), Fayissa and Nsiah (2008), Ratha (2013) or Meyer and Shera (2016). Despite this fact, the literature linking remittances and financial development is limited, especially for the case of Pakistan.

Mundaca (2009) reports that remittances and financial development can represent different solutions for the same scenario. The author notices that remittances have a fundamental role in financial development and growth. Aggarwal et al. (2011) conduct a study on 109 countries focusing on the 1975 – 2007 period. The authors find that there is a positive and strong link between remittances and financial development.

Nyamongo et al. (2012) focus also on the problem of remittances, financial development and growth for the case of 36 African countries. The study shows that remittances represent a relevant source of growth for the states included in the analysis. In addition to this, the volatility of remittances is considered to have a negative influence on growth as these cash flows are a solid complement to financial development.

On the opposite spectrum, Acosta et al. (2010) employ a GMM technique in order to measure the impact of remittances and financial development on the exchange rate. The results suggest that remittances appreciate the exchange rate and induce negative effects on the financial system. On the same line, in a panel study of 138 countries, Brown et al. (2011) find out that worker remittances have a negative impact on financial development.

Amjad (1986) conducted a study on the uses of remittance by using survey data for the case of Pakistan. The study shows that a significant portion of remittances is oriented towards aggregate consumption and another segment towards small-scale investments. Burney (1987) finds that remittances from the Middle East help in reducing the current account deficit, lowering debt and the additional

loans problem. One conclusion is that they have a positive impact on the growth of Pakistan. Khurshid et al. (2017) find that remittances depreciate the exchange rate in Pakistan and boost exports. In another investigation, Khurshid et al. (2016) explain that the remittances inflow is not responsible for inflation in Pakistan.

Rana and Faria (2016) conduct a panel study of five south Asian countries (including Pakistan) by using ECM and OLS approach. The results reveal that remittances have a positive and significant impact on the financial development for the case of Pakistan.

Ghumro and Karim (2017) test for short-run and long-run impact of remittances on monetary aggregates in an ARDL approach. The authors conclude that remittances are in general used for the purpose of consumption.

### 3. Data and Methodology

This study uses both monthly and annual data series ranging from January 1992 to June 2015. This time frame is relevant as it witness different political and economic events as those mentioned in the introductory section. To overcome data limitation problems, the methodology uses a remittance series constructed in the fashion of Khurshid et al. (2016).

The data have been collected from the Bureau of Immigration and Overseas employment<sup>2</sup>, and from the State Bank of Pakistan<sup>3</sup>.

In previous literature (Chowdhury (2011), Aggarwal et al. (2006), or Gupta et al. (2009)) private domestic deposits, bank credit and the M2 ratio of GDP are considered as proxies for financial development (hereafter FD). This study focuses on last variable as it captures the entire range of the financial sector. The other explanatory variables include: Capital Market Development (*CMD*), Trade Openness (*TOPN*), Real Interest Rate (*RIR*), Gross domestic product (*GDP*), Financial depth (*DEPTH*), Economic policies (*RQ*), Economic Crises 2008 (*EC08*) and Economic and trade restrictions (*ETR98*) of 1998.

Our approach uses two proxy variables,  $(REM * GS)_{it-1}$  and  $(Rem * STBTY)_{it}$ , that show the way in which remittances affect

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<sup>2</sup> For further details visit Bureau of immigration and overseas employment website URL: [www.beoe.gov.pk/](http://www.beoe.gov.pk/)

<sup>3</sup> For further reading visit URL: [www.sbp.org.pk](http://www.sbp.org.pk)

financial development and growth if they are used for saving and financial institution development. All original data are transformed into natural logarithms to overcome potential heteroscedasticity and dimensional difference problems.

The System Generalized Method of Moment approach proposed by the Arellano and Bover (1995) is used to examine the empirical relationship among our variables. This relation is governed by the following equation:

$$FD_{it} = \alpha_0 + \alpha_1 FD_{i,t-1} + \alpha_2 REM_{it} + \alpha_3 (REM * GS)_{it-1} + \alpha_4 (Rem * STBTY)_{it-1} + \alpha_5 X_{it} + \varepsilon_{it} \quad (1)$$

where:

$FD_{i,t-1}$  is the lag value of FD;

$REM_{it}$  represents remittances;

$(REM * GS)_{it-1}$  stands for saving due to remittances in the previous period;

$(Rem * STBTY)_{it}$  determines the stability of institutions due to remittances inflow

In equation (1),  $X_{it}$  is the illustration of the explanatory variables described above: Capital Market Development (CMD), Trade Openness (TOPN), Real Interest Rate (RIR), Gross domestic product (GDP), Financial Depth (DEPTH), Economic Policies (RQ), Economic Crises 2008 (*EC08*) and Economic and Trade Restrictions (*ETR98*) of 1998.

The relationship between remittances and growth is tested using the following equation:

$$GDP_{it} = \alpha_0 + \alpha_1 GDP_{i,t-1} + \alpha_2 REM_{it} + \alpha_3 FD_{it} + \alpha_4 RQ_{it} + \alpha_5 X_{it} + \varepsilon_{it} \quad (2)$$

Where:

$\alpha_1$  is the coefficient of last period's growth;

$\alpha_2$  stands for remittances and;

$\alpha_4$  characterizes the impact of economic policies on economic growth.

The others variables from the regression are the same as above. The results of these equations are presented in Table 1.

This study treats Granger non-causality on the basis of its predictive capability. Therefore Granger non-causality is regarded as the manner in which the available information on a variable can

improve the prediction of another. This test is performed in the VAR frameworks by using Wald test, likelihood Ratio (LR) and Lagrange Multiplier (LM) statistics, which work under the assumption that the data set is stationary and has no asymptotic distribution.

This study uses the residual based modified LR statistics in order to find the causal relationship between remittances and financial development for the case of Pakistan. Our approach follows the next bivariate VAR (p) process to show the bootstrap modified LR Granger causality:

$$y_t = \phi_0 + \phi_1 y_{t-1} + \dots + \phi_p y_{t-p} + \varepsilon_t \quad (3)$$

In our approach  $y_t$  is divided into sub-vectors, one standing for remittances and the other for financial development. Rearranging the above equation, we obtain:

$$\begin{bmatrix} REM_{1t} \\ FD_{2t} \end{bmatrix} = \begin{bmatrix} \phi_{10} \\ \phi_{20} \end{bmatrix} + \begin{bmatrix} \phi_{11}(L)\phi_{12}(L) \\ \phi_{21}(L)\phi_{22}(L) \end{bmatrix} \begin{bmatrix} REM_{1t} \\ FD_{2t} \end{bmatrix} + \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \end{bmatrix} \quad (4)$$

Where

$$\phi_{ij}(L) = \sum_{k=1}^{p+1} \phi_{ij,k} L^k$$

And the lag operator L is given by:

$$L^k x_t = x_{t-k}$$

In the light of equation (4) the null hypothesis that remittances do not Granger cause financial development is tested under these restrictions:  $\phi_{12,k} = 0$ , for  $k = 1, 2, \dots, p$ . Similarly, while testing for the financial development, the following restrictions apply:  $\phi_{21,k} = 0$ , for  $k = 1, 2, \dots, p$ .

The full-sample causality test is thus based on  $p$ -values and modified-LR statistics. If the first hypothesis is rejected we can detect a significant causality running from remittances to financial development. In the same way, if the second null hypothesis is rejected we can assert that financial development is caused by the dynamics of remittances.

Standard Granger non-causality test assumes that the parameter of the VAR model remains constant over the time. The presence of a structural change in full-sample series violates this

assumption. To address the parameter non-constancy and the structural change problem, this empirical study is using rolling window Granger causality and the rolling bootstrap estimation test.

In order to examine the short run parameter stability, Andrews (1993) and Andrews and Ploberger (1994) used the *Sup-F*, *Mean-F* and *Exp-F* tests. In this study, the above-mentioned tests are empirically examined from the sequence of LR statistics. The parameter constancy is checked in full-sample against one-time structural change at each possible point of time.

Furthermore, Andrews (1993) proposed that a 15% trimming is required for the sample while performing *Sup-F*, *Mean-F*, and *Exp-F*. So, under these guidelines, these tests are performed on the friction of the sample (0.15, 0.85). With respect to the  $L_c$  tests, by applying FM-OLS estimator, they are separately calculated in this study for VAR system and equations.

Structural changes bring instability to the modeling framework. In order to evade parameter non-constancy and pre-test bias problem, this study is using a rolling window subsample Granger causality test which is based on the modified bootstrap estimation. This technique is built on fixed size sub-samples rolling one after the other from the beginning to the end of the sample (Balcilar et al., (2010)). In other words, the rolling window having  $n$  observation and the full-sample is transformed into an order of  $T-n$  sub-samples that is  $\tau-n+1, \tau-n, \dots, T$  for  $\tau = n, n+1, \dots, T$ .

All sub-samples in this study are tested using the RB based modified LR causality test. The variations in the causal relationship between the two series (remittances and financial development) are estimated by calculating bootstrap  $p$ -values of the observed LR - statistic rolling through  $T-n$  sub-samples.

The effect of remittances on financial development is defined as the average of the total bootstrap estimates. The values are calculated from  $N_b^{-1} \sum_{k=1}^p \hat{\phi}_{21,k}^*$ , where  $N_b$  is a representation of bootstrap repetitions. Similarly, the impact of financial development on remittances is computed from  $N_b^{-1} \sum_{k=1}^p \hat{\phi}_{12,k}^*$ .

$\hat{\phi}_{21,k}^*$  and  $\hat{\phi}_{12,k}^*$  represent bootstrap estimates from the VAR models in Equation (2).

In the rolling window estimation approach the size of the window represents a prerequisite. In this study, we tried window sizes

between 20 and 50 (*results available on request*) and observed that the outcomes are not very sensitive in this range. So, due to this reason, the outcomes with the 24-window size have been reported.

#### 4. Results

The results for remittances, financial development and growth are reported in Table 1. Remittances are not contributing both in the financial development and growth. If they are used for saving purposes they can positively affect the financial sector and potential changes in the institutional development can ultimately lead to growth.

**Table 1**  
**Remittances, financial development and growth results**

Variables	Financial Development			Growth		
	Coeff.	[95% Conf. Interval]		Coeff.	[95% Conf. Interval]	
FD(-1)	0.745**	0.0091	1.4804			
GDP(-1)				0.966***	0.4139	1.5179
Remittances (REM)	-2.597**	-6.4023	0.2090	-0.268	-2.0934	1.5570
Financial Development (FD)				0.062*	-0.0521	0.1761
Capital Market Development (CMD)	0.437	-2.1477	3.0222	1.137**	-2.3290	0.0544
Trade Openness (TOPN)				0.484***	-0.8521	-0.1163
Real Interest Rate (RIR)	0.324	-0.2937	0.9409	-0.154**	-0.3094	0.0011
Gross domestic product (GDP)	0.610	-1.8755	0.6556			
REM*GS	0.276***	0.0642	0.4885			
REM*STBTY				3.509	-7.5563	14.5738
DEPTH	1.149**	0.1674	2.1297			
Institutions Stability (STBTY)	0.243	1.1899	1.6758			
Economic Policies (RQ)	0.151*	-0.2040	0.5062	-0.090*	-0.2010	0.0220

Variables	Financial Development			Growth		
	Coeff.	[95% Conf. Interval]		Coeff.	[95% Conf. Interval]	
Economic Crises (EC08)	0.786	-7.1145	8.6867	-1.478	-4.5542	1.5989
Economic and Trade restrictions (ETR98)				-1.716	-1.7540	5.1856
C	-27.789**	-76.7467	21.1689	18.369**	3.5020	33.2354
AR(2)	0.268			0.451		
Hansen	0.141			0.182		

*Source: Authors' computation*

The analysis starts with checking for stationarity. Using the ADF, Phillips Perron, and KPSS tests we conclude that both series are first order integrated (I(1)). To find the causal relationship between the said series, firstly, we need to find the lag structure of the bivariate VAR model. This study uses Akaike Information criteria (AIC) for optimal selection of lag length. The lag length selection criteria selected three lags for our bivariate model.

The bootstrap full sample Granger causality test results are presented in Table 2. The values of the test accepted the null hypothesis at 10 percent, asserting that the remittance variable (REM) does not Granger cause financial development. On the other hand, the results fail to accept the null hypothesis that financial development variable (FD) does not Granger cause worker remittances. The results point out to a unidirectional causality between the two series. Furthermore, the outcomes suggest that only financial development has the predicting power to explain worker remittances.

**Table 2**

**Granger causality tests (Full Sample)**

Tests	H <sub>0</sub> : REM does not Granger Cause FD		H <sub>0</sub> : FD does not Granger Cause REM	
	Statistics	p-values	Statistics	p-values
Bootstrap LR Test	1.95698	0.1207	4.28423	0.0056

*Source: Authors' computation*

The results of full sample Granger's causality test will be stable and reliable only if the parameter estimate remains stable over the full sample period. In other words, an unstable parameter estimate will lead to unreliable results. In the absence of the structural change problem, there exists a single causal relationship across the whole sample period (Balcilar et al., (2013)).

The parameter constancy tests are used to examine the stability of the coefficients of the VAR model formed by remittances and financial development. The parameter constancy test results of both series and VAR system along with its  $p$ -values are presented in Table 3. The  $p$ -values are obtained from a bootstrap approximation to the null distribution of the test statistics, by Monte Carlo simulation using 1,000 samples generated from a VAR model with constant parameters. The *Sup-F* is tested under the null hypothesis of parameter consistency against a one-time sharp shift and the results are presented in Table 3. The outcomes reject the null hypothesis of parameter consistency and accepted otherwise that one-time sharp shift exists in remittances, financial development and in the VAR system at 10 percent. The results of the *Mean-F* test suggested that a VAR system accepted the null hypothesis of parameter consistency, while a one-time sharp shift exists. According to *Exp-F* results, none of the series follows a martingale process and show presences of the one-time sharp shift which mean they evolved gradually with time. The *Lc* test gives an indication that the overall VAR model is not stable in the short run.

**Table 3**

**Parameter Stability Tests**

	REM Equation		FD Equation		VAR(1) System	
	Statistics	Bootstrap $p$ -value	Statistics	Bootstrap $p$ -value	Statistics	Bootstrap $p$ -value
<i>Sup-F</i>	12.3761835	0.09014572	17.5577885	0.010784339	18.4069798	0.08549586
<i>Mean-F</i>	5.4732111	0.07866795	10.3338158	0.002097883	8.4672007	0.13419011
<i>Exp-F</i>	3.9774256	0.06543715	6.6224891	0.006921066	6.4998461	0.07064835
$L_c^b$					1.9148560	0.02176883

Source: Authors' computation

We estimate the cointegration equation linking remittances and financial development by the following expression:

$$REM_t = \beta + \beta_1 FD_t + \varepsilon_t \quad (5)$$

The parameters of equation (5) are observed with the help of the FM-OLS estimator. The results of this test are provided in Table 4. We clearly notice that the Lc test fails to reject the null hypothesis of parameter stability.

In addition to this, the Sup-F test accepted the null hypothesis of parameter stability. Moreover, the Mean-F, Exp-F tests accepted the null hypothesis of the unchanging parameters in the cointegration equation. This conclusion points to the fact that both series are following a martingale process. Still we notice the fact that the long-run relationship between financial development and remittance holds.

**Table 4**  
**Parameter Stability Tests (FM-OLS)**

	<i>Sup-F</i>	<i>Mean-F</i>	<i>Exp-F</i>	<i>L<sub>c</sub></i>
<b>REM = <math>\alpha + \beta \cdot FD</math></b>	2.86713802	1.24621947	0.69073879	0.30339499
Bootstrap <i>p</i> -value	0.9078100	0.6673138	0.7213874	0.4767720

*Source: Authors' computation using 1000 bootstrap repetitions.*

The results shown in tables 3 and 4 indicate the presence of structural changes that add instability to various sub-sample periods. This problem is dealt with by using a rolling window regression methodology that aims to capture sub-sample causality between remittance and financial development. For this purpose this study uses the *RB* bootstrap-based modified-*LR* causality test adapted for a rolling window of 30 observations that considers as null hypothesis the fact that remittances do not Granger cause financial development.

The bootstrap *p*-values of LR-statistics are estimated from the VAR model (equation 4) with rolling window sub-sample data of size 24. The rolling window procedure starts with a fixed window size and updates it by deleting the first observation. The selection of the window size is very important because it gives the rolling estimate. This study selected the rolling window size in such a way to keep both precision and representativeness of the parameters.

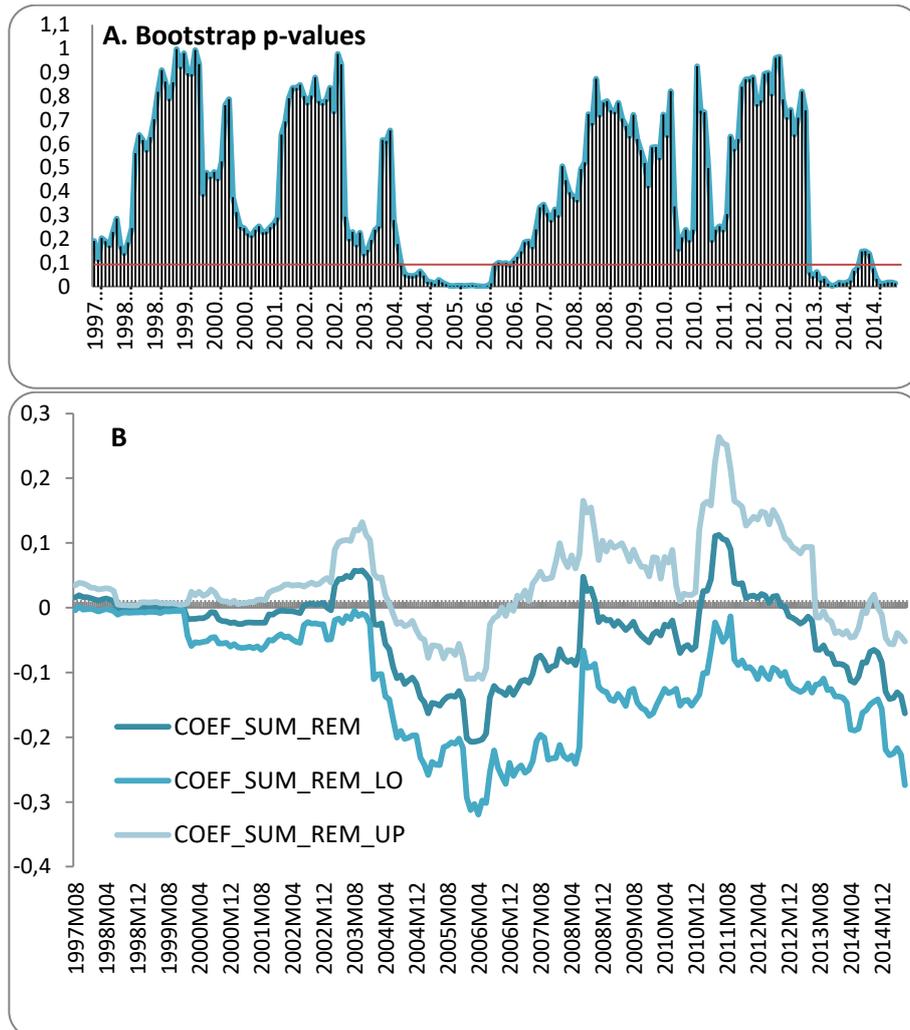
Figure 3 (A) depicts the bootstrap  $p$ -values of a rolling test under the null hypothesis that remittances do not cause financial development. Considering a 10 percent significance level, the result presented in the above mentioned figure show the magnitude and period during which the causality occurs. Figure 3 (B) exhibits the sign of causality along with the estimated sum of rolling window coefficient. In other words, it shows if the causal relation between remittance and financial development is positive or negative. According to empirical evidence, the null hypothesis is rejected at 10 percent during 3 sub-sample periods 2004/6-2006/11, 2013/9-2014/8 and 2014/12-2015/06.

The results reported in Figure 3 (B) demonstrate that during all the three sub-sample periods remittances had a negative impact on financial development. This is synonymous with the economic situation observed in Pakistan.

In the 2004/6-2006/11 interval, the net exports contributed negatively due to the appreciation of the exchange rate in conjunction with an oil price shock. This translated into an adverse effect on domestic prices which prompted an intervention from the State Bank consisting in a tighter monetary policy. Though remittances exceeded 5 billions and were successful in reducing the external debt from 29 to 27.1%, social inequalities were more than visible in this period.

The second interval singled-out above corresponds to the post-crisis period. During the years of financial turmoil, in terms of the global financial development index, Pakistan lost 3 points moving from 58 to 62. In the 2013 – 2014 period the monetary authority shifted the policy stance from accommodating to a tighter approach that decreased the money supply from 10 to 7%.

**Figure 3**  
**Rolling Window estimation results from remittance to financial development**



Source: Authors' computation.

Note: These graphs are obtained by using EVIEWS software (A) The Bootstrap p-values for testing the null hypothesis that remittance doesn't Granger cause financial development. (B) The Bootstrap estimate of the sum of coefficients.

During the causality period, 2013/9-2014/8 and 2014/12-2015/06 the remittances inflow was at its top. In the fiscal year 2013-14 the remittances inflow was recorded at \$15.8 billion and with the 16.5% growth, it reached to \$18.4 billion (State bank of Pakistan, July 2015).

In 2013/14, the economy witnessed a 5.7% decline in the collective profit of the five leading banks in the country. This was due mainly to a slowdown in credit growth and rising inflation. Several other studies report similar results for this specific period, good examples being Makhoulouf and Mughal (2013) and Hassan and Holmes (2013).

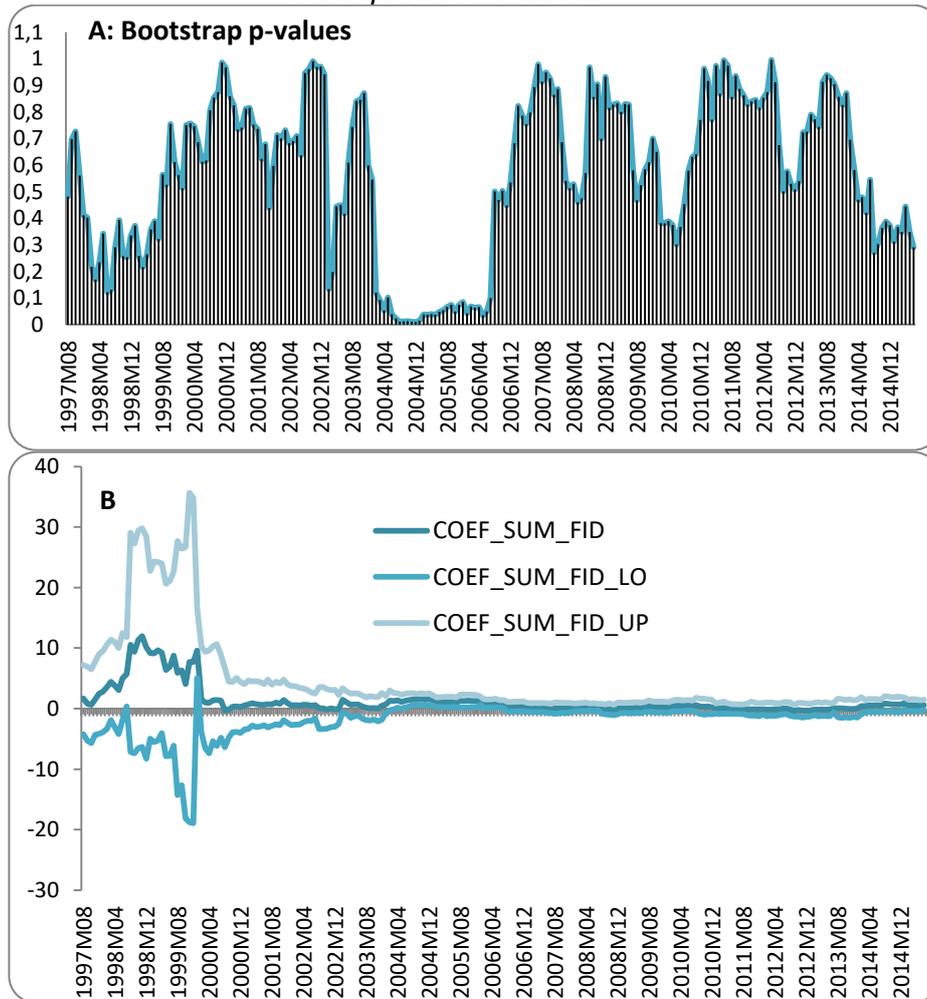
The trade sector suffered from the appreciation of the national currency and from a series of energy shortages. In 2014, Pakistan's delicate financial situation was reflected in areas such as Financial Institutions Index, Financial Development Index and Financial Markets Index, which ranked the country at 128, 108 and respectively 72. The political and economic instability shattered investor confidence and this led to a fraction of foreign investment of 0.5% of GDP. In the same line, in the Global Competitiveness Index, Pakistan was downgraded from 128<sup>th</sup> to 129<sup>th</sup>. The results exhibit the presence of the phenomenon called "the Dutch Disease" during the causality intervals.

In order to cast a clear verdict on the sub-sample causality between financial development and remittances, this study employed the RB bootstrap-based modified-LR causality test estimated from VAR (1) fitted to a rolling window of 30 observations. This test is performed under the null hypothesis that financial development does not Granger cause remittances. The bootstrap *p*-values are shown in Figure 4 (A). At 10 percent significance, financial development has the predicting power to explain remittances during one sub-sample period ranging from 2003/04 to 2006/07. The results from figure 4 (B) reveal that financial development is positively causing remittances.

After the recession of early 2000, Pakistan economy regained a favorable pace and reached a GDP growth of 6.4% in 2004. The growth in the agricultural sector, accompanied by an industrial boom and a sharp increase in the construction sector, uplifted the per capita income from \$657 to \$756 dollars.

The foreign exchange reserves amounted to \$10 billion. This growth was fostered by a monetary approach that maintained the real interest rate at a negative value.

Figure 4. Rolling Window estimation results from financial development to remittances



Source: Authors' computation

In this period, the international debt was settled and the government announced that IMF assistance was no longer required. The broad money growth was estimated as 14.5 percent due to the higher rate of credit disbursement to the private sector. In the same period, the banking sector witnessed a growth from 21% to 36% in deposits. The financial system suffered serious upgrades do to the

privatization of state owned banks and other institutions, new regulations regarding transaction and transfer costs and amendments in commercial banking. In the period between 2004 and 2007, Pakistan's economy experienced a fulminant growth and was included in 2005 in the Goldman Sachs Global Economics Group as one of the next N-11.

To sum up, our investigation provides evidence that there is a bi-directional causality between remittances and financial development. Moreover, we notice that the sub-period causality was linked with domestic or international economic events.

### **5. Conclusions**

This study examines the relationship among remittances, financial development and growth using the system GMM, full sample Granger causality test and sub-sample rolling window estimation approach for the case of Pakistan.

Our approach used annual and monthly series covering the period ranging from 1992 to 2015. We notice that remittances negatively affect financial development and growth if not used for saving or investments with a productive character. In addition to this, remittances stabilize financial institutions and through this channel can accelerate the growth process. The full-sample Granger causality test results reveal that there is a unidirectional causal relationship running from financial development to remittances. The outcomes of the parameter stability test results show that neither variables nor the VAR system are stable over the short term.

The *FM-OLS* test revealed that there is a long-run association between remittances and financial development. The bootstrap subsample causality approach finds a bidirectional causal nexus between the two series. We conclude that negative causality is running from remittances to financial development, while financial development is causing remittance positively. This means that a developed financial system can boost the inflow of worker remittances in Pakistan.

The impact of remittances on financial development can be enhanced by upgrades in the banking sector in the direction of reducing costs, bureaucracy, time span of transfers and by raising financial awareness. Moreover, financial intermediaries should act as

facilitators in producing ex-ante investing opportunities and the right remittance capital allocation.

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# THE EFFECTS OF FINANCIAL RISK MANAGEMENT ON FIRM'S VALUE: AN EMPIRICAL EVIDENCE FROM BORSA ISTANBUL STOCK EXCHANGE<sup>1</sup>

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Zekai ŞENOL, PhD\*  
Süleyman Serdar KARACA, PhD\*\*  
Seda ERDOĞAN\*\*\*

## Abstract

World trade volume shows rising trend and financial markets have been deepening. Firms that operate in the framework of economic and financial structure are affected by fluctuations in different factors such as interest rate, exchange rate and commodity prices. In this context, the use of derivatives allow companies to manage controllable risk and are preferred within the scope of financial risk management for the purpose of hedging. The prime aim of this research is to detect both the effect of derivatives in the financial risk management proves and financial risk management determinants by employing panel data analysis technique and panel logistic regression model. In order to accomplish this purpose, 248 observations of 31 companies listed in the BIST from 2008 to 2015 are analysed. The main outcome of research demonstrates that the financial risk management has no effect on the firm value. In addition, according to the research, determinants of Financial Risk Management detected are as follows; the variables of financial leverage, exchange rate risk, firm size and geographical diversity.

**Keywords:** Financial Risk Management, Derivatives, Panel Data Analysis.

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\*Assistant Professor, Cumhuriyet University, Faculty of Economics and Administrative Sciences, Banking and Finance.

\*\*Associate Professor, Gaziosmanpaşa University, Faculty of Economics and Administrative Sciences, Department of Business.

\*\*\* Post Graduate Student, Gaziosmanpaşa University.

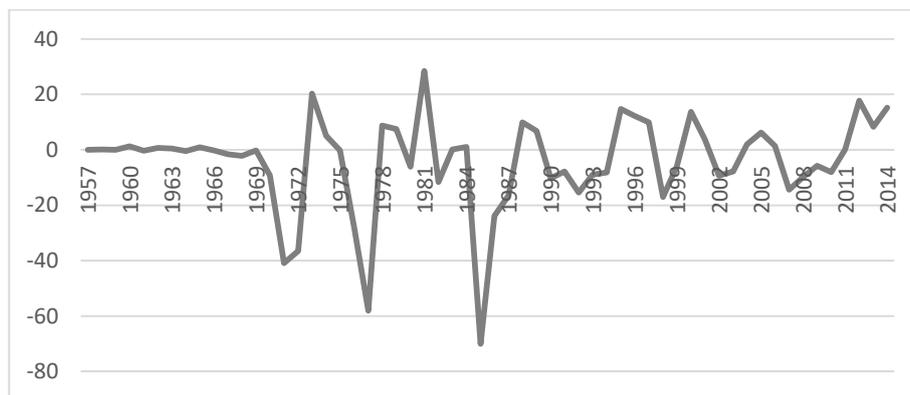
**JEL Classification:** C10, G32, L25.

### 1. Introduction

Until the 1970s, operational risk management was only a moderate technical function that was concerned with hazard risks. However, along with consideration of a silo approach with the Black-Scholes option pricing model, the thought of financial risk management has begun to stand out to manage financial risk that opened the way for the use of financial derivatives (Bharathy and McShane, 2014, 38). Foreign exchange rates fluctuated at an unprecedented rate with the end of The Bretton Woods system, commonly called US dollar-denominated system, in the 1970s. This circumstance affected all economic players and exchange rate risk exposed firms, individuals and even countries.

**Figure 1**

**Japanese Yen / USA Dollar Annual Price Change**

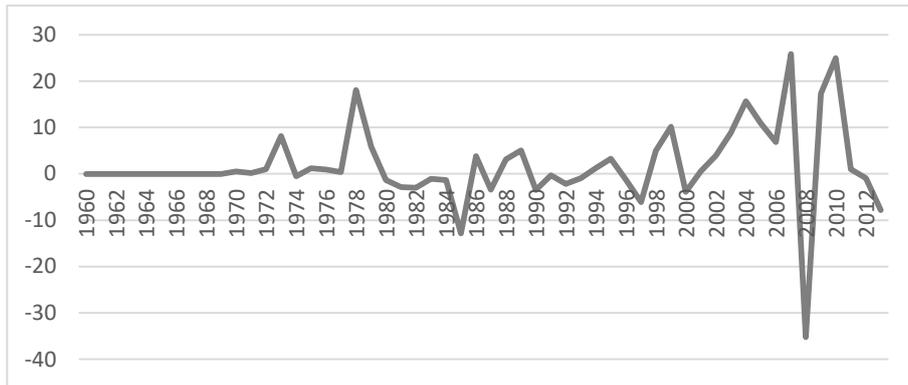


Source: World Bank, World Data Bank, 26.01.2016

Particularly, in the foreign exchange market, even short-term shocks led to years of real loss due to uncertainties in financial risk management. In this period of time, prices increased due to supply side pressures, and stock market prices fell. Verified that The Dow Jones Index could only show an increase of 1000 points from 1966 to 1983 (Yıldiran and Kısakürek, 2012: 49).

Figure 2

Annual Change in Oil Prices (1960-2013)

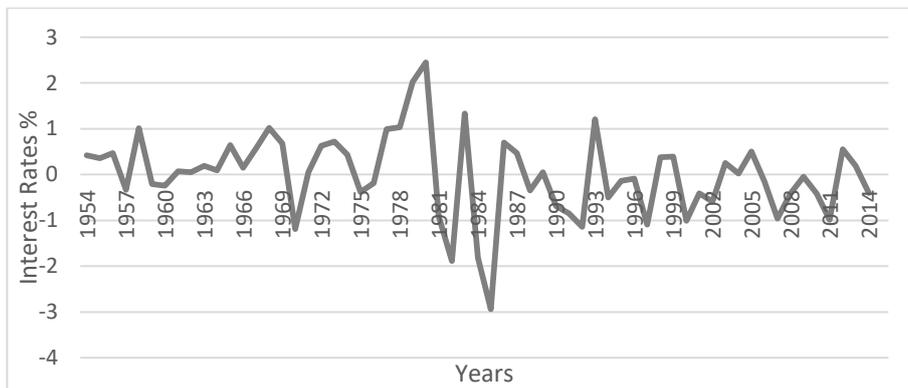


Source: World Bank, World Data Bank, 26.01.2016

Moreover, In 1973 and 1980 oil shocks were experienced due to the increase in oil prices (Uslu, 2007: 27). As known that Petroleum is a major consumption item for national economies, corporations and individuals, and is the main source of many goods and services. By abandoning Keynesian politics such as limiting the interest rates applied until the 1980s, limiting the money supply, interest rate risks started to come to the fore at financial markets (Yalçiner, 2012: 11).

Figure 3

Annual Change in US Long-Term Interest Rates



Source: World Bank, World Data Bank, 26.01.2016

Financial risk management (FRM) practice was emerged as a result of the exchange rate, interest and commodity risks that were

experienced in the 1970s, and the importance of FRM pushed companies to use financial derivatives in order to eliminate these types of risk. On the other hand, derivatives intended not only for the prevention of financial losses by the purpose of hedging, but also provide arbitrage and speculation opportunities. Besides the fact that derivatives have the possibility of speculation and arbitrage, derivatives have been started to be used taking into consideration the opportunities as well as risk dimension.

Obviously, The FRM is the process of struggling with the uncertainty arising in financial markets. The FRM includes assessing the financial risks that companies faced to and developing a management strategy consistent with priorities and policies of firms. Proactively addressing financial risks can provide competitive advantage to organizations. At the same time, the FRM enables management, operational staff, shareholders and the board of directors to act in agreement and cooperation on key risk issues (Horcher, 2005: 3).

Practically, FRM implications can be realized in two different ways. One of them is risk reduction through portfolio diversification, which is a core point of traditional portfolio management. In the modern portfolio approach, risk management is performed against portfolio risk, depending on the standard deviations of the portfolio and the variance used to measure the portfolio risk. Another method of financial risk management is the transfer of risk using financial derivatives.

## **2. Literature review**

The researches have been carried out related to FRM can be categorised in three groups; research on FRM theory, effects of the FRM on the firm value, and FRM determinants. Empirically, use of derivative instruments represents financial risk management process. Business risk management theory has been developed as an extension of the business financing policy (Eckles et al., 2014: 248). The issue of risk management has been widely discussed since the 1950s. According to Modigliani-Miller approach, It is known that the value of the firm is independent of the risk of the company. Modigliani and Miller (1958) argued that under effective market conditions, risk management would not affect firm value. In perfect competition market and effective market conditions, it is assumed that although

additional borrowing causes increase in debt / equity ratio, the risk value of firm is not effected (Yıldiran and Tanyeri, 2006: 181). According to this approach; firms have to maximize their expected returns regardless of risk formation, and investors are able to transfer risk with an appropriate portfolio distribution (Bertinetti et al., 2013: 3, Christoffersen, 2003: 2).

Academicians argued that the effective FRM implications can increase firm's value by reducing total risk of companies. Researchers identified various value-enhancing benefits of risk management, which are reducing tax payments, financial distress, inadequate investment, asymmetric information and expected costs associated with non-diversified stakeholders. These researches allow firms to perceive in a real sense the causes of risk aversion, and provide theoretical classification for the relationship between firm value and risk management (McShane et al., 2011: 643).

Smith and Stulz (1985) developed a theory of positive risk protection to maximize firm's market values following modern finance theory. In their theory (1) they are seeking answers to the question "Why some companies do hedging while others do not?". 2) "some firms are responding to the questions of why they are protected against the exposure to accounting risks while others are receiving risk protection on economic value". Smith and Stulz (1985) have proposed three reasons for firm value seeking: (1) tax, (2) cost of financial distress, and (3) managerial risk protection. They concluded that the analyses should be empirically tested in later investigations. Therefore, in this regard, they stated that detailed information is needed to employ these tests.

Additionally, Jin and Jorion (2006) underlined to three typical lines of explanation in the risk management theory proceeds. The first one is financial stress reduction feature that decrease expected cost of risk. Secondly, the risk aversion is supported by tax incentives. Risk aversion increases the firm's debt capacity so that greater leverage provides more tax advantages. The last one, risk aversion also helps to reduce insufficient investment problems.

The researches on the effects of FRM on firm value are chronologically as follows; (2001), Carter and others (2006), Jin and Jorion (2006), Mackay and Moeller (2007), Perez-Gonzalez and Yun (2013), Panaretou (2014), Li and others (2014), Akpınar and Fettahoglu (2016) and Aytürk and others (2016). Allayannis and Weston (2001) attempted to explain the use of foreign exchange

derivatives and the potential effects of these instruments on firm value, in the case of 720 large non-financial firms in the US between 1990 and 1995. A positive relationship was found between the use of foreign exchange derivatives and firm value by selecting Tobin's Q, as a firms' value indicator. Similarly, Carter et al. (2006) investigated whether hedging for firms in the US airline industry was a value source in the 1992-2003 period or not. It was found that protecting risk related to the jet fuel is positively associated with the airline firm value.

Jin and Jorion (2006) examined the effect of hedging activities of 119 US firms engaged in oil and gas production between 1998 and 2001. According to outcomes, hedging did not affect the market value of the firm in this industry. It can, also, be noted that hedging activities decreases sensitivity of the market price of firms to oil and gas price. In addition, Mackay and Moeller (2007) observed a positive correlation between the revenue and cost of hedging and firm value by applying the model of Smith and Stulz (1985), for the 34 oil refinery firms sample.

Moreover, Bartram et al. (2011) assessed the effects of using derivative financial instruments on firm risk and value in the geographical context for non-financial firms in 47 countries. They observed that the use of financial derivative products reduces the total risk and systematic risk. It is stated that risk aversion has an influence on the cost of capital and, thus the investment policy and economic profitability of the company are affected from risk management. Also, Perez-Gonzalez and Yun (2013) investigated the impact of effective risk management policies on firm value by employing energy companies' data. At first glance, it can be seen that the use of derivatives increased both the firm value and the leverage ratio.

Panaretou (2014) found that although the effects of the use of foreign exchange derivatives are statistically and economically significant, the interest rate derivatives had a weak effect and the commodity derivatives has no effect for non-financial firms in the UK.

Furthermore, Li et al. (2014) established the concept of risk management based on the creation of a risk management unit, the use of financial derivatives, or the utilization of services of international accounting firms as an audit firm by taking into account 189 financial firms in China during the period of 2009-2013. It is

determined that the use of financial derivative products affected the firm value.

Aytürk et al. (2016) investigated the effects of the use of financial derivatives on firm value non-financial firms in Turkey from 2007 to 2013. In panel data analysis, it was seen that the use of derivative products, in general, has no effect on firm's value in Turkish Market by employing Fama-French three factor time series technique and sector analysis research method.

Akpınar and Fettahoğlu (2016) investigated the effects of using derivative products on firm value through tests conducted on 72 non-financial firms in 2009-2013 period. It is that there is not any positive significant effect was figured out for the companies that use derivatives to eliminate risk factors.

The last group research focuses on assessing the FRM determinants. Smith and Stulz (1985) attempted to theoretically explain the reason for firm's hedging activities. They expressed that the major determinants of FRM are the cause of tax, financial cost of difficulty, and protection from managerial risk.

The empirical studies on FRM determinants can be ordered as follows; Carter et al. (2006) found that while the use of jet fuel derivatives was positively affected by current jet fuel contracts, they are negatively affected by the ratio of executive stocks to circulating stocks. Bartram et al. (2011) figured out that the use of derivative products is related to higher interest rate risk, exchange rate risk and commodity prices. Bodnar et al. (2013) investigated the determinants of exchange rate and interest rate derivatives, and found that firm size, geographical location, credit rating, industry, access to capital markets and education level in the sample of non-financial Italian firms are possible determinants of mentioned derivatives by applying the logistic regression model.

### **3. Samples, Variables and Method**

Derivatives in the financial sector are used for purposes such as buying-selling intermediation, arbitrage and speculation as well as being protected from risk. In that context, the main aim of this research is to reveal the possible impact of FRM applications on firms' value, and to point out FRM determinants in the non-finance sector. In order to reach that aim, the sample was selected from firms listed in Istanbul Stock Exchange (BIST), taking place in the first 200

of the list of the Top 500 Industrial Enterprises of Turkey prepared by Istanbul Chamber of Industry for 2015. The start point of research period is considered as the year 2006, when the applications of Turkish Accounting Standards (TAS) and Turkish Financial Reporting Standards (TFRS) put into practice. However, due to shortcomings in the data provided for 2006 and 2007, the working period has been set as 2008-2015. In this context, 248 observations were obtained from 31 firms. Variables and explanations that are generally used to consider financial risk management and related FRM literature are illustrated in Table 1.

**Table 1**

**Variables Used in the Research**

Variables	Explanation of Variables	Previous Researches
FRM Application (FRM1)	Derivative Instrument if used "1", if not "0"	Allayannis ve Weston (2001), Jin ve Jorion (2006), Bartram et al. (2011), Perez-Gonzalez and Yun (2013), Panaretou (2014), Abdel-Azim and Abdelmoniem (2015), Li et al. (2014), Aytürk et al. (2016) and Akpınar and Fettahoğlu (2016)
FRM Application (FRM2)	Total amount of derivatives on the balance sheet / Total Assets	Panaretou (2014), Aytürk et al. (2016)
Tobin's Q (TBNQ)	$(\text{Market Value} + \text{Short Term Liabilities} + \text{Long Term Liabilities}) / \text{Total Assets}$	Allayannis and Weston (2001), Carter et al. (2006), Jin ve Jorion (2006), Bartram et al. (2011), Panaretou (2014), Li et al. (2014), Aytürk et al. (2015) and Akpınar and Fettahoğlu (2016)
Market to Book Value Ratio (MVBV)	Market Value / Book Value	
Firm Size (LOGSIZE)	Natural Logarithm of Total Assets	Carter et al. (2006), Bartram et al. (2011), Bodnar et al. (2013), Panaretou (2014), Li et al. (2014), Aytürk et al. (2016) and Akpınar and Fettahoğlu (2016)
Financial Leverage (LVR)	Total Debt/Total Assets	Panaretou (2014), Li et al. (2014), Carter et al. (2006), Mackay ve Moeller (2007), Bartram et al. (2011), Aytürk et al. (2016), Akpınar and Fettahoğlu (2016)
Return on Assets (ROA)	Net Profit / Total Assets	Bartram et al. (2011), Panaretou (2014), Li et al. (2014), Aytürk et al. (2016), Akpınar and Fettahoğlu (2016)

<b>Variables</b>	<b>Explanation of Variables</b>	<b>Previous Researches</b>
Geographical Diversity(GD)	Foreign Sales / Total Sales	Bodnar et al. (2013), Panaretoru (2014), Aytürk et al. (2016)
Growth in Sales (GIS)	$(Sales_t - Sales_{t-1}) / Sales_{t-1}$	Bartram et al. (2011)
Price Stability (PSTB)	Standard Deviation of Daily Prices	
Exchange Rate Risk (ERT)	Net Foreign Currency Position (Absolute) / Equity	
Liquidity Risk <sup>2</sup> (LQD)	Short Term Liabilities / Current Assets	
Credit Riski (CRD)	Receivables/Equity	

Descriptive statistics are shown in Table 2. Accordingly, the ratio of enterprises using derivative products under the FRM in the number of observations is 31%, and the ratio of derivative instruments in the financial reports to the balance sheet is 0.2%. Tobin's Q ratio, representing the company's value, is 1.86. This ratio is greater than 1 (Tobin's Q > 1) suggests that the expectations about the firms are positive. The financial leverage ratio is seen as 49.9%, the general rate of 50% is not exceeded. The company exports 31% of the value of the observation. The ratio of short term liabilities to current assets is 68% and the exchange rate risk is 64%.

<sup>2</sup> Generally, there are current assets in the share of the liquidity ratios and short-term liabilities in the denominator. In this study, the stake has been displaced by the share of the liquidity ratio used. There are two reasons for this: (1) In econometric analyses, the values of the variables are included in the regression as increasing, decreasing, or stabilizing values, and the effect of such increase, decrease or steady values is sought. However, liquidity ratios are regarded as normal between certain limits and other liquidity ratios are considered as low or excess / excessive liquidity. The existing liquidity ratios used within certain boundaries have been put into the regression equation and changed in order to eliminate the problem with investigating the effect of liquidity ratios. Thus, depending on foreign resource usage, the rate increases from zero and becomes suitable for regression. (2) Current liquidity ratios indicate liquidity. In order to be able to talk about liquidity risk, it is evaluated that "Short Term Liabilities", which is a source of risk, should be brought in proportion to leverage, credit and exchange rate risks. The displacement of the shareholder with the share also maintains the relationship in the liquidity ratios between "Short Term Foreign Resources" and "Current Assets" at the same time (Şenol ve Karaca, 2017: 11).

Table 2

Descriptive Statistics

	Number of observations	Average	Standard Deviation	Minimum Value	Maximum Value
FRM1	248	0.3104839	0.4636274	0	1
FRM2	248	0.0019273	0.0054112	0	.0363721
TBNQ	248	1.863435	1.060412	1.038516	8.862194
MVBV	248	1.772256	1.490605	0.2032637	8.587649
LOGSIZE	248	21.03787	1.222385	16.88936	23.83085
LVR	248	0.4991119	0.1883434	0.0319347	0.9128917
ROA	248	0.0580024	0.072664	-0.1652584	0.4752167
GD	248	0.3105982	0.2447557	0	1
GIS	248	0.1269137	0.1892757	-0.4795295	0.7894037
PSTB	248	4.45	35.49419	0.0627892	539.8946
LQD	248	0.6816276	0.3022494	0.0400385	2.926808
ERT	248	0.6396442	0.6321097	0.0526262	4.99167

Panel data analysis was conducted to determine the impact of FRM on firm value. Panel data consists of N number of units and T number of observations of these units and is expressed as follows:

$$Y_{it} = \beta_{0it} + \beta_{1it} X_{1it} + \dots + \beta_{jit} X_{jit} + \mu_{it} \quad (1)$$

$i = 1, 2, 3, \dots, N; \quad t = 1, 2, 3, \dots, T$

In panel data econometrics, unit and time effects are explained by constant effect or random effect models. In the constant-effect model, constant coefficients vary within cross-sectional data, between time-series data, or both data. However, the slope coefficients in the model are fixed (Alptekin, 2012: 207). In the random effects model, it is suggested that the trend values for each section unit are the same, that these trend values remain constant over time and that there is a temporary horizontal section relation between dependent and independent variables (Kaya, 2014: 297).

Panel logistic regression was performed to identify the FRM determinants. The panel can be expressed as logistic models, binary and multiple preference models. In logistic models, the dependent

variable takes the value of "1" ( $Y_{it} = 1$ ) if the event occurs for unit  $i$  at time  $T$  and "0" ( $Y_{it} = 0$ ) if not. These models are probability models and the values are composed of "1" and "0" (Yerdelen Tatoğlu, 2013b: 161).

#### 4. Analysis

Pearson correlation coefficients are shown in Table 3, in the Appendix. There is no correlation of more than 80% among variables to be modelled.

In order to determine the effect of FRM on firm value and the determinants of FRM application with the obtained observations, the following models were employed.

$$TBNQ_{it} = \beta_0 + \beta_1 FRM1_{it} + \beta_2 FRM2_{it} + \beta_3 LOGSIZE_{it} + \beta_5 ROA_{it} + \beta_6 LVR_{it} + \beta_7 PSTB_{it} + \beta_8 GIS_{it} + \mu_i$$

Previous studies to test the impact of FRM on firm value are as follows; (2001), Carter et al. (2006), Jin and Jorion (2006), Mackay and Moeller (2007), Bartram and others (2011), Perez-Gonzalez and Yun (2013), Panaretou (2014), Li and others (2014), Aytürk and others (2016) and Akpınar and Fettahoğlu (2016). Based on these studies, the above Tobin's Q (TBNQ) model was established in the academic literature, the following model of the Book to Market ratio (MVBV), which is another variable representing firm value, has been established.

$$MVBV_{it} = \beta_0 + \beta_1 FRM1_{it} + \beta_2 FRM2_{it} + \beta_3 LOGSIZE_{it} + \beta_5 ROA_{it} + \beta_6 LVR_{it} + \beta_7 PSTB_{it} + \beta_8 GIS_{it} + \mu_i$$

The following models were created to identify FRM determinants inspired by the work of Smith and Stulz (1985), Carter et al. (2006), Bartram et al. (2011) and Bodnar et al. (2013)

$$FRM2_{it} = \beta_0 + \beta_1 LVR_{it} + \beta_2 LQD_{it} + \beta_3 ERT_{it} + \beta_4 CRD_{it} + \beta_5 LOGSIZE_{it} + \beta_7 ROA_{it} + \beta_8 GD_{it} + \mu_i$$

While LVR, LQD, ERT and CRD refer financial risks in FRM2 and FRM1, LOGSIZE, ROA and GD represent company specific characteristics. Although the other models are constructed as panel data model, the FRM 1 model is organized as panel logistic regression.

$$FRM1_{it} = \beta_0 + \beta_1 LVR_{it} + \beta_2 LQD_{it} + \beta_3 ERT_{it} + \beta_4 CRD_{it} + \beta_5 LOGSIZE_{it} + \beta_7 ROA_{it} + \beta_8 GD_{it} + \mu_i$$

The classical model applies when the effects of the units and times that bring the panel data to the square are not valid. One of the methods used to test the existence of unit and time effect is the likelihood ratio (LR) test (Baltagi, 2005:63). As a result of the LR tests, the classic model was rejected (Table 4). The Hausman (1978) descriptive test is used to decide between fixed effects and random effect models (Ün, 2015: 70). Hausman test statistic refers chi-square distribution. If the Hausman statistic is high, the fixed effect model is preferred, whereas if the statistical value is low, the random effect model is selected (Karaaslan and Yıldız, 2011: 10). In the models, the Hausman test statistic (Chi Square) shows that the fixed effect estimator models are valid (Table 4).

**Table 4**

**F, LR and Hausman Test Results**

Models	F Test		LR Test		Hausman Test
	Test	Statistic	Test	Statistic	Chi-Square
TBNQ	Unit	45.079327***	Unit	269.363***	73.28 (0.0000)
	Time	11.997160***	Time	1.828*	
	Unit and Time	39.662090***	Unit and Time	324.557***	
MVBV	Unit	17.066025***	Unit	134.738***	38.00 (0.0000)
	Time	7.997516***	Time	5.906***	
	Unit and Time	15.898407***	Unit and Time	174.052***	
FRM2	Unit	4.869486***	Unit	43.582***	19.92 (0.0057)
	Time	1.711906	Time	4.305**	
	Unit and Time	4.767715***	Unit and Time	49.500***	

*Note: \*\*\*, \*\*, and \* indicate significance at the significance level of 1%, 5% and 10%, respectively, of the relevant test statistic.*

After appropriate modelling chosen processes, heteroscedasticity, autocorrelation and correlations between units are required. If there is a variable variance, estimates will not yield effective results. In the presence of autocorrelation, standard errors are affected and inefficient regression coefficients are estimated (Baltagi, 2005: 79, 84). In case of heteroscedasticity, autocorrelation and correlation between units, the validity of t and F statistics,  $R^2$  and confidence intervals are affected. Therefore, if there is at least one of

heteroscedasticity, autocorrelation and inter-unit correlations in the model, resistant predictors should be used (Yerdelen Tatoğlu, 2013a: 242).

**Table 5**

**Tests of Assumptions**

<b>Model</b>	<b>Assumptions</b>	<b>Test</b>	<b>Statistic</b>	<b>Eligible Estimator</b>
TBNQ	Heteroscedasticity	Modified Wald	21872.48***	Driscoll-Kraay
	Autocorrelation	Durbin-Watson	0.91870978	
	Inter-Correlation	Pesaran's CD	11.709***	
MVBV	Heteroscedasticity	Modified Wald	14589.56***	Driscoll-Kraay
	Autocorrelation	Durbin-Watson	0.77296984	
	Inter-Correlation	Pesaran's CD	9.939***	
FRM2	Heteroscedasticity	Modified Wald	1.4e+05***	Driscoll-Kraay
	Autocorrelation	Durbin-Watson	1.254478	
	Inter-Correlation	Pesaran's CD	3.228***	

*Note: \*\*\* represents statistical significance at 1% significance level*

As it can be seen in Table 5, the Driscoll-Kraay-resistant estimator model is used due to deviations from panel data analysis assumptions. Driscoll and Kraay (1998) proposed the standard nonparametric time series covariance matrix estimator due to its durable feature to the general forms of temporal and cross-sectional dependence (Hoechle, 2007: 284).

The panel regression results related to the effects of FRM practice on firm value is shown in the Table 6. The firm size (LOGSIZE), return on asset (ROA), price stability (PSTB), growth in sales (GIS) and geographical diversity (GD) are put into the model as control variables. It can be clearly seen that the impact of FRM (FRM1 and FRM2) on firm value is not statistically significant. Therefore, it is advocated that FRM, which is applied to overcome to risk pressure, does not affect the firm value. This result reflects Modigliani and Miller (1958) approach that put forwards the functionality of risk management on firms' market values. It is also supported in previous research done by Jin and Jorion (2006), Aytürk and others (2015) and Akpınar and Fettahoğlu (2016).

Panel data analysis and panel logistic regression methods are employed in order to figure out possible factors that affect the use of FRM. According to results shown in the Table 7, financial leverage,

exchange rate risk, firm size and geographical diversity variables can be accepted as determinants of FRM under the data limit used for the research. This result is similar to Bartram et al. (2011) research on the use of derivative instruments related to interest rate risk, exchange rate risk and commodity prices that firms are greatly affected. In like manner, Bodnar et al. (2013) outlined that have the use of exchange rate and interest rate derivatives are strongly influenced by firm size, geographical location, credit rating, industry, capital market access and education level of management.

### **5. Conclusion**

While companies carry out their activities, they are affected by changes in factors such as exchange rate, interest rate, and commodity prices. In order to eliminate or reduce these types of risk factors, companies use financial derivative instruments in the context of financial risk management. In other words, firms use derivative products within the FRM perspective in order to ensure not-fragile financial structures to any fluctuations in the markets, and also aim to provide the continuity of the company. This research investigated the relationship between the Financial Risk Management and market values of 248 companies listed on the BIST from 2008 to 2015. In addition, the possible determinants that influence FRM are tried to be detected.

According to results, it can be claimed that using derivative instruments as financial risk management tool has no effect on firms' value. As mentioned, reached outcomes approved the prominent approach of Modigliani and Miller (1958). Additionally, as frequently encountered in the literature, financial leverage, exchange rate risk, firm size and geographical diversity are underlined as determinants of FRM.

Taking all into the consideration that although financial risk management implications do not affect firm's market value, determinants of FRM shed light on market participants who are seeking to reduce predictable market risks. However, it should also be noted that possible market, data or period change may decrease or increase the reliability of outcomes reached from the research.

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Table 3

## Pearson Correlation Coefficients

	FRM 1	FRM 2	TBNQ	MVBV	SIZE	LVR	ROA	GD	GIS	PSTB	LQD	ERT
FRM1	1											
FRM 2	0,507**	1										
TBNQ	-0,095	-0,025	1									
MVBV	0,111	0,024	0,509**	1								
SIZE	0,303**	0,054	-0,072	0,076	1							
LVR	0,271**	0,251**	0,337**	0,011	0,167**	1						
ROA	-0,134*	-0,123	0,390**	0,240**	-0,047	0,341**	1					
GD	0,138*	-0,002	0,096	0,037	0,213**	0,075	0,047	1				
GIS	0,102	0,076	-0,032	0,093	0,096	0,129*	0,038	0,014	1			
PSTB	-0,002	-0,093	0,140*	0,341**	0,054	0,009	0,154*	0,120	0,065	1		
LQD	0,275**	0,093	0,280**	-0,102	0,022	0,272**	0,381**	0,007	0,065	0,011	1	
ERT	0,133*	0,083	-0,008	0,092	-0,004	0,260**	0,325**	0,086	0,118	0,075	0,415**	1

Note: Pearson coefficients, \*\* and \* indicate significance levels of 0.01 and 0.05 respectively.

Table 6

## Driscoll-Kraay Fixed Effects Estimator

	TBNQ				MVBV				
	Coefficients	D/K St. Error	T	P	Coefficients	D/K St. Error	T	P	
FRM1	0.0483	0.033	1.43	0.162	0.1164	0.099	1.17	0.251	
FRM2	3.3522	6.321	0.53	0.600	3.2603	12.125	0.27	0.790	
LOGSIZE	0.2432	0.122	<b>1.98</b>	0.057	0.8170	0.248	<b>3.29</b>	0.003	
ROA	1.1241	0.361	<b>3.11</b>	0.004	2.4238	0.875	<b>2.77</b>	0.010	
LVR	-0.6545	0.184	-3.55	0.001	2.0788	0.677	3.07	0.005	
PSTB	-0.0058	0.000	<b>-6.50</b>	0.000	-0.0071	0.001	<b>-6.02</b>	0.000	
GIS	-0.0561	0.082	-0.68	0.499	-0.4086	0.164	<b>-2.48</b>	0.019	
GD	-0.3372	0.124	<b>-2.72</b>	0.011	-0.3978	0.321	-1.24	0.225	
Constant	-2.8752	2.569	-1.12	0.272	-16.4296	4.915	-3.34	0.002	
<i>Number of Observations : 248 Group Number : 31</i>					<i>Number of Observations : 248 Group Number :</i>				
<i>P&gt;F = 0.0000 R<sup>2</sup>(inside) = 0.29</i>					<i>31P&gt;F = 0.0000 R<sup>2</sup>(inside) = 0,29</i>				
<i>F(8,30) = 181.48</i>					<i>F(8,30) = 361.88</i>				

Table 7

## Determinants of FRM

	Driscoll / Kraay Constant Impact Estimator				Panel Logistic Regression			
	FRM2				FRM1			
	Coefficients	D/K St. Error	T	P	Coefficients	D/K St. Error	Z	P
<b>LVR</b>	0.0200	0.0064	<b>3.10</b>	0.004	16.6396	6.4660	<b>2.57</b>	0.010
<b>LQD</b>	-0.0005	0.0020	-0.26	0.800	2.1375	2.0580	1.04	0.299
<b>ERT</b>	-0.0015	0.0006	<b>-2.46</b>	0.020	-0.4464	0.6223	-0.72	0.473
<b>CRD</b>	0.0012	0.0009	1.35	0.187	0.1263	1.2189	0.10	0.917
<b>LOGSIZE</b>	0.0023	0.0006	<b>3.75</b>	0.001	6.2716	1.6746	<b>3.75</b>	0.000
<b>ROA</b>	0.0051	0.0077	0.66	0.514	20.3396	10.421	<b>1.95</b>	0.051
<b>GD</b>	-0.0020	0.0003	<b>-5.51</b>	0.000	-0.6063	1.9696	-0.31	0.758
<b>Constant</b>					-148.27	36.980	-4.01	0.000
Number of observations : 248					Number of observations: 248			
Group Number: 31					Group Number: 31			
P>F = 0,0000					Wald $\chi^2$ = 22.13			
R <sup>2</sup> (inside) = 0,21					P> $\chi^2$ =0.0024			
F(7,30) = 36.28								

## **SPECIAL TAX REGIMES IN TAXING SMALL AND MICRO BUSINESS ACTIVITIES: THEORETICAL APPROACHES AND PATENT TAX EXPERIENCE**

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**Angela TIMUȘ, PhD\***  
**Victoria IORDACHI, PhD\*\***  
**Victoria COCIUG, PhD\*\*\***

### **Abstract**

Tax regulation of small business and self-employed individuals implies a great responsibility on behalf of fiscal authorities in their efforts to increase tax compliance and contribute, at the same time, towards business expansion within this sector. There is a large variety of approaches to taxing small and micro-enterprises in foreign practice. At the same time, policies of taxing different segments of the SME population should be selected carefully. Also it is important to measure effects of tax incentives. One of measures used by governments to promote small business activities is implementation of special tax regimes for some of business segments, which are based on simple rules for determining tax liability, as well as easy accounting and administrative tools. This article relates some of the countries' experience in designing simplified tax regimes based on entrepreneurial patent, including the Republic of Moldova. At the same time, there are emphasized disadvantages of the given regime in Moldova and related recommendations for a better fiscal policy.

**Keywords:** entrepreneurial patent tax, simplified tax regime, micro-enterprise tax, fiscal policy.

**JEL Classification:** H21, H32, H39.

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\* Associate Researcher, Scientific Secretary, National Institute for Economic Research, Chișinău, Republic of Moldova.

\*\* Associate Researcher, National Institute for Economic Research, Chișinău, Republic of Moldova.

\*\*\* Associate Researcher, National Institute for Economic Research, Chișinău, Republic of Moldova.

## 1. Introduction

In many countries fiscal policies include a robust toolkit of stimulants and tax incentives, which are promoted by fiscal authorities to encourage the taxpayers to start or enforce their business, while the primary objective followed is generation of higher tax revenues in future and not in present. Such policies invigorate economic growth and business development, but at the same time these incentives should be strictly monitored to achieve the expected effects.

The implementation of tax incentives, through their encouragement function, supposes the transfer of public budget revenues in some period in future, and, thus, reduces the capacity of state budget financing in present, that is why many experts and researchers qualify this revenues' postponement as a *budget expense*- also called *fiscal expense* (Loile, 1990).

In foreign practice the mechanism of implementation, addressability and monitoring procedure of incentives differs, but at the same time these peculiarities are totalized within a transparent and coherent system for taxpayers. Within the category of fiscal incentives are also included those incentives that are addressed to certain categories of organizations or economic activities – also known in foreign practice as *special tax regimes*. In this study the authors will relate a specific instrument used within the special tax regimes – *special tax regime in base of entrepreneurial patent fee*, which is broadly used in former socialist countries, including the Republic of Moldova, as well as in some of the EU countries.

Special tax regime is an important concept in modern tax system. In foreign practice, fiscal policies operate with the following notions like „*special system*”, „*special regime*”, „*preferential regime*” or „*simplified regime*” that suppose a specific mechanism of registration, payment and fiscal reporting for economic agents on a simplified basis and on special terms, in comparison with procedures within the general tax policy.

In foreign, practice, special tax regimes are implemented within a deliberate fiscal policy, while governments follow the objective to increase economic performances and financial potential of some groups of entrepreneurs. At the same time, it is worthy to mention that the general target followed by fiscal authorities is more familiarization of particular groups within business community (especially small companies, individual merchants, etc.) with legal

accounting requirements and bringing informal business into tax net in near future, than increasing tax revenues at present. In such a way costs incurred by governments for the implementation of these preferential tax regimes represent a certain type of investments for the creation of a tax culture within entrepreneurs and not instruments for the generation of short term budget revenues. It is obvious that special tax regimes will imply a certain pressure over the public budget once with the reduction of revenues. Still, foreign practice shows that these fiscal incentives favour long-run economic growth and contribute towards the sustainability of tax revenue (Câmpeanu et al., 2012). In foreign countries fiscal authorities strictly monitor the whole process of implementing fiscal incentives and their economic impact to exclude unreasonable use of incentives by certain groups of profitable entities that, in fact, distort economic significance of tax simplicity.

## **2. Literature review and methodology**

The speciality literature provides different theoretical and practical studies on the necessity and opportunity of fiscal incentives, the principles of their granting, the monitoring mechanism, and the assessment of the efficiency of incentives (Clark and Arnold, 2005) offered to business community. Governments have a complex set of incentives that are designed within the fiscal policy to achieve certain effects: to encourage certain sectors, such as research and development, to support small businesses, certain strategic producers or economic activities (Siakin, 2010), to encourage investment (Appelt, 2016), economic growth, as well as to stimulate structural changes in the whole economy (Hemming et al., 2002).

Besides the fact that the design of special tax regimes of entrepreneurs (for example, natural persons performing entrepreneurial activity and micro-enterprises) are:

- encouraging individuals performing some economic activities stipulated in law;
- supporting population from rural regions to create new working places;
- supporting certain categories of socially vulnerable groups for ensuring minimum subsistence level through starting business activities or strengthening the existent ones; also for giving them

possibility to pay social and medical contributions to have access to health services and a guaranteed pension, etc. (Timuş et al., 2016).

The whole set of legal provisions covering methodological and functional aspects of fiscal instruments that are applied within the design of special tax regimes usually are stipulated in the Tax Code of countries. Generally, there are no standard principles according to which a simplified tax system is designed, as governments implement different fiscal instruments and policies according to the economic strategy and specific needs of SMEs sector. Still, there can be summarized some elementary principles in implementing special tax regimes by foreign fiscal authorities:

➤ First principle expound the general objective followed by governments, that is fiscal education of small companies and individuals in terms of accounting and legal reporting requirements to facilitate the transition of this group of entrepreneurs into general tax system, when business grow. Generation of tax revenues is not a priority. Creation of a tax culture within the society is a must have priority in the process of designing the simplified tax regime and governments do not search ways for increasing short-term budget revenues.

➤ Second principle declares that tax simplicity should contribute towards reducing compliance burden for certain groups of entrepreneurs, usually through simple recordkeeping and some administrative requirements (usually individual entrepreneurs and micro-businesses).

➤ Third principle affirms that simplified tax regime should not act as a disincentive for business growth for other groups within business community. Therefore, its design should be coordinated with standard tax regime.

➤ Fourth principle is related to the process of designing special tax regime that should be realized after a deep analysis of economic situation of the whole country and analysis of special needs and problems of business segments. Thus, individual design approaches should be applied for different segments of the SMEs sector.

According to each country's legal norms simplified tax regimes cover a wide variety of procedures on registration, evidence, tax methods and techniques, forms of declaring the fiscal revenues and

other measures offered to micro-businesses and individuals who perform economic activity. One of forms used within tax simplicity is entrepreneurial patent (license for some of entrepreneurial activities stipulated in national legislation), which is widely implemented in some former soviet countries, as well as in some transition economies, like Bulgaria, Latvia, Poland, the Czech Republic, Slovakia, etc.

In Republic of Moldova trade in base of patent is very popular within the community of individuals who perform economic activity. This form of taxation is promoted by the Law on patent that was implemented in 1998 and offers possibility for individuals to purchase the right to perform economic activities allowed by law.

In Moldova the amount for purchased patent also includes social contributions (medical insurance and social insurance) and some local fees and the right to trade in base of patent is valid for one year. While Moldovan patent is not stipulated in national Tax Code, in other countries it is included within preferential tax regimes and legal provisions strictly define the whole set of rules, norms, tax rates, registration procedure, bookkeeping requirements, as well as the procedure of transferring to standard tax regime.

Simplified tax regime based on entrepreneurial patent highlights some dimensions with concrete impacts over national economy:

The socio-economic function of patent results from the government' support offered to a group of entrepreneurs to consolidate economic and financial capacity of economic activity and to facilitate transition to general tax regime in near future. At the same time, this tax regime ensures support for some social groups, regions or geographic zones in order to: launch economic activities or small scale activities, ensure minimal existence for some population categories (like pensioners, disabled persons, families with more children) and in this way contributes to reduction of management costs and improvement of fiscal administration.

The financial function of patent tax system results from concrete financial and fiscal incentives stipulated in the tax code or other legal provisions that are offered for some groups of taxpayers.

Most common advantages offered by entrepreneurial patent are:

- Predictability and transparency of tax burden, as well as low registration, bookkeeping and reporting costs for business owners;
- Simplicity in bookkeeping, supposing only registration of revenues and costs in a cash register. At the same time, fiscal declaration is not requested. This contributes to reduction of management costs in comparison to other forms of simplified regimes;
- The amount paid when purchasing patent replaces some taxes like income tax and usually is lower than the whole volume of payments within general tax system. At the same time, patent holders pay social contributions at lower rates.

As disadvantages of tax regimes based on patent can be mentioned:

- The whole system can be extremely unfair due to ignorance of the “ability to pay” principle within business community;
- Less profitable companies can be supposed to a risk of over-taxation (Iordachi, 2016).

The juridical dimension results from the whole set of legal provisions that regulate economic activity in base of patent, namely the procedure of registration and evidence, the subject and object of taxation, tax base, tax levy and tax enforcement mechanism, etc. Compliance criteria of entrepreneurs requesting the patent, types of activities, tax base, patent fees and methodology of tax applying are core elements that create the patent based tax regime. At the same time, models of application vary considerably from country to country and can be designed extremely simple, by fixing only one single amount for all micro-businesses, irrespective of business type and location. Other governments will develop a detailed list of micro-business activities with different patent amounts (Iordachi, 2016).

At the same time, the juridical dimension positions patent as a certificate or an official document that is strictly regulated in terms of specimens, which indicate the type of business activity, the time period for which it is valid and area of action.

Former Soviet countries monitor the effects as a result of implementing special tax regimes from three criteria: budget, economic and social efficiency (Cuterghina and Mingazinova, 2014).

The budget efficiency includes indicators, which compare fiscal costs suffered by the budget with the estimated volume of budget as a result of revenues' increase. In many cases these indicators are used within the R&D activity, agriculture, education, economic activities performed by socially vulnerable groups. The efficiency of implementing the entrepreneurial patent as tax incentive could also be analysed by means of budget efficiency indicators.

The economic efficiency is estimated by means of indicators, which reflect the dynamics of economic results like growth of: revenues, labour remuneration, fix capital, working places, as well as reduction of production cost.

Estimation of tax incentives by means of social effects refer to the analysis of indicators like: creation of new working places, engagement of socially vulnerable persons, improvement of quality of products and services offered growth of population welfare.

The methodology for analysing and assessing the effects and effectiveness of incentive mechanisms can be different. In their works, Clark and Arnold (2005) refer to the following effects calculated in applying tax incentives:

- 1st level effects- the direct influence of the incentives and preferences (I/P) granted on the increase of expenditures for research and development (R&D);
- 2nd level effects - impact on the level of results (increase of the sales share of the respective production);
- 3rd level effects - impact on macroeconomic indicators: GDP growth rate, productivity, additional spillovers.

Mohnen and Loxsin (2008), in their study, propose the following approaches and methodologies that would allow the assessment of the effects of tax incentives, namely:

- Economic efficiency. The coefficient of fiscal sensitivity - the ratio of the increase of expenditures for R&D to tax subsidies;
- Detailed cost-benefit analysis– comparison between costs suffered by budget as a result of renouncing on calculated revenues in comparison to additional revenues cashed as a result of business sector development (through sales volume, market growth of increase in consumption);

- Analysis of the overall balance: impact on wages; budget balance; trade liberalization.

In case of entrepreneurial patent this methodology is relevant for innovation activities.

### **3. International practice of applying special tax regimes in base of entrepreneurial patent**

In EU countries special tax regimes also represent an important role within economic and financial policies. Tax regimes that regulate economic activities performed by individuals in base of a document similar to patent (or license) are implemented in Bulgaria, Latvia, Lithuania, Poland, Hungary, Romania, Albania and other countries. There are offered a variety of simplified tax models (schemes) usually based on lump-sum taxes.

Legal tax codes (tax cards) in these countries expressly establish the criteria for offering such tax preferences for individuals or legal persons (registration procedure, annual tax declaration, simplified record keeping, limit of turnover, check issue) and all tax rates or scale of payments for the issued certificate.

In **Romania** forms of taxing income for small entrepreneurs are:

- Income tax from independent activities – 16%;
- Income tax for micro-enterprises – 1-3%;
- Tax for authorized natural persons.

The last regime (tax for authorized natural persons) is similar in some degree with the patent regime. The difference results from the way of registration, tax rate, accounting and declaration procedures. On 1<sup>st</sup> of January 2016, according to the Fiscal Code of Romania, the authorized person will pay 16% of the revenue it produces. However, this category of taxpayers has to pay compulsory contributions and certain social contributions (10,5% or 26,3% according to their option) that are calculated from net income. Also in addition to these social contributions, a 5,5% rate as social health insurance contributions is paid. Another provision is that the authorized person will no longer be able to choose the base on which

the social contribution rate will be applied, which will be calculated from net income achieved<sup>1</sup>.

In **Bulgaria**, patent based activity is allowed for 40 different categories of activity and all patent amounts with minimal and maximal levels are given in the *The Law on Local Taxes and Fees of Bulgaria*. Local governments establish the appropriate amount to carry out business activities in their area and the patent amount will be fixed in base of: economic importance of business for region, nature of activity, population density, etc. The annual turnover of the entity should not exceed 25500 EUR (equivalent 50000 BGN) and all revenues generated from patent activities should not be levied under the procedure of the Personal Income Tax Act<sup>2</sup>.

In **Poland** patent sums are determined in base of indicators like number of employees and location of business. The patent sums for some of micro-business activities in the *Polish Tax Card regime* are given in Table 1.

**Table 1**

**Payment sums for some of micro-business activities within the Tax Card regime in Poland, in 2014 (USD)**

Type of business	No. of employees	Business location (in number of inhabitants)		
		< 5000	5000-50000	>50000
Jewellery shop	0	136	149	149
	1	232	266	266
	2	348	388	388
Barber shop (ladies)	0	38	45	51
	1	103	116	129
	2	143	161	172
	3	172	185	201
	4	185	201	218
	5	225	257	291
Flower shop	0	161-218	177-278	218-356
	1	177-281	218-356	278-406
	2	218-356	278-406	375-507

Source: Iordachi (2016)

<sup>1</sup>Law 227/2015 on Tax Code. Official Monitor 688 from 10.09.2015. <http://www.monitoruljuridic.ro/monitorul-oficial/688/2015-09-10/>

<sup>2</sup>Local Taxes and Fees Act of Bulgaria, State Gazette No. 117/10.12.1997, in force as of 01.01.1998; Last Amendment - SG No. 102/ 21.12.2012, in force as of 01.01.2013

In **Latvia**, patent sums vary from 40 EUR - 100 EUR per month, depending on group of professions and type of activity. Thus authorized persons can perform economic activity in base of a patent in the following fields: craft, consumer services, floristics, photography services, beauty services, private household services, home care services and gathering of forest and meadow gifts for trade (Iordachi, 2016).

According to Latvian legislation, economic activity should not generate revenues above 10000 LVL (nearly 14000 EUR), also the beneficiary of the patent must not employ other persons and perform any other economic activity at the same time.

The analysis of experience in the Commonwealth of Independent States (CIS) shows that patent is used by government as support fiscal measure for small businesses and individuals that are just beginning their entrepreneurial activity. The target of introducing patent based simplified regime was motivating small entrepreneurs to activate in the legal field, by establishing simple rules for company's registration and liquidation, accounting and taxation, as well as creation of a sustainable base of taxpayers who will transfer to standard taxation regime when business extend and will ensure a long-run economic development.

All countries analysed during the 2009-2014 period adjusted their patent taxation regime and improved the regulatory and institutional framework, at the same time implementing in a different manner the design of the simplified tax regime. Russia and Kazakhstan have significantly improved patent regimes, which stipulate strict application criteria by natural persons and legal entities within the tax scheme and determine individual rates/payments for each type of taxpayer. Also in Russia several types of activities covered by patent were limited, as well as criteria for patent purchase in case of retail trade. At the same time, Russian legislation admits opting for other regimes, but also applying for several special regimes. Table 2 presents summary information on special tax regimes that are implemented in Russian Federation.

Table 2

Special tax regimes in Russian Federation

Tax elements	Simplified tax regime		Lump sum on estimated income	Patent tax system
<b>Taxpayers</b>	Companies and individuals, which conform to certain criteria		Companies and individuals, which perform certain activities	Individuals that perform certain activities
<b>Tax object</b>	Turnover	Revenues-costs	Presumptive income	Potential income
<b>Tax base</b>	Turnover	Net turnover	Estimated value of presumptive income	Estimated value of potential income
<b>Tax rate</b>	6%	5%-15%	15%	6%
<b>Period</b>	Yearly	Yearly	Quarterly	One month - year
<b>Tax evidence</b>	yes/fiscal declaration	yes/ fiscal declaration	yes/-	yes/-

Source: [http://www.consultant.ru/document/cons\\_doc\\_LAW\\_28165/](http://www.consultant.ru/document/cons_doc_LAW_28165/)

The Taxation Code of the Russian Federation authorizes 63 types of activities that can be carried in base of patents, such as tailoring, hairdressing, photography; furniture repair, home; cleaning, transport etc. Generalized criteria for obtaining a patent are relatively similar (see Table 2) to those in other CIS countries. The fiscal electronic device is not mandatory, but it is necessary to provide the confirming documents, and the tax code should indicate the requisites included in the patent certificate. At the same time, the patent tax system is addressed only for individual entrepreneurs who employ no more than 15 persons.

In Belarus and Ukraine fiscal authorities operated with patent tax system for some economic activities until 2009-2011, but as a result of legal framework reformation, this taxation form was abolished. In Belarus, Fiscal Code doesn't stipulate patent as form of taxing small entrepreneurs and natural persons, other types of tax schemes being popular<sup>3</sup>.

Ukraine also abandoned the patent as one of taxation form. At present, the Ukrainian fiscal code stipulates only one tax simplified

<sup>3</sup>*Tax Code of Republic of Belarus No. 71-3 from December 29<sup>th</sup>, 2009, <http://www.pravo.by/main.aspx?guid=6361>*

regime based on the flat tax, which is addressed to different categories of taxpayers. All conformation criteria for applying to simplified tax schemes by Ukrainian entrepreneurs is given in table 3.

**Table 3**

**Simplified tax systems in Ukraine**

<b>Criteria</b>	<b>I CATEGORY</b>	<b>II CATEGORY</b>	<b>III CATEGORY</b>	<b>IV CATEGORY</b>
<b>Natural or legal person</b>	Natural	Natural	Natural	Farmers
<b>Maximal number of employers</b>	No employee	10	Unlimited	Unlimited
<b>Maximal annual revenue, UAH</b>	300 000	1 500 000	5 000 000	
<b>Specific activities</b>	Market retail trade and/or consumption services for population	Services and consumption services for flat tax payers or population; production and sale of goods; Restaurant activity	Trade/ services with companies of any legal status	Farmers whose share of agricultural products for the previous year is at least 75%
<b>Tax rate</b>	Up till 10% of minimal salary (3%, 5%)	Up till 20% of minimal salary	3% for VAT payers; 5% for non-WATT payers	
<b>Percentage of revenue</b>	15% from the amount had exceeds the fixed limit of revenues for the respective category; from revenues from non-registered activities or that are not stipulated in fiscal code			Depending on the number of used hectares
<b>Base for calculation</b>	Fixed rate, does not depend on revenues, being limited by fiscal code		Revenue from entrepreneurship activity	
<b>Fiscal electronic devise</b>	Not obligatory	Obligatory from 01.01.2016	Obligatory from 01.07.2015 Not obligatory only for sale of own products (except for food products)	

Source: in base of Tax Code of Ukraine No. 2755-VI, 07.10.2010, p.14, p. 267  
<http://www.elzvit.org.ua/law-base/> /налоговый-кодекс-украины /

The experience of foreign countries denotes that there are largely applied special tax regimes in base of entrepreneurial patent, but it is important to mention that the regime is designed in such a way to strictly control the value of net sales, or business activity on behalf of fiscal authorities. Also, trade activity is not included within the tax simplification. A relevant criterion for the Republic of Moldova should be a strictly monitoring by competent authorities within the process of implementing the entrepreneurial patent as tax incentive.

#### **4. Analysis of economic activity in base of entrepreneurial patent in the Republic of Moldova**

In Republic of Moldova, during those 18 years of promulgation of the Law on patent, legislative provisions have not been changed in terms of mechanism of registration, evidence and business management. At the same time, patent rates remained at the same amounts. The only small changes that were operated referred to types of patent-based economic activities<sup>4</sup>.

Also, another legislative change was implementation of Title X “Other taxes and fees” of the Tax Code for 2016, according to which private tax and entrepreneurial patent is regulated.

At present, patent owners pay the tax and social insurance contributions, which are included in the patent fee. Also registration procedure for patent owners is simple; their monitoring is limited only to registering at local authorities; there is no obligation of fiscal reporting on income received; no obligation of any other form of evidence; no statistical reports are required; no obligation to use cash devise<sup>5</sup>.

All these administrative and fiscal advantages for patent owners in Moldova not only create an impair competition among economic entities performing similar activities, but also lead to possibilities of tax evasion and abuse of patent use by some taxpayers.

Although patent owners do not have the right to engage personnel, often managers unofficially hire staff and lack of control on

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<sup>4</sup>*At present, the Moldovan legislation stipulates 48 types of activities covered by patent with different patent amounts.*

<sup>5</sup>*From 2017, according to Medium-term Budgetary Framework for 2017-2019 all entrepreneurs who want to activate in base of patent are obliged to possess cash devises.*

behalf of fiscal authorities does not allow detecting infringement situations.

At the same time, lack of fiscal and statistical evidence on the number of patent owners especially in rural regions does not allow to perform an analysis of the real volume of revenues obtained by patent owners per type of activity and per whole activity during one year<sup>6</sup>.

All data on number of issued and extended patents, as well as value of patent rates is accumulated at the State Principal Fiscal Inspectorate and table 4 presents statistics for some years.

**Table 4**

**Structure of payments from the issuance and extension of patents in the Republic of Moldova**

	2013	2014	2015	5 months, 2016
<b>1. Retail trade</b>	80,4%	81,3%	81,4%	80,3%
<b>2. Production of goods, execution of works and rendering services</b>	19,6%	18,7%	18,6%	19,7%

*Source: in base of data from State Fiscal Principal Inspectorate*

Data presented in table 4 highlight the structure of the current patent system from Moldova. About 73% of the number of registered/extended patents and 80% of payments transferred for registered/extended patents result from retail trade. Due to the fact that the financial performance of patent holders is not completely analysed on behalf of fiscal authorities, it is difficult to realize a comprehensive investigation on their real dimension and financial profile of economic activity. At the same time, data from the State Fiscal Principal Inspectorate show that all revenues cashed by budget from the issue and extension of patents registered an increase during 2013-2015 by 4% per year, including patents from trade activity (by 6% per year) that denote profitability of this activity.

At the same time, many patent holders perform seasonal works and for tax authorities it is very complicated to monitor if all patent holders respect the period for which the patent was issued.

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<sup>6</sup>According to law, the annual volume of turnover should not exceed 300 000 lei (nearly 13400 EUR/year).

The analysis made in this article, allows us to conclude that realization of patent-based activities in Moldova is too abusive and the actual model of taxing individuals needs to be improved. It is important for fiscal authorities to review and improve the legislative basis, firstly, the Fiscal Code, in which it would be appropriate to introduce provisions on special tax regimes that would stipulate all tax schemes offered to small entrepreneurs, including individuals. It is necessary to revise the actual patent model to ensure a fair competition for all economic agents and individuals through implementation of best foreign practices and adaption of other countries' special tax regimes to economic reality of Republic of Moldova. Also, it is appropriate to define natural persons that perform economic activities and benefit from certain tax incentives as authorized natural persons in the Fiscal Code of Moldova (like in Romania), in order to form the fiscal profile of legal entities.

The existent model of retail trade conducted in base of patent involves several shortcomings:

- Some patentees do not trade in base of documents that confirm the quality and origin of goods, thus consumers are supposed to a high risk of purchasing low quality goods;
- Some traders merchandise in unauthorized places and markets that do not fall the region for which the patent is valid;
- Patent holders largely abuse of the patent based tax system and hide the real value of turnover. Thus, the transfer of patent holders into the standard tax regime would be hard to accomplish by government.

The abuse of individuals of the patent tax system was also attested in foreign countries and this phenomenon created premises for improvement of tax design.

At present, the *Medium-term Budgetary Framework for 2017-2019* stipulates implementation of a revised tax mechanism for patent holders – free professionals in Moldova:

- I. A simplified financial reporting system with simple accounting rules;
- II. A preferential tax system, similar to SMEs with a 1% rate on turnover, but not less than 3000 lei per year;
- III. Obligation to use cash devise.

## **5. Conclusions**

In international experience patent tax is not clearly defined in national legislations. Alternatives to patent-based tax regime are emphasized through license taxes, annual revenue norms for certain types of business activities and payment sums for purchasing the right to activate in business are regulated by the Law on local taxes and fees, or can be stipulated in Income Taxes on Natural Persons Act. At the same time, local tax authorities always adjust legal framework for activities covered by simplified taxes in terms of application conditions, registration procedure, bookkeeping, as well as tax base, tax rates determination and differentiation per region, etc. The design of a small business tax system should be based on a solid data analysis of business sectors of economy and economic profiles of legal agents. This will increase the fairness of using tax incentives within business community. Policy makers should consider the segmentation of business community and, thus, treat each subgroup with different proper policies.

The Moldovan legal framework of trade activity performed by natural persons needs to be improved and the following recommendations are appropriate:

- Introduction of a new chapter in Fiscal Code of Moldova that would refer to special tax regimes, in which patent-based economic activities would be included besides other tax schemes;
- Establishing a simple procedure of registration and evidence of revenues for patent holders in retail trade activity;
- Offering the right to perform trade activity without a legal form of entrepreneurship. This possibility will allow a procedural simplification of accounting evidence and will encourage socially vulnerable groups to launch a business;
- Creation of a simple tax regime based on lump-sum (3-5%). As experience of other countries shows, for trade activities this rates are justified only for producers from some regions, or strategic sectors;
- Introduction of the obligation to use the fiscal electronic devise;

- Introduction of a simplified tax reporting procedures and the way of tax payment;
- Establishment of transparent and clear criteria for monitoring on behalf of fiscal authorities, as well as sanctions for non-compliance with the new legal framework.

An important moment within the process of applying tax incentives is monitoring by fiscal authorities of their efficiency. For this, each country establishes an individual method of measuring effects, depending on the type of special tax regime.

For the special tax regime in base of entrepreneurial patent it is also important to strictly monitor the effects by fiscal authorities in order to prevent or abolish fiscal evasion and tax fraud by some unconscious tax payers.

As a result of the analysis made in this work, we attest some common features in offering tax incentives in the Republic of Moldova and other countries. At the same time, in the Republic of Moldova a transparent and understandable methodology of estimating the effects of tax incentives lacks. That is why it is necessary to implement by the national fiscal authorities a system for estimating the effects from entrepreneurial patent's implementation as tax incentive in Moldova, which will be based on social effects' indicators. The given system will also allow identifying the sectors from which taxpayers could be transferred towards other tax regimes.

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# A LOOK AT THE EVOLUTION AND CHARACTERISTICS OF THE ROMANIAN FOREIGN DEBT OVER THE PAST YEARS

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Camelia MILEA, PhD\*

## Abstract

The foreign debt represents foreign capital used by a country when the domestic capital is not enough for the investments needed at the national level. On the basis of the analysis of some indicators characterizing the evolution and state of Romania's foreign debt (on the short, medium and long-term), as well as the structure by creditors of the medium and long term Romanian public foreign debt, and finally the structure of the reserve assets of the National Bank of Romania, in the article<sup>1</sup> the author intends to depict not only some of the effects, but also the possible causes of this situation and to show if Romania's foreign debt is sustainable, using qualitative and quantitative evaluations, interpretations and comparative analyses. The analysis is conducted for the period 2013-2016 and it shows that 2009, as well as 2013, have represented turning points in the evolution of the Romanian foreign debt on the medium and long term and its components.

**Keywords:** structure of debt, external public debt, debt sustainability, risks

**JEL Classification:** F21, F32, F34, H63

## 1. Introduction

The economic, social and political transformations at the macro and microeconomic levels internationally, as well as the need for easy, complete and coherent accessing generates the continuous

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\* Scientific Researcher III, "Victor Slăvescu" Centre for Financial and Monetary Research, Romanian Academy, Bucharest.

<sup>1</sup> The article is based on the chapter "The assessment of the external equilibrium", from the research project "The financial stance of Romania, edition 2016" elaborated in CFMR "Victor Slăvescu" in 2016, under the coordination of Marin C., PhD.

updating of the methodological framework of economic statistics. This phenomenon also takes place in the external sector which, from 2014, reports the information according to IMF's Manual on the Balance of Payments and International Investment Position, the 6th edition (BPM6).

The foreign debt<sup>2</sup> represents foreign capital used by a country when the domestic capital is not enough for the investments needed at the national level. Foreign debt is a supplement for internal savings and for domestic credit. Thus, it supports the demand, it improves the standard of living and it supports the transition process. The foreign loans can also be used to refinance the temporary deficits of the balance of payments, providing an alternative to the reduction of the internal consumption (Milea, 2009).

The foreign financing provides access to more debt instruments, which allows a more efficient management of the cost of debt and of the risks, which can thus be sometimes cheaper than the internal financing.

Based on the analysis of indicators regarding the Romanian foreign debt (short, medium and long term), the structure by creditors of the foreign medium and long term public debt and regarding the structure of the reserve assets of the National Bank of Romania, the author intends to present not only some effects, but also the possible causes which generated these results, in addition to other existing studies (Monthly Bulletins and Annual Reports of the National Bank of Romania). The methodology used consists in qualitative and quantitative evaluations, interpretations, comparative analyses, correlations and proposals of measures. The analysis is done for the period 2013-2016.

In Romania, the structural reforms took place slowly, generating a structural imbalance of the economy, with effects on the consolidated state budget and on the current account which had large deficits until 2009, produced by an economy, which consumes more than it produces. Due to a low rate of the internal accumulation, these deficits and the internal absorption for consumption and investments

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<sup>2</sup> *The definition of the foreign debt given internationally presents gross foreign debt, at a particular moment, as the "total amount of the contracted loans, used and not paid back, up to that particular moment, from the foreign financial markets, and the obligation of the residents to reimburse the capital instalments and the related interest".*

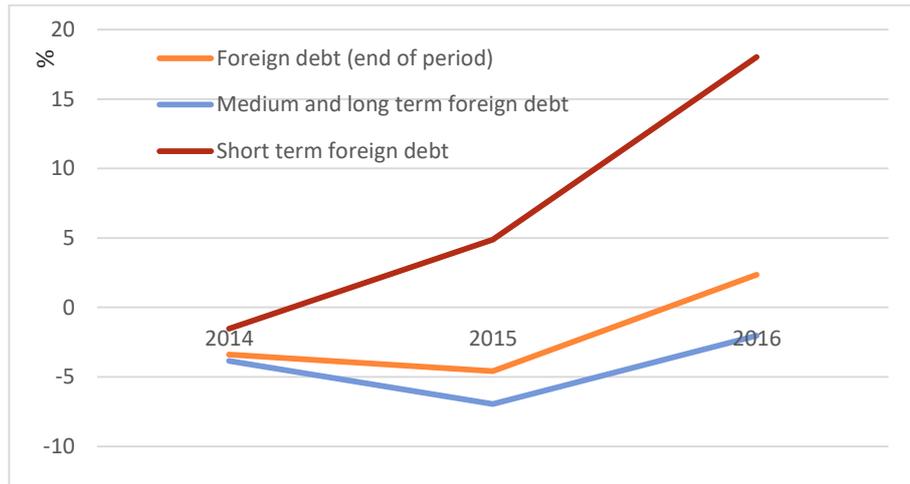
have been covered by foreign capital, either as investments, or as loans, which have increased gradually the foreign debt. Thus, the medium and long-term foreign debt has increased almost continuously starting with 1990, 2013 being the first year when the foreign debt has decreased, trend continued until 2016 inclusive. The external public debt has also increased almost continuously after 1990, peaking in 2009-2012, when Romania has taken a foreign loan from the international financial organizations. 2009, as well as 2013, have represented turning points in the evolution of the Romanian foreign debt on the medium and long term and its components.

## **2. The Trend and the Characteristics of the Short, Medium and Long-Term External Debt and of its Components**

In 2013-2016, the total external debt displayed a slightly decreasing trend until 2015, with a 2.4 percent points increase in 2016 compared to 2015 (Chart 1).

The structure by maturities of the external debt shows that the proportion of the short-term external debt increased in 2013-2016, reaching 25%. This trend must be monitored closely because a high share of the short-term external debt within the total external debt raises sustainability risks. In terms of value, the short-term external debt decreased in 2014 and increased in 2015 and 2016.

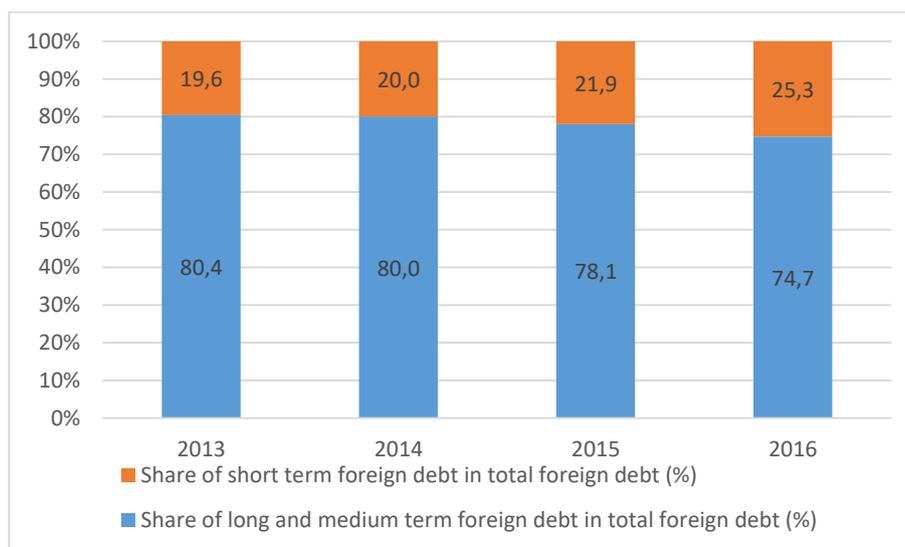
**Chart 1**  
**The evolution of the Romanian external debt and of its components (annual rate, %)**



Source: National Bank of Romania (NBR) data (National Bank of Romania, 2017) and author's calculation

In Romania, the medium and long-term foreign debt represents most of the total external debt during the surveyed period (Chart 2). A longer maturity supports the national economy in a sustainable manner, since the burden of the debt is spread on a longer period of time, so that it doesn't hamper the budget decisions and the investment projects of the government. Compared to 2013, the medium and long-term foreign debt has decreased in each year of the period 2014-2016 (Chart 1), decreasing trend also noticed regarding its proportion within the total external debt. This has decreased in 2014-2015 and has increased in 2016. The year 2013 represented a turning point for the medium and long-term foreign debt of Romania, since it was the first year after 1990, when it decreased.

**Chart 2**  
**The evolution of the structure of the Romanian external debt**  
**(share, %)**

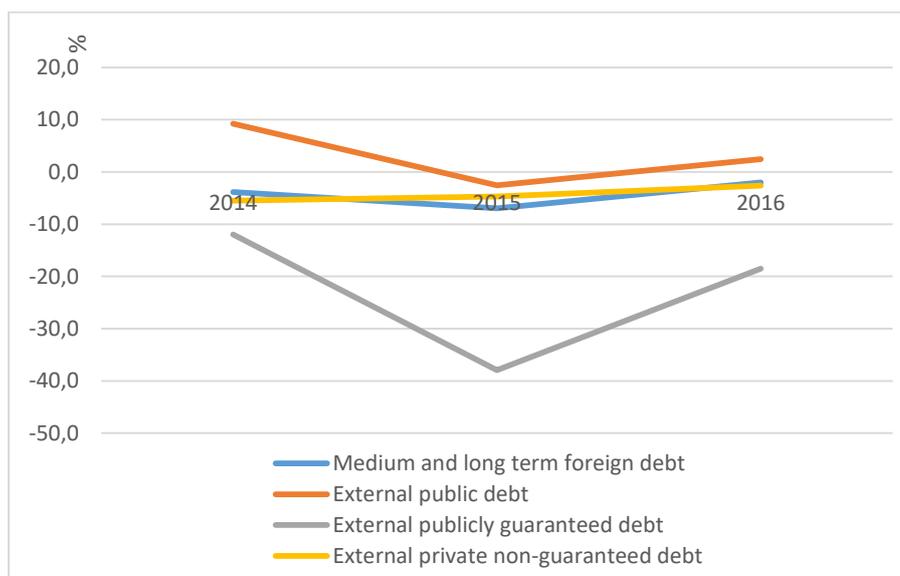


Source: NBR data (National Bank of Romania, 2017) and author's calculation

The external public debt increased in 2014 and 2016, and decreased in 2015 (Chart 3). The share of the external public debt within the medium and long-term external debt of Romania increased in 2013 – 2016.

The evolution of the external public debt has been mainly determined by the trend of the external direct public debt and less by the external publicly guaranteed debt, which decreased in each year of the surveyed period. The share of the external publicly guaranteed debt on the medium and long-term within the medium and long-term external debt has decreased in 2013 - 2016.

**Chart 3**  
**The evolution of the medium and long-term external debt and of its components in Romania (annual rate, %)**



Source: NBR data (National Bank of Romania, 2017) and author's calculation

According to the Financial Stability Report (FSR) from 2015, although the public debt of Romania (39.9% of the GDP, i.e. 59.3 billion Euro, at the end of 2014), is lower than in most of the EU member states (fourth lowest level in the EU) and below the maximal threshold regulated by the EU Treaty (60%), yet its fast dynamics and, often, the procyclic character of the Romanian fiscal policy require a deeper analysis and a close monitoring of the evolution of our country's public debt. The significant increase of the public debt after 2008 is due both to the financial crisis, as well as to the process of fiscal consolidation.

According to FSR 2015, the external debt accounts for about half of the public debt of Romania.

Before the crisis, the increase of the public debt was offset by a high rate of economic growth, but after the onset of the global economic and financial crisis, the Romania's access to funding from the international capital market was strongly impelled, which required the assistance of international financial bodies (such as WB, EU and IMF), on the condition of adopting painful domestic measures of

reorganisation. The public debt increased spectacularly in 2009-2011 in order to finance the budget deficit, requiring subsequently, for fiscal consolidation, adjustments even tougher than those generated by the effects of the financial crisis (e.g. decreasing some public expenditures, reducing the public wages expenditures, diminishing public investments, which were, however, maintained above the level of the budget deficit).

It should be mentioned that it is acceptable that a country increases the volume of loans in general, and of foreign, loans in particular, as long as the cost of the loans is lower or equal with the marginal product of the borrowed capital, because, only in this case, the increase of the foreign debt improves the growth rate of the national income. The foreign loans do not generate economic growth if they are used inefficiently (i.e. to balance the excessive exports of capital, or with lower yields than the interest rate paid for them, or to finance unproductive activities such as the consumption); on the contrary, they lead to the need to take more loans, which eventually diminishes the access of that country to foreign financing, and even to a foreign debt crisis. (Milea, 2009).

According to FSR 2015, after 2012, the increase of the public debt was also generated by the establishment of a financial reserve in hard currency, at the disposal of the Ministry of Public Finances, meant to cover the needs for liquidity of the state, covering completely the service of the external public debt, and about 50% of the service of the total public debt.

The financial reserve at the disposal of the Ministry of Public Finances, which is also an asset, is included in the total public debt, which means that the net external public debt is significantly lower than that from the statistics (for instance, in 2014 it was 35.3% of the GDP, according to FSR 2015).

According to FSR 2016, in September 2016, the public debt was 36.8% of the GDP, and the external debt was adjusted to 18.1% of the GDP. Regarding the sustainability of the external debt, the ratio between the short-term external debt and the foreign exchange reserves settled down (for instance, in September 2016, it was about 61.6%, according to FSR 2016), while the coverage of the short-term external debt (calculated at the residual value) by NBR's foreign exchange reserves reached 94.2% in September 2016, which shows a good capacity of the Romanian economy to cope with any negative evolutions of the external sector.

According to FSR 2015, the “public debt sustainability must be evaluated from at least four perspectives: its size, the residual maturity, the cost of financing and the structure of the investors basis”.

In terms of the public debt size, Romania is below the critical threshold which might trigger the economic recession (according to FSR 2015, it is calculated econometrically to 40-50%), but rather close to it, which requires a prudent stabilizing (below 3% of the GDP) of the budget deficit.

The average residual maturity of the public debt expanded over the period 2008-2015, according to FSR 2015, which is an important aspect for diminishing the annual requirement of funding and for decreasing the risk of refunding. In terms of the public debt sustainability, a maturity inappropriate to the requirements can be a risk factor even more important than the level of the public debt.

The measures of fiscal consolidation and of restoration of the macroeconomic equilibria, the inclusion of the Romanian state bonds within some international reference indices for the investments in assets of the emergent states, as well as the improvement of the country rating for Romania by the major rating agencies, have brought about the improvement of the liquidity on the secondary market and the increase of the average maturity of the newly-issued bonds. In 2015-2016, about 29% of the state bonds stock (amounting to 11.8 billion euro) had due date, while the rest of the debt is due gradually up to 2044. Under these circumstances, the fiscal-budgetary policy had to be maintained within a prudent framework, so as the refunding of the due debt to be done in conditions as favourable as possible in terms of cost and maturity (FSR 2015).

A positive aspect is that the cost of financing the public debt decreased significantly in 2008-2015, while the debt tripled. Within the context of a possible international or regional trend reversal, the cost of financing the public debt can become a risk factor for its sustainability. “The reduction of the cost of financing the public debt has been influenced by the favourable external conditions (very low interest rates and high liquidity), by the domestic macroeconomic structural adjustments (decrease of the budget deficit and of the inflation rate) and by the liquidity conditions on the local monetary market (FSR 2015)”.

The concentration level of the basis of investors for the public debt decreased over the period 2009-2014, according to FSR 2015,

but the financing of the public sector has been done mainly by the banking sector. This trend might reverse in the future due to the changes in the banking sector (generated by the restart of the credit demand, by the implementation of the European proposals to increase the capital requirements regarding the exposure of the sovereign debt and by the need to boost the economic growth). In terms of financial stability, the strengthening of the link between the public debt and the local banking sector had also positive aspects such as: the reduction of the risk of regional contagion within the banking system, on the background of the uncertainty in the Euro zone, the improvement of the liquidity of the banks and the avoidance of a disordered financial disintermediation within this sector.

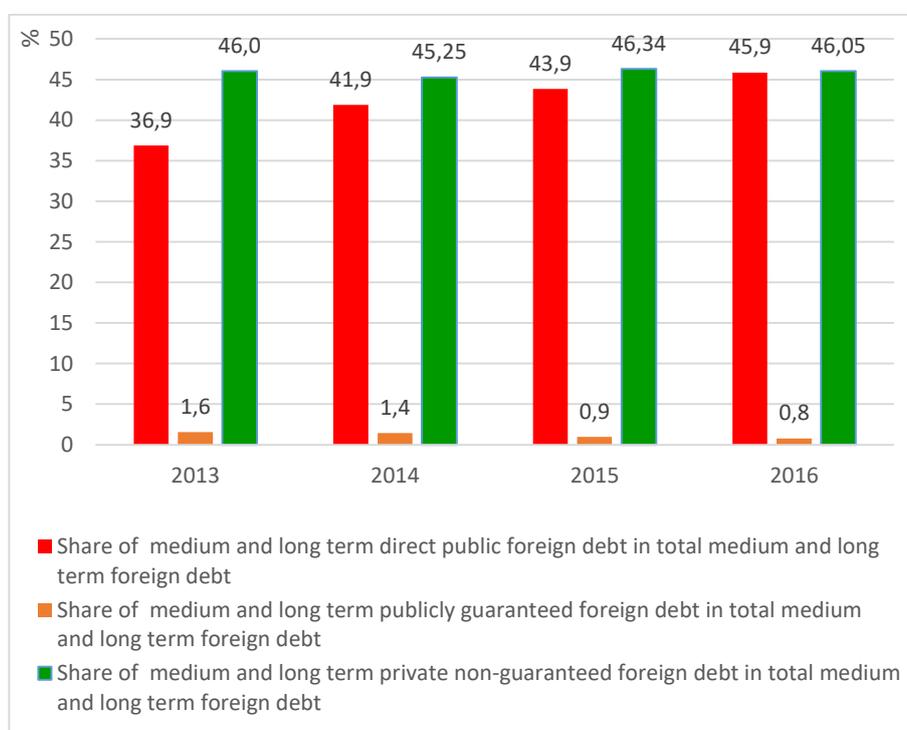
In conclusion, regarding the sustainability of the public debt, according to FSR 2015, "The average residual maturity increased, the interest costs decreased, and the basis of investors in state bonds diversified. Therefore, the profile of public debt sustainability improved over the recent years, offsetting the increase of the public debt. The evolution of the stock of public debt must be, nevertheless, closely monitored, as it increased significantly compared to 2008".

The medium and long-term external private non-guaranteed debt decreased in 2013-2016 (Chart 3), on the background of continuous displays such as: an economic activity below the potential, a still low liquidity and the persistence of the risk aversion due to the global and regional economic and financial crises (such as the euro zone debt crisis). Before the onset of the crisis, in general, the private sector preferred to borrow from the external markets, against a more favourable external cost compared to the price of the domestic financing resources, due to an overvalued real exchange rate of the national currency, to the high interest rates for loans in Romania and to the sometimes improper behaviour of the banks in Romania throughout the crediting process. Within this context, in the years precursory of the crisis (up to 2009 included), on the background of the optimism generated by the economic boom, the external debt of the private sector increased significantly. The external credit conditions continue to be more favourable than those offered by the banking sector in Romania.

Over the period 2005-2010, the external private non-guaranteed debt accounted for most of the total medium and long-term external debt of Romania, which shows, on the background of a macroeconomic context still dominated by uncertainty, an important

increase of the dependence on the external financial markets. The decrease of the proportion of the external private non-guaranteed debt, starting with 2011 (below 50%), is encouraging for the sustainability of Romania's external debt. The analysis shows that, in 2014-2016, the share of the external public debt approached the proportion of the external private non-guaranteed debt within the total medium and long-term external debt, but it still is below it (Chart 4).

**Chart 4**  
**The evolution of the structure of the Romanian medium and long term external debt (share, %)**



Source: NBR data (National Bank of Romania, 2017) and author's calculation

Over the period 2013-2016, the balance of the financial account shows, unlike the previous years, capital outflows, therefore a positive influence on the international investment position due to an increase of the net assets more important than the increase of the net liabilities, which signifies increasing rights over the non-residents. This occurs due to paying back long-term loans, despite the inflows of

foreign direct investments and of portfolio investments (except in 2015 for the portfolio investments). The loans taken by Romania from the bonds market, at the same time with the reduction of the long-term external loans, shows the replacement of the institutional lenders with private lenders. As the debt from the multilateral institutions has lower costs, taking into account the interest rate used for the countries perceived as having a high risk on the of private capital international market; longer total maturity, longer grace period; I consider that the replacement of the creditors is a thoroughly negative evolution for the situation of the Romanian economy. Instead of paying back the older foreign debt we borrow more capital under harsher lending conditions.

As of 2012, the Romanian state diversified the external markets by issuing bonds on the US market. The Romanian treasury bonds, issued in US Dollars, represent one third of the value of the issues on the external financial markets, according to July 2015 data. The increase of the fiscal deficit will probably have to be largely funded by non-residents (given the important exposure of the residents to such portfolios). The increasing share of non-residents financing the public debt would increase the contagion risk in case the international financial markets experience changes in the investors' risk appetite (FSR, 2015).

Therefore, it is necessary to develop and observe a national indebtedness strategy which should establish an optimal ratio between the medium and long-term debt and the short-term debt, between their due dates, so as to avoid payment peaks by an even distribution of the external debt burden. It is also necessary to have a complex and coherent reimbursement strategy of the external debt, in accordance with the progress of the economic reform and with the stage of the national economy reorganisation.

### **3. The structure by creditors of the medium and long-term external public debt**

The multilateral credits hold the majority within the structure by creditors of the Romanian medium and long-term external public debt in almost every year of the surveyed period (Chart 5). This can be explained by the interest of the international financial organisations towards the evolution of the Romanian economy, but particularly by the needs of our economy for external capitals, both during the

economic boom, and especially within the context of the world economic and financial crisis, with a strong increase in 2009-2010.

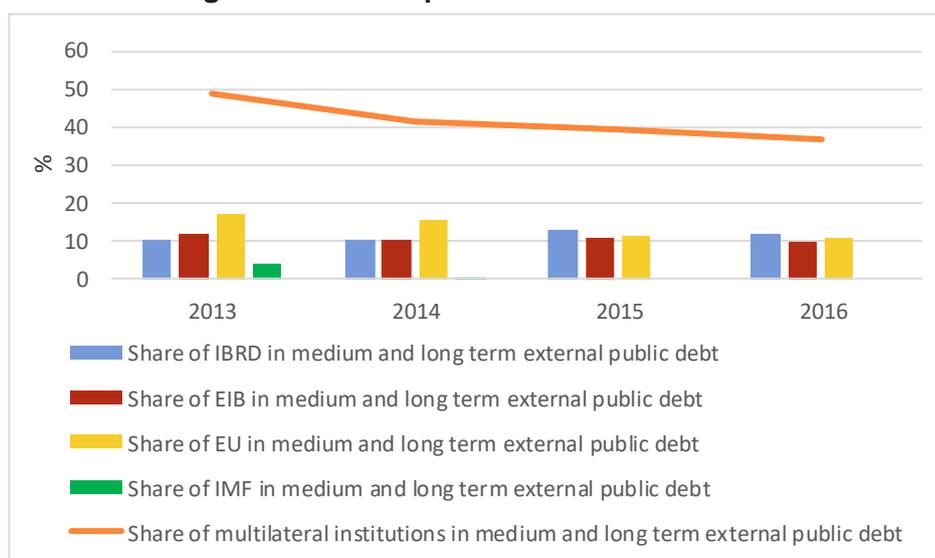
However, a decrease of the debt towards the multilateral institutions was noticed during the surveyed period, and also of the share of these credits within the medium and long-term external public debt (Chart 5).

Analysing the structure by lenders of the medium and long-term external public debt, we notice that between 2013 and 2015, on the background of returning the loans towards the International Monetary Fund (IMF) and the European Union (EU), Romania took loans from the International Bank for Reconstruction and Development (IBRD) and from the European Investment Bank (EIB) (except in 2014). In 2016, Romania has returned a part of the credits from IBRD and EIB.

Therefore, the share of the loans from EU and IMF within the medium and long-term external public debt decreased in 2013-2016, while the proportion of the loans taken from IBRD increased (particularly in 2015), and decreased in 2016. The share of the loans taken from EIB fluctuated around 10% (Chart 5). The proportion of the loans granted by the European Union is important, although it decreased from 17.20% to 11.04% between 2013 and 2016 (Chart 5).

The credits from the European Commission and IBRD are to be returned in the near future (2015-2019, and 2022-2023, respectively), which might lead to a decrease of the stock of external public debt.

**Chart 5**  
**The evolution of the structure by creditors of the medium and long-term external public debt of Romania**



Source: NBR data (National Bank of Romania, 2017) and author's calculation

Despite the media hype about the credits from the International Monetary Fund, they hold only a small proportion compared to the loans from IBRD, EIB and EU.

The loans taken from official creditors have several advantages: generally, they have a longer total period, a longer period of grace; therefore lower costs, which make them easier to honour. However, these credits have also disadvantages: limited available funds and the excessive use of this type of financing deters foreign investors, because exceptional financing is meant to support the efforts of structural adjustment of the economy and to cover the current account deficit, which raises questions about endless efforts of economic reform.

#### **4. The structure of the reserve assets of the National Bank of Romania**

The reserve assets of the National Bank of Romania increased slightly in 2014 compared to 2013, but decreased a little in 2015 compared to 2014. A new increase of the reserve assets has

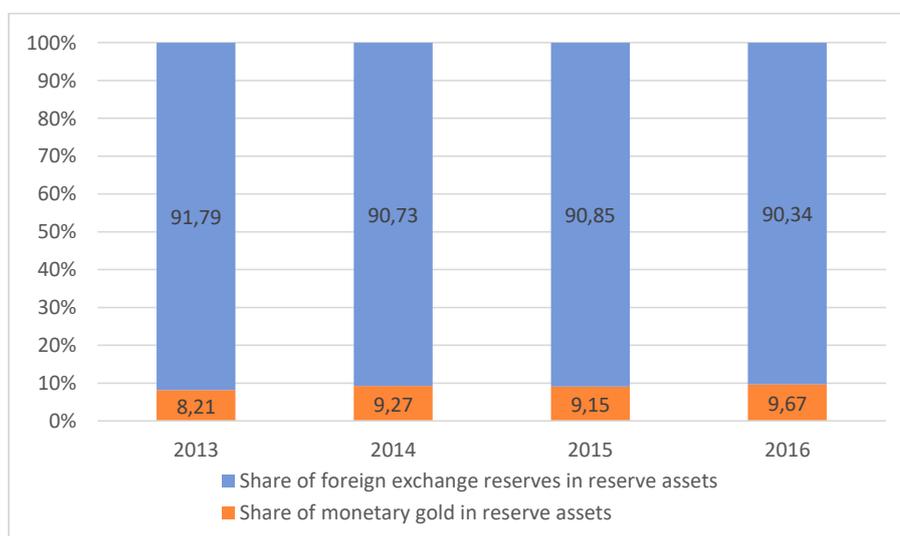
taken place in 2016, compared both to 2015 and to 2013. This evolution shows the financial and banking credibility and stability of Romania. The reserve assets, which represent those real foreign assets (expressed in hard currency) that are urgently available to the monetary authorities in order to support external credits, to finance the balance of payments, to manage the exchange rate and to maintain and increase the confidence in the national currency, must be supported by adequate and responsible public policies, which should make the most of them, as they are an important fundament for the credibility of a national economy.

Analyzing the structure of NBR's reserve assets over the surveyed period (2013-2016), we notice that the value of the monetary gold remained at a level of about 3,000 million Euro, representing a rather small, but constant proportion within the total NBR's reserve assets. The monetary gold decreased strongly in 2013 compared to the previous period but increased moderately in 2014 and 2016 on a year-to-year basis (Chart 6).

Between 2013 and 2015, the foreign exchange reserves remained almost unchanged, although in 2014 it decreased slightly, only to increase in 2016 compared to the previous year (Chart 6).

**Chart 6**

**The evolution of the components of NBR' reserve assets**



Source: NBR data (National Bank of Romania, 2017) and author's calculation

The foreign exchange reserves, expressed in months of imports, are large enough to be regarded as satisfying for covering imports, but its decrease in 2013-2016 from 7.3 months of imports in 2013 to 6.4 months of imports in December 2016, might signal imbalances in the sustainability of imports, particularly if the current unfavourable evolution continues.

## **5. Conclusions**

After 2009, year which represented a turning point in the evolution of the medium and long-term external debt and of its components, in 2013-2016, the medium and long-term external debt decreased gradually, trend which should continue in the future, particularly as the total external debt decreased also over the surveyed period, except for 2016. Thus, we may also consider 2013 as a turning point for the Romanian medium and long-term external debt, as it is the first year after 1990, when the medium and long-term external debt decreased.

Although it increased in 2014 and 2016 on a year-to-year basis, the Romanian public debt remained below the maximal threshold regulated by the European Union Treaty (60%).

The analysis of the public debt sustainability (in terms of size, residual maturity, cost of financing and structure of the basis of investors) shows that the profile of the public debt sustainability has improved lately, offsetting the increase of the public debt. Nevertheless, its fast dynamics and often the procyclic character of the fiscal policy in Romania require a close monitoring of the public debt evolution of our country.

On the other hand, the increase of the share of the short-term external debt within the total external debt of Romania, during the entire surveyed period, must also be closely monitored due to the risks to sustainability.

On the background of continuing mistrust and risk aversion of the creditors, of a still modest flow of liquidity, and of an economic activity that is still recovering after the strong effects of the global economic and financial crisis, the Romanian private non-guaranteed external debt decreased slightly in 2013-2016.

The multilateral credits represented the majority within the structure by creditors of the medium and long-term external debt in almost every year of the surveyed period showing the interest of the

international financial organisations towards the evolution of the Romanian economy, but also the need for external capitals of our economy, both during the economic boom, and especially within the context of the world economic and financial crisis. The multilateral credits decreased slightly in each year of the surveyed period (2013-2016).

I consider that the replacement of the institutional lenders by private lenders (as of 2013) is a negative evolution for the Romanian economy. Instead of paying back the old debts, we keep taking loans under harsher credit terms.

The credit conditions from abroad are still more favourable than the credit conditions offered by the banks acting in Romania, which has negative consequences on the evolution of the Romanian economy.

The almost continuous, although modest, increase of NBR's reserve assets in 2013, 2014 and 2016, with a slight decrease in 2015, reveals the financial-banking credibility and solidity of Romania.

In conclusion, the indices analysis shows a good capacity of the Romanian economy to cope with the possible negative evolutions of the external sector.

Although the indicators analysed show that the medium and long-term Romanian foreign debt is within the limits that are considered sustainable internationally, an analysis of the causes which have led to this ever increasing trend of the foreign debt in Romania and of how much the foreign debt has supported the economic growth of Romania might be appropriate.

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“Victor Slăvescu” Centre for Financial and Monetary Research  
Casa Academiei 13, Calea 13 Septembrie, Building B, 5<sup>th</sup> floor  
Bucharest, 050711, Romania  
Phone: +40 21.318.24.19  
Fax: +40 21.318.24.19  
E-mail: [s.vraciu@icfm.ro](mailto:s.vraciu@icfm.ro)