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The price of credit: Government's Contribution

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Introduction

Increased competitiveness of the Russian economy through a structural manoeuvre of increasing the share were share of its high-tech sector is impossible to effect without a massive influx of investment seeking to implement the technology innovations. One of the conditions for such influx consists, evidently, in significant improvement of the investment climate in the country. The status of the latter is due to a significant number of factors¹, one of which is *the accessibility of financial resources*. An indicator and at the same time real expression of such accessibility is in the first place the price of credits by national banks.

It is widely known, that in the Russian Federation in spite of macroeconomic stabilisation achieved relatively long time ago, the price remains to be relatively high. Thus, according to the Bank of Russia, in April, 2005 it made 13.2 % annually on rouble credits with a maturity up to one year for industries² and 22.1% for natural persons³. Furthermore, forecasts of a inflation rate for 2005 based on the results of the first quarter, by some estimations⁴, made 11,5 % annually. Commonly, as explanation of this phenomenon high risks of a non-refund of the issued credits have been quoted.⁵ However, such risks can be only a *consequence* of more profound reasons which remain uncovered by such explanation.

Meanwhile, lack of certainty with regard to such reasons does not allow putting forward measures that could possibly improve the given component of the country's investment climate. Thus, in Russian Banking Sector Development Strategy though 2008 recently approved by joint ordinance of the Government of the Russian Federation and the Central Bank⁶, all measures for its transformation, in the opinion of a number of experts, are actually reduced to mere integration of credit institutions⁷. However, there is no established data testifying that more major banks allot credits under lower prices, though based on the common sense (effects from the economy of scale) such dependence should take place⁸.

From our point of view, to take effective measures for normalisation of the situation in the field it is necessary, first of all, to try to identify the likely reasons for obviously overestimated credit prices retained in the contemporary macroeconomically sustainable conditions with steady proficiency of the budget and growing cash balances on the corporate accounts.

The working hypothesis underlying the current empirical research maintains that **the reason behind overestimated credit prices is poor quality institutional environment** both in the national economy as a whole and actually in the banking sector, in particular. The unreliable specification and protection of the property rights and contract rights, abundant administrative barriers, excessive

1 See, e.g., detailed analysis of this notion in the World Bank Report "A Better Investment Climate for Everyone" (in Russian: Moscow, Ves' Mir, 2005)

2 According to the data of "The Development Center", the large banks issue credits to industry at 14-15% per annum (see Lepetikov, D. "Bankovskaya sistema v 2004 g.: rost kreditovaniya na fone krizisa", <http://www.dcenter.ru/1/files/46/55/171.pdf>)

3 Byulleten' bankovskoy statistiki, #6, 2005 (<http://www.cbr.ru/BBS/Bbs0506r.pdf>)

4 For example, the estimations of the Centre for Macroeconomic Analysis and Short-range Forecasting in the publication "On inflation in April 2005" ("Ob inflyatsii v aprele 2005 goda", <http://www.forecast.ru/InflApr.pdf>)

5 See, e.g.: Honohan P. How Interest Rates Change Under Financial Liberalization (A Cross-Country Review). World Bank. Development Research Group. Working Papers 2313; Karpinskaya, 2005

6 Statement by Russian Federation Government and Central Bank on Russian Federation Banking Sector Development Strategy for the period up to 2008, dd. April 5, 2005

7 Fedorov, 2005

8 See, e.g.: Hannan, 1991; Berger and Hannan, 1997; Corvoisier and Gropp, 2002; Berger, Rosen, Udell, 2005

regulation of the business activities, aggressive of supervisory and monitoring behaviour of the state, etc., at once raises the above-mentioned risks of the non-repayment of credits, and causes the generally high level of unproductive transaction costs frequently having implicit or shadow nature. The need for compensation of such costs also leads to banks being compelled “to overstate” credit prices in relation to the level which could exist if the institutional environment were of better quality.

In the first part of the paper, general description of the existing approaches to empirical statistic analysis of the influence of institutional factors on various parameters of economic development is provided, while the second part sets out the traditional position concerning the consideration of factors determining the level of credit price. The third part is devoted to the description of the utilised statistical data, and the fourth one features results of the empirical calculations undertaken to test of the initial hypothesis, and their scrutiny. The fifth section comprises conclusions and recommendations for improving the banking sector development strategy for the Russian Federation as a factor in improving the overall investment climate; appendices to paper contain immediate results of the econometric analysis.

1. Influence of institutes on economic development

It has virtually become conventional today within the economic science community to share the view that economic, political and social institutes functioning in this or that country render appreciable influence on the broad spectrum of parameters of its economic development. Influence of institutes on the economic development is admits also acknowledges by many international organisations along with a number of national governments which are pursuing reforms aimed at improving the quality of the nation’s internal institutes. Numerous empirical studies of influence of institutes (precisely certain and reliably protected property rights, quality of contract protection, prevalence of above discretionary decisions by officials, independence of the judiciary, clear separation of powers, accountability of the state bodies to the community, etc.) The economy have convincingly shown the importance of their impact on the parameters reflecting welfare⁹, inequality¹⁰, economic growth¹¹, volume of investments into the economy¹² and many other parameters¹³.

The mechanism of such impact as a qualitative model is described in the studies by D. North¹⁴. Institutes, i.e. rules of individual’s behaviour in various sectors of the society considered along with mechanisms of their enforcement mechanisms are connected with various costs and benefits, both for direct recipients of rules, and for other groups of individuals. These costs and benefits, in turn, determine incentives for economic agents for resource exploitation, be it productive or unproductive. If institutes *are inefficient*, i.e. aggregate costs generated by them exceed aggregate benefits, or have clearly redistributive nature, i.e. transfer resources from one individuals to others without promoting creation of stimuli to make resource exploitation more efficient, then economic growth would be suppressed\ while the society living in such institutional environment would not spend its resources on social welfare but on overcoming of negative consequences of “function” of such institutes. On the contrary, the institutional environment consisting primarily of rules, aggregate benefits from following which exceed the costs, would create adequate stimuli for economic agents, and will in the end lead to persistent growth of well-being in the society.

Proceeding from the outlined logic of the impact of institutes on economic growth, it is easy to

9 Dawson, 1998; Easton & Walker, 1997; Norton, 1998, 2003; Scully, 1997; Grubel, 1998

10 Chong & Calderon, 1998

11 Barro & Sala-i-Martin, 1995; Porter & Scully, 1995; Knack & Keefer, 1995; Knack, 1996; Ayal & Karras, 1998; Abdiweli & Crain, 2002,

12 Clague et.all, 1999; Keefer and Knack, October 2002

13 See, e.g. Bart & Caprio & Levine, 2002

14 North, 1981, 1987, 1990

infer the idea of the *quality of institutes* (institutional environment of the national economy): it becomes the higher the greater is the degree to which institutes reduce the unproductive part of transaction costs inevitably accompanying any transactions of economic agents. In substance, high quality institutional environment includes:

Precisely certain (specific) and reliably protected property rights;

Effective mechanisms of protection of the contract rights;

Rules and the mechanisms providing the accountability of the executive authority to the society, preventing cases of mercenary behaviour of officials.

Quality institutional environment, as opposed ordinary economic variables, has no direct measuring instruments. It is only indirectly reflected by a number of indicators among which we could list the following:

- *Index of economic freedom* and its separate components - Scully and Slottje, 1991; Fraser Institute; Heritage Foundation; de Vanssay, Spindler 1994, 1996; Easton, Walker, 1997; de Haan, Sturm, 2000;
- *Quality of the government and political corruption* - Todaro, 1997, Transparency International;
- Applied studies of a level country-specific risks for potential investors - International Country Risk Guide;
- *Business risks* - Keefer and Knack, 1997;
- *Ethnic or cultural features* - Fearon, 2003;
- *Ethnocultural diversity* - Norton, 2000.

Quality institutional environment of any national economy is treated in a modern economic theory not as “objective” unchangeable factor, but as a consequence of measures by the government.

Intervention of the government in economy, basically, can be two-fold:

1) The government can reduce transaction costs thus *raising quality* of institutes to carry out so-called “fundamental reforms”¹⁵; within the framework of such intervention strategy the institutional environment is dominated by effective institutes, which in an ideal exclusive case shape minimum required set of “rules of the game”, while in the event even one of them is missing, the resources’ productivity *would be lowered*;

2) It can also *deteriorate the quality* of institutional environment by undermining property rights, entering excessive (compared to above-mentioned minimum required “core” rules) regulation and administrative barriers.

In other words, the contribution of government to the condition institutional framework of the economic activities can be both positive, and negative.

Actions by the government following the second strategy *reduce productivity of resources*: in fact, the more restrictions are introduced in the optimisation problem, the worse is, as a rule, the achievable level of optimisation. Proceeding from this interrelation between restrictions and utility (profit, well-being), it is possible to draw a conclusion that *purging the economy of excessive restrictions* and achievement of maximum *economic freedom*¹⁶ should be the prime target of the economic policy aimed at growth in prosperity and more efficient economy.

In this connection, it is would be justified over the recent years the most frequently used one of all institutional environment quality indicators was the *Economic Freedom of the World Index* (EFW): the indicator reflecting a degree of development of the institutes and reversely related to level of restrictions introduced by the state¹⁷. Its application was started in mid-1980s by Fraser Institute¹⁸.

15 Jefferson & Rawski, 1995

16 Naturally, taking into account the above provision on the need to secure property rights and contract rights, and government accountability vis-à-vis the community.

17 See more on EFW below

Now, there are no other alternative *direct* measuring instruments of economic policy efficiency (given the thesis that the fewer are restrictions, the more effective is the national economic policy¹⁹). Because *an indirect* indicator of the quality of economic policy one should mention developments by E. Osborn's (Osborne, 2004), who utilised in their structure 4 components reflecting results of policy (inflation, difference between the market and official exchange rate, public expenditures, openness to foreign trade), having accepted as relative weights their contributions to the economic growth, evaluated on the basis of regression analysis.

With the beginning of EFW assessments, many applied works based on cross-national comparisons and using this index to describe the quality of institutional environment of the respective country have emerged²⁰.

One should note that influence of institutes on functioning of banking sector was included also in a subject of empirical studies. Thus, in the study J. Barth, Z. Caprio and R. Leaven²¹ employing the data from approximately fifty countries it is shown that: the weaker the government, the more rigid restrictions it imposes on the banks; stringency of regulation of the banking system does not lower the probability of banking crises; at the same time, for the hypothesis that increase of stringency of regulation reduces efficiency of functioning of banking sector, no clear support has been found.

Econometric analysis carried out by Hoang Lan Ha²² has shown that indicators of the efficiency of judiciary alongside with such traditional variables as bond yields and inflations are also statistically significant in the equations explaining a degree of development of the credit market. The countries in which better judicial protection of contracts is provided, possess larger scale banking sector with a higher share of the credits issued to private sector.

The impact of the efficiency of judiciary on credit costs was the subject of the study by L. Leven and J. Majnoni²³. Using the aggregate data on 106 countries and the data on the level of individual banks on 32 countries, they have shown that the inflation rate and efficiency level of judiciary are the basic determinants of the size of interest margin. In other words, the reforms improving legal protection of contracts, as well as improvement of macroeconomic stability of the country, are equally necessary for reduction of costs of financial intermediary.

To the same bulk of studies, although it *does not use* the index of economic freedom or its components, it is also possible to attribute and S. Lintz's²⁴ paper. Using the data from questioning 264 Russian firms, it shows that the firms describing the property rights as poorly protected, use essentially smaller part of the profit for investment than those which property is protected reliably. Also, the firms having access to credits, reinvest significantly larger part of the revenues than the firms which are not having such access. Importance of this study for our topic consists in that it has simultaneously considered as availability of credits (obviously, depending on the interest rate) and investment behaviour of firms.

Lastly, an attempt of a direct economic estimation of the influence of the intra-sector administrative barriers on costs of the Russian banks has been made by Ja. Galukhina²⁵. Her analysis has displayed that the presence of administrative barriers in the banking sector increases the cost of service per one client on the average by 2.4-4 thousand roubles a year while the cost of each transaction increases by 11-20 roubles. For an average-size bank, in aggregate, these costs make about

¹⁸ www.freetheworld.com

¹⁹ Berggren, 2003

²⁰ See, e.g., Vanssay, Spindler, 1994; Easton, Walker, 1997; Davidson, 2002; Mixon, Roseman, 2003; Vega-Gordillo, Álvarez-Arce, 2003.

²¹ Barth, Caprio, Levine, 2002

²² Hoang Lan Ha, 2003

²³ Laeven and Majnoni, 2003

²⁴ Lintz, 2000

²⁵ Galukhina, 2004

0.15%-0.2% from the size of assets. Thus, the greatest share in such costs belongs to the expenditures on overcoming *of barriers to operation* (connected with routine activity of bank, for example, with imposing on banks inappropriate functions, requirement to gather and provide a great volume of information to the regulator including IAS reporting, and so forth) rather than *of entrance barriers* (expenses on opening branches and subsidiaries, the missing profit as a result of long procedure for their opening and so forth).

In our study of dependency between the crediting rate (as the price of the loaned capital) with monetary and institutional factors we are relying on the method of cross-national comparisons using EFW index and its individual components as the indicator of the quality of institutional environment.

2. Principles for the establishment of interest rates

According to the standard approach, the numerous factors affecting the interest rate policy can be divided into macroeconomic and microeconomic ones.

The following belong to *macroeconomic* factors:

1. Monetary and credit policy in the country and, first of all, the policy of central banks. By means of *rates and operations in the open market*, central banks influence the size of a money supply in the country, promoting increase or reduction of demand of commercial banks on the credit that serves as a reference point for other interest rates of the money market.

Thus a role of the rate of refinancing in definition of the crediting rate in advanced and emerging countries different - in the countries with the advanced market economy influence of this tool of a monetary policy (politics) is stronger.

The interest level is affected also *with the specification of deductions in the emergency fund of the Central Bank* as percent (interests) on a cash balance, the required reserves listed in fund, are not charged. Because a result of reservation of a part of the involved resources interest rates under deposits decrease and rates under credits raise.

2. Interaction of supply and demand in the credit market. Interest rate as the price of loan funds is determined by the ratio of a supply and demand. The lower the interest rate, the more the opportunities for lucrative investment, thus, the higher the demand for loan funds.

At the same time, the supply and demand of credit is affected *by the investment climate* - a sufficient level of legislation development, degree of economic freedom of market agents, amount of tax and also state regulation mechanisms minimising investment risks of the creditor and the borrower. The institutional factors we are about to analyse belong namely to this group of risks.

3. Inflation. Inflationary expectations. Market interest rates are established by commercial banks in on the sufficient level for covering of expected rates of inflation and providing real return. Therefore there is a direct dependence between inflation rate and the interest level.

4. Competition in the market of the credit services resulting in decrease of interest rates.

5. Industrial cycle phase. Because a rule, the cycle of changes of short-term interest rates coincides with a business cycle in economy²⁶. During economic recession, interest rates tend to decrease. To stimulate economy, the government can promote decrease of interest rates; when the activity rate grows, demand for loan proceeds should push interest rates to increase.

6. The exchange rate reflecting dependence between global and internal interest rates. When interest rates abroad and rates on investments into a foreign currency are high, interest rates on investments in

²⁶ Baxter, Stockman, 1989; Backus, Kehoe, Kydland, 1992

national currency should be also high to avoid outflow of capital abroad and significant drop in the national currency rate.

During stabilisation of the national currency and restriction of speculative operations, interest of banks in credit transactions increases that leads to reduction of interest rates on credits and, accordingly, increase in demand for credit resources.

7. Openness of national economy to global flows of foreign loan funds. Liberalisation of the internal and international finance has led to rapprochement in movement of interest rates though in emerging countries currently presence **of the premium for structural risk** is still found. According to the theory of “unsecured interest parity between currencies”²⁷, in the long-term and medium-term period, internal interest rates are equal to foreign rates added with the expected factor of currency depreciation plus a risk premium.

The *economic forces* affecting the size of interest rates include:

- 1. Regulation of bank interest rates on deposit and credit transactions for maintenance of banking operations profitability in the long-term** - coordination of depositary operations and issue of loans on terms and sums.
- 2. Management of interest rates with a view to minimisation of bank risk.**
- 3. Specificity of operations** (kind of maintenance, term, the amount of credit, etc.).
- 4. Reliability degree of the client.**
- 5. Type and the size of bank.**

Because it is apparent from the presented list of factors, a part of them, undoubtedly, *is closely related* to the level of development of institutional environment in the economy, however, *in the direct sense*, the components of the latter (and quality indicators) are not part of them. Because the relation between the development level of institutional environment and the listed factors by itself can make a subject for a separate study, in the framework of checking the suggested hypothesis we will use the indicators of some of these factors in structure of specified econometric equations alongside with indicators of the condition of institutional environment.

3. Statistical data

It is widely acknowledged that significant data amounts are necessary to receive reliable conclusions from statistical analysis. For reformed economy of the Russian Federation there are no long enough time data sequences which could form the basis for conclusions concerning the influence of institutional environment and its changes on the dynamics of credit prices. Therefore, as the study subject, a spatial sample of countries characterised by both varying institutional conditions of their economies, and has been used non-coincident values of credit prices.

As the analysis has shown, *for the entire set* of countries the dependence between interest rate and EFW components is expressed not as graphically as inside individual groups of countries because both relation between various components of the index, and significance of individual factors reflecting quality of institutional development and degree of economic freedom, for developed and developing countries is appreciably different. Those differences, in our opinion, are caused by the fact that the states in the developed countries exert generally positive influence on the institutional

²⁷ Fama, 1984; Froot, Thaler 1990

environment, while in developing and a part of transition countries it is more likely that such influence would be negative. Therefore, for the further calculations the entire sample of 168 countries has been divided into 3 groups according to the classification of the countries adopted by the World Economic Outlook²⁸:

- Developed countries (the USA, European Union countries, Japan, the United Kingdom, Canada, South Korea, Australia, Taiwan, Sweden, Switzerland, Hong Kong, Denmark, Norway, Israel, Singapore, New Zealand, Cyprus, Iceland), totally 29 countries;
- Emerging European countries and China: (Turkey, Estonia, Latvia, Lithuania, Czech republic, Hungary, Poland, Slovakia, Slovenia, Bulgaria, Malta, Romania, Bosnia and Herzegovina, Croatia, Macedonia, China): 16 countries;
- Other emerging countries, with lower level of development (including the countries of the former USSR), totally 123 countries.

Such classification, on the one hand, does not contradict division into member and non-member countries of OECD²⁹, while on the other hand, reflects distinctions in the level of gross national product per capita for the latter.

3.1 The data on interest rates

Source - International Financial Statistics (IFS)³⁰. We used:

- Interest rates on short-term industrial credits (an equivalent to the credit for up to one year, even though in the different countries, depending on the structure of interest rates and the design of banking system, this parameter could be referred to differently: prime loan rate, base lending rate, average lending rate, short-term commercial lending rate, upper margin loan rate, etc.);
- Interest rates on short-term deposits (an equivalent to interest rate on deposits within 1 year: deposit rate, 12 month interest rate, average time deposit rate, savings rate, 3 months' time deposits rate, etc.);
- The margin calculated based on the above-mentioned rates;
- An interest rate on overnight credits (money market rate, overnight rate, average cost of commercial bank debt, call money rate, etc.);
- As inflation parameter, the consumer price index (CPI) (changes in consumer prices) has been taken.

All variables are calculated per annum (for 2002).

3.2 Measurement of the degree of economic freedom

Because a measuring instrument describing international distinctions in the level of economic freedom, we used Economic Freedom of the World (EFW) index for 2002 annually published Fraser Institute³¹.

EFW index consists of **5 components**:

²⁸ "World Economic Outlook. The Global Demographic Transition", IMF, September 2004, <http://www.imf.org/external/pubs/ft/weo/2004/02/>

²⁹ First group countries excluding Taiwan and Hong-Kong, added with Mexico, Czech Republic and Slovakia

³⁰ International Financial Statistics Yearbook 2004, (IMF, 22.09.2004) www.imf.org

³¹ Gwartney, Lawson, 2001; see also: Gwartney J., Lawson R., Block W., Economic Freedom of the World Reports (Vancouver: Fraser Institute) www.freetheworld.com

1. The size of public sector

- 1.1. Share of public sector expenditure in the GDP
- 1.2. Government consumption and transfers
 - 1.2.1. *Share of government consumption in the total consumption*
 - 1.2.2. *Share of transfers and grants in the GDP*
- 1.3. A share of public sector property and the public investments in the GDP
- 1.4. The limiting tax rate (and threshold income to which it is applied)

2. Legal system and protection of property rights

- 2.1. Legal system and political stability
 - 2.1.1. *Risk of internal conflicts*
 - 2.1.2. *Risk of participation of the military in politics*
 - 2.1.3. *Risk of participation of religious activists in a politics*
 - 2.1.4. *Law and order (rule of law)*
 - 2.1.5. *Democratic accountability*
- 2.2. Legal system and protection of property rights
 - 2.2.1. *Protection of property rights: rights of private ownership are precisely outlined and protected by law*
 - 2.2.2. *Protection of intellectual property*
 - 2.2.3. *Judicial independence: courts are independent; the government or parties do not affect the course of trial*
 - 2.2.4. *Legal corruption: irregular payments to judges, personnel or officials are rare*
 - 2.2.5. *Fair trial: there is a legal opportunity for private business to contest the lawfulness of actions by the government or regulator*

3. Stability of the money market

- 3.1. Average annual growth of money supply for last 5 years minus average annual growth of real GDP for last 10 years.
- 3.2. Inflation fluctuations over last 5 years (dispersion)
- 3.3. Current inflation rates
- 3.4. Opportunity to have foreign currency accounts with national and foreign banks

4. Freedom of foreign trade

- 4.1. Export import duties
 - 4.1.1. *Tax revenues on international trade as a share from the foreign trade turnover*
 - 4.1.2. *The average rate under tariffs*
 - 4.1.3. *Standard deviation of rates*
- 4.2. The barriers, connected to regulation of foreign trade
 - 4.2.1. *The latent barriers to import - absence of other barriers, except for officially published tariffs and quotas*
 - 4.2.2. *The price of import - aggregate impact of import tariffs, import and export license fees, bank commissions and time spent on the administrative procedures increasing cost of the imported equipment.*
- 4.3. The valid size of a trade sector in % from the expected size
- 4.4. A difference between the official exchange rate and a curb rate
- 4.5. The control over a cross-border market of the capital
 - 4.5.1. *Access of citizens to foreign capital markets and foreigners to a home market of the capital*
 - 4.5.2. *Restrictions of freedom of citizens to participate in an exchange of the capital with foreigners*

5. Regulation of the credit, labour and the business markets

- 5.1. Regulation of the credit market
 - 5.1.1. *Private property in the banking sector - a share of deposits in private banks*
 - 5.1.2. *Competition - competition on the part of foreign banks*
 - 5.1.3. *Volume of credits - share of credits to a private sector*

- 5.1.4. *Absence of the control over interest rates and the regulation leading to negative rent on the interest rate*
- 5.1.5. *Control over interest rates - movement of interest rates under credits and deposits is freely determined by the market*
- 5.2. Regulation of labour market
- 5.2.1. *Impact of minimal wages - the minimal wages established legislatively do not render essential distorting effect since it is rather low or not obligatory*
- 5.2.2. *Practice of hiring and firing - conditions of hiring and dismissal are identified by private contracts between workers and companies*
- 5.2.3. *Share of workers, whose wages are established by the centralised collective agreements*
- 5.2.4. *Unemployment benefits - the system of unemployment benefits preserves incentives to work*
- 5.2.5. *Use of draft for staffing armed forces*
- 5.3. Regulation of business
- 5.3.1. *Price management - to which degree businessmen can set prices independently*
- 5.3.2. *Administrative conditions and new businesses - the administrative procedures being an obstacle for opening of business*
- 5.3.3. *Time spent on state bureaucracy - amount top managers spend a lot of time on the state bureaucracy*
- 5.3.4. *Starting a new business - general simplicity of beginning a new business*
- 5.3.5. *Absence of irregular payments - absence irregular additional payments connected to export licences and import, enterprise licenses, control over exchange operations, an estimation of tax payments, protection by law enforcement bodies, issue of loans.*

Thus, **the first component of the index** shows to what degree the state relies on an individual choice and market forces, rather than on political process to allocate resources, goods and services - the more the share of public sector, the smaller is economic freedom.

The second component is connected to the level of protection of private property rights - the indicator of presence of economic freedom and civil society.

The third component responsible for stability of the money market, reversely relates to inflation rate.

The fourth component reflects the degree of openness of the national economy and involvement into global trade and is connected to absence of significant foreign trade barriers.

The fifth component is connected with absence of significant internal restrictions of access to a labour and capital markets, and also a low degree of regulation of entrepreneurship on the part of the state.

4. The empirical analysis of dependences

4.1. Model

As it has already been stressed, in the current paper we have analysed dependence of the internal crediting rate and the rate on overnight credits on the factors connected to uncertainty (of monetary, institutional, political, etc., nature).

Because for the most part the dispersion of the crediting rate is determined by the deposit rate (as dependence of the price of credit resources on the costs of attracting the funds), dependence of the interest margin (a difference between the credit and depositary rate) from the above-mentioned factors was additionally estimated.

In the survey, the following model specifications were used:

Model 1

The crediting rate = f (depository rate; rates of inflation; components of EFW index)

Model 2

The interest margin = f (crediting rate³²; rates of inflation; components of EFW index)

Model 3

The rate on overnight credits = f (depository rate; rates of inflation; components of EFW index)

Thus, the deposit rate in our model is responsible for the "classical" factors connected to monetary and credit policy of the government, competition in the home market of banking services, etc., while EFW index will determine the influence of country-specific distinctions on the development level of institutional environment.

After the analysis of EFW index components we have been compelled to refuse from consideration composite index representing convolution of special indexes with positive weights since for the developing and developed countries components of this index move in different directions. Basically, that had to do with the role of public sector and the degree of public intervention in the national economy: the components "size of public sector" and "regulation of the credit, labour and business markets".

4.2. Results of correlation and regression analysis

For explanation, Appendix 1 contains matrixes of pair correlations between index components.

The analysis of correlation matrixes has shown the following:

- Amongst the emerging countries (where Russia fits within the framework of the used classification) stability of the money market significantly and positively correlates with the index of the size of public sector (the less the involvement of the state - that more stable the national currency and smaller the inflation rate), while for rest of the world the picture is opposite;
- The index of foreign trade freedom and the size of the public sector are related to each other in a similar way - positively and significantly for emerging countries (the smaller the participation of state - the more open is the national economy and the smaller are restrictions for foreign trade), while is statistically insignificant for other ;
- There is no significant relation between the market regulation index and stability of the money market for the developed countries, while for emerging countries (including emerging European countries) lower degree of regulation of national economy is significantly and is positively related to stability of the money market;
- For all countries, no significant positive relation between the low share of public sector and the index of legal system efficiency and protection of property rights have been revealed;
- For emerging countries, the low share of public sector does not associate with a low degree of regulation of home markets and businesses though this obvious connection is valid for all other countries;
- No significant relation has been revealed between stability of the money market and a low degree of government regulation of the national markets for the developed countries, while for emerging countries (including emerging European countries) this communication(connection) - significant and positive (than less state in the economy - the more stable it is);

32 If we presume that credit rate depends on the deposit rate

- Lastly, in emerging European countries there is no relation between a low degree of regulation of home markets and openness of national economy to the global market (in other countries such connection is significant and positive).

Regression analysis outputs (see Appendix 2), summarised in table 1 at the end of the section, confirm the hypothesis about country-specific distinctions in the role that institutional factors play for the establishment of crediting rate.

Thus, there are distinctions in the factors determining the amount of *credit prices* in the countries with developed economy, developing European countries and other emerging countries (lower level of development).

In **the developed countries** the crediting rate is determined mainly by size of deposit rate, that is by the interplay of a supply and demand in the home market, the policy of banks and competition in the market of banking services (which makes the crediting rate flexible vis-à-vis changes of “costs”, i.e. deposit rates). Thus, the impact of political, institutional, etc., factors appeared *statistically insignificant*.

In **the emerging European countries** the distinction in size of the crediting rate are determined both by distinctions in the deposit rate and EFW components, in particular, by the components reflecting *the level of protection of the property rights* and *presence of economic freedom and a civil society*. *The higher such index, the smaller the risk and uncertainty and, accordingly, the price of the credit capital is lower.*

In **the other emerging countries** - similar picture: the most part of dispersion of the crediting rate is explained by deposit rate, but there is a certain influence³³ of the indexes connected to the share of public sector and the level of protection of the property rights - the “better” the value of indexes, the lower the crediting rate.

Inflation rate (CPI) appeared *insignificant* in all models, which is quite natural since its influence is taken already into account in deposit rates.

Modelling of the size *of an interest margin* has yielded the following results.

In **the developed countries** it is well enough described by distinctions in the crediting rate and the component responsible for the stability of money market (negatively correlating with the rates of inflation) - the higher the inflation, the lower the index and the lower the interest margin. This result coincides with the classical idea about movement of interest rates in highly competitive market against the growth of costs.

In **the emerging European countries** the influence of crediting rate and its components, connected to *the protection of property rights* is significant- the higher such index, the lower the percentage margin.

In **other emerging countries**, as well as in the advanced ones, high value of interest margin is connected to the high crediting rate and low inflation rate. There is a significant influence of the index connected *with the size of public sector* - the less participation of the government in resource allocation and more economic freedom, the smaller the interest margin.

The rate on “overnight” credits as we also expected, can be modelled with the help of the identified factors (including inflation rate) much better both from the point of view of regression parameters (F-statistics and factor of determination), and of the greater number of significant variables. This can be explained by the fact that the short-term nature of the “overnight” rate allows to lower the impact of the factors not included in model.

For **the developed countries**, the higher the inflation rate, the higher the deposit rate and the lower the degree of market regulation on the part of the government, the higher the rate on “overnight” credits.

33 With 14% and 16% significance level respectively

In **less developed European countries**, the influence of deposit rate and 4 indexes of economic freedom is significant. Furthermore, the stability of money market and low degree of regulation of the markets by the state promotes decrease of the “overnight” rate, while the low share of public sector and a high level of property right protection leads to growth of the rate. (This partly confirms the results of correlation analysis of connection between components of the EFW index for the countries of Eastern Europe).

In **other emerging countries**, similarly, the deposit rate and inflation rates as well as the share of public sector (the less public sector - the higher the rate) and stability of the money market (the more stable - the lower the rate on “overnight” credits) are significant.

Crediting rate dynamics

In addition to the data of 2002, we have analysed statistics for 1990, 1995 and 2000. We did not manage to find out significant divergences with the conclusions made on the basis of the analysis of the data for 2002. In each case the most part of the dispersion of the crediting rate is explained by the deposit rate, though in part distinctions in the crediting rate between the countries are also determined by the impact of institutional factors: some EFW component turned out to be significant (see Table 2). It appears that the following tendency is observed: over time, the share of a dispersion of the crediting rate determined by institutional risks, at least for emerging countries, has increased.

In conclusion, we should mention the results of the analysis *of the increase of crediting rate* from 2000 through 2002. For all countries the following dependence is observed: positive dynamics of the crediting rate *are significantly and positively related* to the growth deposit rate and CPI (nearly 90% of the total input to the explanation of growth), *while being significantly and negatively* related to the corresponding growth of EFW index (about 10 % of the input to crediting rate dynamics)³⁴.

Thus, it is possible to state that **the contribution of the government** to size of the credit rate made through the mechanisms of establishing high- or poor-quality institutional environment **equals about ten percent**.

³⁴ The input has been assessed with the help of regression beta-weights

Table 1. Regression analysis outputs by country (designation: “+” - significant positive influence on 10 % level, “-“ - significant negative influence, “0” - insignificant influence).

Group of the countries	Explained variable	Factors							
		Crediting rate	Deposit rate	Consumer Price Index	EFW components				
					1 ³⁵	2 ³⁶	3 ³⁷	4 ³⁸	5 ³⁹
Developed countries	Crediting rate		+	0	0	+	0	0	0
	Interest margin	+		0	0	0	+	0	0
	Interbank crediting rate		+	+	0	0	0	0	+
Emerging European countries and China	Crediting rate		+	0	0	-	0	0	0
	Percentage margin	+		0	0	-	0	0	0
	Interbank crediting rate		+	0	+	+	-	0	-
Other emerging countries, including Russia and other countries of the former USSR	The crediting rate		+	0	-	-	0	0	0
	The percentage margin	+		-	-	0	0	0	0
	Interbank crediting rate		+	+	0	0	-	0	0

Source: authors' calculations.

Table 2. Comparison of regression analysis outputs for the crediting rate for different years. The significance of of EFW index components on 10% level (designation: “+” - significant positive influence on 10 % level, “-“ - significant negative influence, “±” - significant influence, both positive and negative, “0” - insignificant influence).

Group of the countries	1990		1995		2000		2002	
	EFW components	Other factors	EFW components	Other factors	EFW components	Other factors	EFW components	Other factors
The developed countries	±	+	±	+	0	+	+	+
Emerging European countries and China	Little data	Little data	-	+	0	+	-	+
Other emerging countries, including Russia and other countries of the former USSR	±	+	0	+	-	+	-	+

Source: authors' calculations.

35 Low share of public sector

36 High level of private property rights protection

37 Stability of money market

38 Lack of external trade barriers

39 Low level of business regulation, lack of barriers for access to the internal markets

5. Discussion, conclusions and policy advice

The presented results of calculations fully confirm the hypothesis formulated in the beginning of the paper. By relying on them we can assert that in the countries with economy in transition the “overstated” crediting rate is explained not only standard factors, but also by *poor quality institutional environment*. It means that for Russia where over the recent years the macroeconomic situation is favourable enough, ***there is room for improvement of the access to credit resources not only inside, but also outside the banking sector***. Furthermore, in both cases it is connected to the **improvement of institutional environment quality**.

Inside banking sector in this respect the issues of improving the quality of *administration of controlling and supervising activity*. Not only does it currently require significant costs on the part of the banks, but also is carried out in many respects formally so that the provided data does not reflect a real state of affairs inside the banks. Existence among financial institutions of such organisations that are primarily rendering tax optimisation services reduces the level of confidence in the banking system as a whole and leads to insufficient investment by population in resources of the banking system. It renders a negative effect on development of the banking system capacity as a whole.

Certainly, the aforementioned improvement of administration quality should take place so that transaction costs of *banks* are reduced rather than raised.

In this connection we would remind that the aforementioned orientation of Russian Banking Sector Development strategy for to the period until 2008 on the integration of banks can be interpreted as a result of *the coordination of positions* of the regulator and regulated sector in which each of the parties pursued own interests. Integration of banks and, accordingly, reduction of their number *facilitates the control process of and reduces its costs directly for the regulator*, though, on the other hand, *does not guarantee quality improvement of the control* (because of the increased likelihood of the regulator capture). Commitment of banks to integration is easily explained by their aspiration to become “too big to fail”, i.e. actually to transfer to the mode of soft budgetary restrictions which, as it is widely known, promotes “survival” of the organisation (and its management), but *reduces productivity of its resources*⁴⁰. Thus, the above-mentioned orientation, though promoting achievement of individual benefits by the regulator and regulated sector, does not guarantee more efficient discharge by the banking sector of its functions in relation to real sector of the Russian economy.

Increased level of competition inside banking sector acts as another important trend in institutional transformations. Obvious domination here by two national banks, the Sberbank and Vneshekonombank, unfortunately, has not drawn adequate attention of antimonopoly bodies until now⁴¹. Cumbersome entry into the sector by new domestic banks makes it impossible to label the situation in the relevant market as *competitive*.

In the economic theory, as it is widely recognised, it is proven that even in the conditions of presence in the market of *a small number* of firms, easy entry into it for new businesses forces already working ones to behave in the market as if the market was highly competitive⁴². Such markets also can be referred to as competitive. Obviously, excessive regulation of entry into the market of banking services prevents its transformation into a competitive market. We should remind in this connection that, according to the study by J. Barth, Z. Caprio and R. Leaven, (Barth, Caprio, Leaven, 2002), *stringency of regulation of the banking system does not reduce the probability of banking crisis, i.e. does not increase the stability level of the*

⁴⁰ In relation to banking sector, this set of issues is, for instance, discussed in the studies: Hetzel, 1991; Roth, 1994; Stern, 1997; Gup, 1998 et al.. The overall topic of soft budgetary restrictions is analysed in the by Tambovtsev, Shastitko, 2002.

⁴¹ Antimonopoly control is not a part of the functions of the Central Bank of Russia. See in more detail: Kokorev, Danilova, 2003

⁴² Panzar and Willig, 1977; Baumol, 1982; Schwartz and Reynolds, 1983

banking system.

In this connection one should note that already taken steps for the removal of some restrictions on the activity of foreign banks in Russia will undoubtedly allow raising the level of competition in the sector. Simultaneously, taking into account the importance for Russia of the regional aspect, measures should be taken for overcoming the underdevelopment of *local network* by the leading large banks, for example, such as preferential taxation of the part of profit used for establishing regional bank branches and subsidiaries is necessary.

Measures for the improving the institutional environment in the productive sector of the economy in which the consumers of banking services operate, logically follow from the mechanism of influence off-standard institutional environment on high risks of crediting of the real sector outlined in introduction.

The question is about necessity of to implement a set of measures aimed at *substantial improvement of the level of specification and protection of the property rights and the contract rights*⁴³, continuation of the judiciary reform, regarding both *increases of the level of independence of arbitration courts*, and *improvements of judgement enforcement system*. It depends on institutional transformations executed to that end whether the risk of issuing credits by the banks to real sector operators will decrease essentially.

For development of banking sector and decrease(reduction) in risks of crediting of a real sector of economic activity the measures directed on improving the protection of the contract rights have special importance. Their importance follows from results of studies of D. Achemoglu and S. Johnson⁴⁴. Authors have entered differentiation between « *institutes of the property rights* », protecting citizens from expropriation on the part of the government and representatives of dominating elites, and « *institutes of contracting* », supporting private(individual) contracts between citizens. Detailed econometric analysis межстрановых the data has shown, *institutes of the property rights* have prime impact on *long-term economic growth, investment process* and *development of financial markets*. Because if to the institutes supporting *contracting* they significantly affect predominant development of various forms of *financial intermediary*.

On the whole, as we are describing the measures for improving the institutional environment quality, it is possible to make a statement that their effect on improvement of the nation's investment climate will have a *complex* nature. Firstly, according to results of the performed analysis, they will improve availability of bank credits, while secondly, they will strengthen incentives for investment activity of business which can be achieved through larger attraction of credit resources for investment financing.

43 The concept for the programme for increasing the protection level of property rights is proposed in: Tambovtsev, Shastitko, 2005

44 Acemoglu and Johnson, 2003

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List of designations

SUMM	Integrated EFW index
GSIZE	1st component of EFW index: a low share of public sector
RIGHT	2nd component of EFW index: the High level of protection of the rights of a private property
MONEY	3rd component of EFW index: Stability of the money market
TRADE	4th component of EFW index: Absence of the foreign trade barriers
REG	5th component of EFW index: the Low level of regulation of business, absence of barriers to access on home markets
LEND	The crediting rate
DEP	Deposit rate
CPI	Consumer price index
MARGIN	Interest margin
OVERN	Rate on overnight credits
DCR	Growth of crediting rate from 2000 through 2002
DDEP	Growth of a deposit rate
DCPI	Growth of inflation rates
DSUMM	Growth of EFW index values

Appendix 1. Pair correlation matrixes

All countries

Correlations

		GSIZE_02	RIGHT_02	MONEY_02	TRADE_02	REG_02	SUMM_02
GSIZE_02	Pearson Correlation	1	-,217*	,120	,043	,075	,261**
	Sig. (2-tailed)	.	,016	,185	,633	,407	,003
	N	123	123	123	123	123	123
RIGHT_02	Pearson Correlation	-,217*	1	,548**	,571**	,645**	,772**
	Sig. (2-tailed)	,016	.	,000	,000	,000	,000
	N	123	123	123	123	123	123
MONEY_02	Pearson Correlation	,120	,548**	1	,649**	,497**	,840**
	Sig. (2-tailed)	,185	,000	.	,000	,000	,000
	N	123	123	123	123	123	123
TRADE_02	Pearson Correlation	,043	,571**	,649**	1	,496**	,814**
	Sig. (2-tailed)	,633	,000	,000	.	,000	,000
	N	123	123	123	123	123	123
REG_02	Pearson Correlation	,075	,645**	,497**	,496**	1	,735**
	Sig. (2-tailed)	,407	,000	,000	,000	.	,000
	N	123	123	123	123	123	123
SUMM_02	Pearson Correlation	,261**	,772**	,840**	,814**	,735**	1
	Sig. (2-tailed)	,003	,000	,000	,000	,000	.
	N	123	123	123	123	123	123

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Developed countries

Correlations

		GSIZE_02	RIGHT_02	MONEY_02	TRADE_02	REG_02	SUMM_02
GSIZE_02	Pearson Correlation	1	-,172	-,186	,031	,423*	,613**
	Sig. (2-tailed)	.	,374	,334	,875	,022	,000
	N	29	29	29	29	29	29
RIGHT_02	Pearson Correlation	-,172	1	,219	,275	,587**	,523**
	Sig. (2-tailed)	,374	.	,254	,148	,001	,004
	N	29	29	29	29	29	29
MONEY_02	Pearson Correlation	-,186	,219	1	,657**	,179	,358
	Sig. (2-tailed)	,334	,254	.	,000	,353	,056
	N	29	29	29	29	29	29
TRADE_02	Pearson Correlation	,031	,275	,657**	1	,313	,602**
	Sig. (2-tailed)	,875	,148	,000	.	,098	,001
	N	29	29	29	29	29	29
REG_02	Pearson Correlation	,423*	,587**	,179	,313	1	,839**
	Sig. (2-tailed)	,022	,001	,353	,098	.	,000
	N	29	29	29	29	29	29
SUMM_02	Pearson Correlation	,613**	,523**	,358	,602**	,839**	1
	Sig. (2-tailed)	,000	,004	,056	,001	,000	.
	N	29	29	29	29	29	29

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Emerging European countries and China

Correlations

		GSIZE_02	RIGHT_02	MONEY_02	TRADE_02	REG_02	SUMM_02
GSIZE_02	Pearson Correlation	1	,132	-,267	,066	,474	,388
	Sig. (2-tailed)	.	,639	,336	,816	,074	,153
	N	15	15	15	15	15	15
RIGHT_02	Pearson Correlation	,132	1	,566*	,520*	,632*	,829**
	Sig. (2-tailed)	,639	.	,028	,047	,012	,000
	N	15	15	15	15	15	15
MONEY_02	Pearson Correlation	-,267	,566*	1	,487	,349	,687**
	Sig. (2-tailed)	,336	,028	.	,066	,202	,005
	N	15	15	15	15	15	15
TRADE_02	Pearson Correlation	,066	,520*	,487	1	,187	,702**
	Sig. (2-tailed)	,816	,047	,066	.	,504	,004
	N	15	15	15	15	15	15
REG_02	Pearson Correlation	,474	,632*	,349	,187	1	,734**
	Sig. (2-tailed)	,074	,012	,202	,504	.	,002
	N	15	15	15	15	15	15
SUMM_02	Pearson Correlation	,388	,829**	,687**	,702**	,734**	1
	Sig. (2-tailed)	,153	,000	,005	,004	,002	.
	N	15	15	15	15	15	15

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Other emerging and undeveloped countries

Correlations

		GSIZE_02	RIGHT_02	MONEY_02	TRADE_02	REG_02	SUMM_02
GSIZE_02	Pearson Correlation	1	-,131	,382**	,260*	,036	,488**
	Sig. (2-tailed)	.	,251	,001	,021	,754	,000
	N	79	79	79	79	79	79
RIGHT_02	Pearson Correlation	-,131	1	,302**	,329**	,493**	,590**
	Sig. (2-tailed)	,251	.	,007	,003	,000	,000
	N	79	79	79	79	79	79
MONEY_02	Pearson Correlation	,382**	,302**	1	,557**	,401**	,833**
	Sig. (2-tailed)	,001	,007	.	,000	,000	,000
	N	79	79	79	79	79	79
TRADE_02	Pearson Correlation	,260*	,329**	,557**	1	,388**	,775**
	Sig. (2-tailed)	,021	,003	,000	.	,000	,000
	N	79	79	79	79	79	79
REG_02	Pearson Correlation	,036	,493**	,401**	,388**	1	,606**
	Sig. (2-tailed)	,754	,000	,000	,000	.	,000
	N	79	79	79	79	79	79
SUMM_02	Pearson Correlation	,488**	,590**	,833**	,775**	,606**	1
	Sig. (2-tailed)	,000	,000	,000	,000	,000	.
	N	79	79	79	79	79	79

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The appendix 2. regression analysis outputs

1. The crediting rate

All countries

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,896 ^a	,803	,787	5,03350

a. Predictors: (Constant), DEP_02, GSIZE_02, TRADE_02, CPI, REG_02, MONEY_02, RIGHT_02

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9174,275	7	1310,611	51,729	,000 ^a
	Residual	2254,914	89	25,336		
	Total	11429,189	96			

a. Predictors: (Constant), DEP_02, GSIZE_02, TRADE_02, CPI, REG_02, MONEY_02, RIGHT_02

b. Dependent Variable: LEND_02

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8,898	4,781		1,861	,066
	CPI	-,010	,044	-,014	-,226	,822
	GSIZE_02	-,443	,405	-,061	-1,094	,277
	RIGHT_02	-1,180	,439	-,216	-2,689	,009
	MONEY_02	-,190	,491	-,029	-,388	,699
	TRADE_02	-,032	,460	-,005	-,070	,944
	REG_02	1,277	,877	,102	1,455	,149
	DEP_02	1,363	,096	,825	14,258	,000

a. Dependent Variable: LEND_02

Developed countries

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	106,059	7	15,151	3,065	,030 ^a
	Residual	79,100	16	4,944		
	Total	185,160	23			

a. Predictors: (Constant), REG_02, MONEY_02, CPI, RIGHT_02, TRADE_02, DEP_02, GSIZE_02

b. Dependent Variable: LEND_02

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-9,386	20,205		-,465	,649
	DEP_02	1,077	,361	,708	2,982	,009
	CPI	,231	,317	,154	,730	,476
	GSIZE_02	,153	,438	,090	,349	,731
	RIGHT_02	,438	,703	,154	,624	,542
	MONEY_02	,781	2,319	,090	,337	,741
	TRADE_02	-,148	,668	-,051	-,221	,828
	REG_02	,310	,939	,092	,331	,745

a. Dependent Variable: LEND_02

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	100,677	2	50,338	12,513	,000 ^a
	Residual	84,483	21	4,023		
	Total	185,160	23			

a. Predictors: (Constant), RIGHT_02, DEP_02

b. Dependent Variable: LEND_02

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,925	3,433		-,269	,790
	DEP_02	1,080	,224	,710	4,818	,000
	RIGHT_02	,578	,418	,204	1,381	,182

a. Dependent Variable: LEND_02

Emerging European countries and China

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,822 ^a	,676	,611	1,97679

a. Predictors: (Constant), RIGHT_02, DEP_02

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	81,611	2	40,805	10,442	,004 ^a
	Residual	39,077	10	3,908		
	Total	120,688	12			

a. Predictors: (Constant), RIGHT_02, DEP_02

b. Dependent Variable: LEND_02

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15,315	4,240		3,612	,005
	DEP_02	,963	,224	,790	4,303	,002
	RIGHT_02	-1,714	,724	-,435	-2,368	,039

a. Dependent Variable: LEND_02

Other emerging and undeveloped economies

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,870 ^a	,757	,735	5,97180

a. Predictors: (Constant), REG_02, GSIZE_02, DEP_02, TRADE_02, RIGHT_02

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6115,309	5	1223,062	34,296	,000 ^a
	Residual	1961,430	55	35,662		
	Total	8076,738	60			

a. Predictors: (Constant), REG_02, GSIZE_02, DEP_02, TRADE_02, RIGHT_02

b. Dependent Variable: LEND_02

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10,764	6,780		1,588	,118
	GSIZE_02	-,895	,602	-,110	-1,485	,143
	RIGHT_02	-,947	,674	-,127	-1,406	,165
	DEP_02	1,342	,111	,856	12,090	,000
	TRADE_02	,267	,572	,035	,467	,642
	REG_02	,795	1,289	,054	,617	,540

a. Dependent Variable: LEND_02

2. The percentage margin

All countries

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,867 ^a	,752	,733	3,07666

a. Predictors: (Constant), LEND_02, GSIZE_02, TRADE_02, CPI, REG_02, MONEY_02, RIGHT_02

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2559,921	7	365,703	38,634	,000 ^a
	Residual	842,458	89	9,466		
	Total	3402,379	96			

a. Predictors: (Constant), LEND_02, GSIZE_02, TRADE_02, CPI, REG_02, MONEY_02, RIGHT_02

b. Dependent Variable: MARG_02

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,325	2,976		,445	,657
	CPI	-,051	,026	-,133	-1,923	,058
	GSIZE_02	-,416	,245	-,104	-1,694	,094
	RIGHT_02	-,312	,277	-,105	-1,126	,263
	MONEY_02	-,059	,300	-,016	-,195	,846
	TRADE_02	-,163	,281	-,042	-,579	,564
	REG_02	,926	,534	,136	1,734	,086
	LEND_02	,490	,036	,898	13,704	,000

a. Dependent Variable: MARG_02

Developed countries

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,813 ^a	,662	,629	1,22577

a. Predictors: (Constant), MONEY_02, LEND_02

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	61,681	2	30,840	20,526	,000 ^a
	Residual	31,553	21	1,503		
	Total	93,233	23			

a. Predictors: (Constant), MONEY_02, LEND_02

b. Dependent Variable: MARG_02

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-18,046	7,858		-2,296	,032
	LEND_02	,596	,094	,840	6,373	,000
	MONEY_02	1,910	,812	,310	2,353	,028

a. Dependent Variable: MARG_02

Emerging European countries and China

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,750 ^a	,562	,474	1,67715

a. Predictors: (Constant), RIGHT_02, LEND_02

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36,092	2	18,046	6,416	,016 ^a
	Residual	28,128	10	2,813		
	Total	64,220	12			

a. Predictors: (Constant), RIGHT_02, LEND_02

b. Dependent Variable: MARG_02

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10,253	4,394		2,333	,042
	LEND_02	,327	,159	,448	2,058	,067
	RIGHT_02	-1,408	,626	-,489	-2,247	,048

a. Dependent Variable: MARG_02

Other emerging and undeveloped economies

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,832 ^a	,692	,675	3,68398

a. Predictors: (Constant), GSIZE_02, LEND_02, CPI

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1707,485	3	569,162	41,937	,000 ^a
	Residual	760,017	56	13,572		
	Total	2467,502	59			

a. Predictors: (Constant), GSIZE_02, LEND_02, CPI

b. Dependent Variable: MARG_02

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5,191	2,275		2,282	,026
	LEND_02	,483	,044	,874	10,930	,000
	CPI	-,048	,027	-,144	-1,787	,079
	GSIZE_02	-,621	,347	-,135	-1,790	,079

a. Dependent Variable: MARG_02

3. The rate under credits "овернайт"

All countries

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,978 ^a	,957	,951	2,02652

a. Predictors: (Constant), DEP_02, GSIZE_02, TRADE_02, CPI, REG_02, MONEY_02, RIGHT_02

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4912,245	7	701,749	170,875	,000 ^a
	Residual	221,767	54	4,107		
	Total	5134,012	61			

a. Predictors: (Constant), DEP_02, GSIZE_02, TRADE_02, CPI, REG_02, MONEY_02, RIGHT_02

b. Dependent Variable: OVERN_02

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,223	2,487		,090	,929
	CPI	,104	,020	,210	5,158	,000
	GSIZE_02	,131	,226	,020	,578	,566
	RIGHT_02	,213	,253	,048	,840	,405
	MONEY_02	-,415	,262	-,076	-1,583	,119
	TRADE_02	-,236	,310	-,031	-,759	,451
	REG_02	,606	,530	,062	1,144	,258
	DEP_02	,858	,038	,846	22,641	,000

a. Dependent Variable: OVERN_02

Developed countries

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,872 ^a	,760	,713	1,35367

a. Predictors: (Constant), DEP_02, REG_02, CPI

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	87,254	3	29,085	15,872	,000 ^a
	Residual	27,486	15	1,832		
	Total	114,740	18			

a. Predictors: (Constant), DEP_02, REG_02, CPI

b. Dependent Variable: OVERN_02

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4,535	2,721		-1,667	,116
	CPI	,538	,187	,401	2,869	,012
	REG_02	,745	,384	,250	1,942	,071
	DEP_02	,840	,185	,640	4,555	,000

a. Dependent Variable: OVERN_02

Emerging European countries and China

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	1,000 ^a	,999	,999	,54183

a. Predictors: (Constant), DEP_02, RIGHT_02, GSIZE_02, REG_02, MONEY_02

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1906,197	5	381,239	1298,566	,000 ^a
	Residual	1,174	4	,294		
	Total	1907,372	9			

a. Predictors: (Constant), DEP_02, RIGHT_02, GSIZE_02, REG_02, MONEY_02

b. Dependent Variable: OVERN_02

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18,060	4,221		4,279	,013
	GSIZE_02	1,944	,244	,156	7,959	,001
	RIGHT_02	,782	,341	,045	2,290	,084
	MONEY_02	-2,096	,445	-,227	-4,706	,009
	REG_02	-2,144	,596	-,080	-3,599	,023
	DEP_02	,662	,050	,678	13,243	,000

a. Dependent Variable: OVERN_02

Other emerging and undeveloped economies

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,971 ^a	,943	,935	2,33267

a. Predictors: (Constant), DEP_02, MONEY_02, GSIZE_02, CPI

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2533,632	4	633,408	116,407	,000 ^a
	Residual	152,358	28	5,441		
	Total	2685,989	32			

a. Predictors: (Constant), DEP_02, MONEY_02, GSIZE_02, CPI

b. Dependent Variable: OVERN_02

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,623	2,631		,997	,327
	CPI	,097	,025	,255	3,901	,001
	GSIZE_02	,591	,408	,086	1,449	,158
	MONEY_02	-,732	,388	-,136	-1,885	,070
	DEP_02	,825	,056	,775	14,677	,000

a. Dependent Variable: OVERN_02

4. A gain of the crediting rate

All countries

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,908 ^a	,824	,818	2,80911

a. Predictors: (Constant), DCPI, DDEP, DEFW

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3426,547	3	1142,182	144,743	,000 ^a
	Residual	733,873	93	7,891		
	Total	4160,420	96			

a. Predictors: (Constant), DCPI, DDEP, DEFW

b. Dependent Variable: DCR

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,195	,299		-,653	,515
	DDEP	1,098	,057	,882	19,170	,000
	DEFW	-1,692	,901	-,095	-1,879	,063
	DCPI	-,003	,022	-,008	-,155	,877

a. Dependent Variable: DCR