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THE FINANCIAL ARCHITECTURE AND THE INTERNAL CAPITAL MARKET IN RUSSIAN BUSINESS GROUPS: CHARACTERISTICS AND INTEGRATION IN THE BUDGETING PROCESS

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Abstract

Business groups exist in different countries all around the world. This review studies Russian business groups through the prism of two concepts: the first one of the financial architecture and the second – of the internal capital market. The aim of our research is finally to construct a model that allow to use all revealed characteristics in order to maximize the efficiency of business group's activity.

We use the classical concept of the financial architecture proposed by Stewart Myers in 1999, according to whom this term refers to "the entire financial design of the business, including ownership, the legal form of organization, incentives, financing and allocation of risk" [1]. We examine each element of the financial architecture to expose their features in Russian business groups.

All papers written about internal capital markets in Russian business groups date the period of 1990s – the beginning of 2000 year [2]. In our research we study the last ten years to show that despite changes in economic situation the internal capital market still exist in Russian business groups. To prove it we use a sort of "external" and "internal" approaches. We call "external" the approach to examine the sample of business groups in order to understand their financial characteristics and the impact to the activity of internal capital market. The "internal" method consists in the examination of one business group effecting its payments through the bank under its control that enable to see mechanisms of capital allocation and to evaluate the efficiency of business group's resource planning.

The concept of financial architecture was first proposed by Stewart Myers in 1999 as "the entire financial design of the business, including ownership, the legal form of organization, incentives, financing and allocation of risk" [1]. It's interlinked, in his opinion, with corporate governance (who manage the business?) and corporate control (how to seek that managers act in the interests of shareholders?). In addition he considers that the financial architecture relates to financial institutions [3]. Generally the financial architecture is identified as financial organization of the company.

Myers notes that the corporate financial theory has developed in the network of specific financial architecture – financial corporation in such countries as United States or Great Britain, so countries with well-developed, safe markets [3]. However he believes that even in these countries exist other well-functioning financial architectures. Continuing this idea we suppose that a kind of successful financial architecture might also exist in developing countries as the response to specific conditions of limited information in financial markets.

The first objective of our research is to understand special features of financial architecture of Russian business groups. We use the term of business groups as the common notion of forms of corporate ownership which has been widely expanded in Russia since 1990's. These forms seem to be very interesting to explore because of difference of legal form, organizational structure, activity, capital structure of group's integrated businesses.

According to the Myers' definition of the financial architecture to understand what identify the architecture of a business group we need to explore separately each point from this list:

- legal form of ownership;
- form of corporate government;
- form of corporate control;
- incentives;
- sources of financing;
- interaction with financial institutions.

However in our opinion this list isn't exhaustive to make a complete picture of the financial architecture and so should be supplemented.

The Russian economist A. Stepanova in her paper describes an impact of the financial architecture on the company's efficiency [4]. Among factors having direct effect on the strategic efficiency the author highlights these ones: concentration of the ownership (expressed as a part of shares of shareholders involved in management), quality of corporate governance, growth rate; the opposite effect – capital structure and size of the company. In addition the author suggests that the opposite effect of the concentration of the ownership on the strategic efficiency might occur in countries with developing capital markets and undeveloped legislation allowing to large owners to infringe minority shareholders' rights and turn to advantage corporate control.

M. Barclay and C. Smith in 1996 employed the term of the financial architecture in the context of corporate financing [5]. They suggest that the financial architecture is formed by investment opportunities of the company. Companies with high market-to-book ratio ("high-growth firms") prefer to use less debt compared to companies with low market-to-book ratio. In addition they consider that the size of the company (measured as total capitalization) also make an impact on financial architecture. Small companies have access only to short-term bank lending, at the same time as the large companies often use public debt and commercial paper.

Summing up, in our opinion the financial architecture of a company can be presented as a "cloud" of characteristics (see Figure 1).

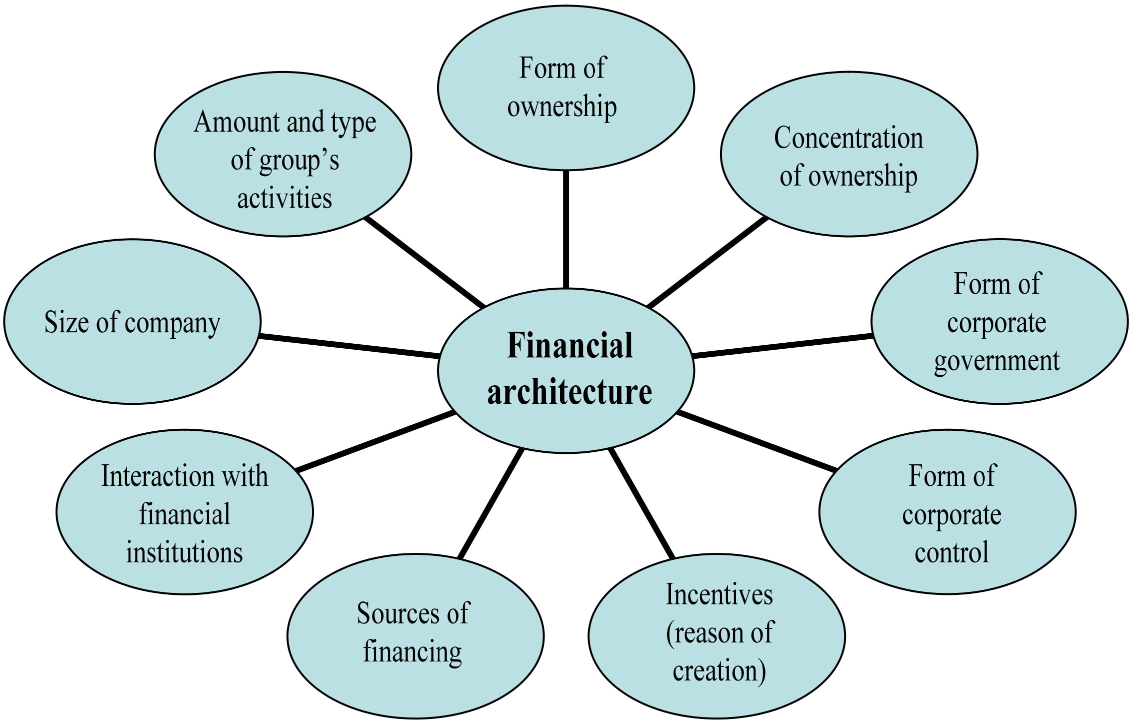

Figure 1. Characteristics of financial architecture

In the light of all named characteristics the definition of the financial architecture should be updated: it represents "the entire design of the business group covering the form and concentration of the ownership, forms of corporate governance and control, incentives and reasons of creation, size of company, including amount and types of group's activities, as well as sources of financing and interaction with financial institutions".

To form the information for our research we used the data from official Web-sites of corporations: history, organizational structure, information for investors and shareholders.

We made an analysis of 100 business groups through the prism of the definition of the financial architecture as presented above. We chose the most representative list of Russian business groups. According to various estimates in Russia it counts more than 1500 business groups (companies which use the phrases "business group" and "holding" in their names). However most of them really aren't business groups: for example, a pair of commercial enterprises isn't a business group in our opinion.

For each characteristic of financial architecture a specific criterion was used. We classed all business groups in compliance with types of chosen criteria.

The results of the analysis are shown in the Table 1.

Table 1

Business groups classed in compliance with types of chosen criteria

Characteristic of financial architecture	Criterion	Types	Number of groups (%)
Form of ownership	Nature of the property	public	4%
		private	94%
		mixed	2%
Concentration of ownership	Part of shares of shareholders involved in management	more than 50%	71%
		less than 50%	29%
Form of corporate governance	Managing company	available	60%
		not available	40%
Form of corporate control	Operating authorities of business group's members	dependent	76%
		independent	10%
		mixed	14%
Incentives (reason of creation) + Amount and types of group's activities	Concentration of complete production process in one company	vertical	19%
	Creation of wide trading network	horizontal	28%
	Diversification of group's activities	diversified	53%
Sources of financing	One company can use different sources	bank loans	76%
		other loans	35%
		bonds	28%
		stocks	24%
Interaction with financial institutions	Presence of the bank or over financial institution as member or constant partner of a business group	yes	63%
		no	37%
Size	Amount of group's members, number of operating activities, geographic coverage, welfare of shareholders	big	24%
		medium	65%
		small	10%

The data shows that the typical financial architecture of Russian business group can be described as: a diversified private company of medium size and concentrated ownership, with a bank or other financial institution and managing company as members of the group, using the most bank and other loans as sources of financing.

However it should be noted that this result will be able to vary if the sample increases. This fact obviously should be checked in further research.

The most examined part of the financial architecture of the business groups all around the world is the internal capital market as the specific source of financing.

S. Myers marks the internal capital market as the advantage of conglomerate's financial architecture – companies investing in some conjugated fields. Free cash flow is distributed from mature fields to growing units that delivers them from the necessity to attract external funds [3].

In his opinion the internal capital market is not a market in the classical sense, it is a combination of centralized planning and in-house commerce which operates not only on the economic reasons, but also on “politic” ones. Often profitable units having excessive cash flows easily receive additional investment resources. Myers considers that the internal capital market can be effective in countries with undeveloped national financial market, insufficient government regulation, inadequate information, so in developing countries.

Many papers are written about internal capital markets in developing countries.

Thus, K. Samphantharak in the example of Thailand notes that corporate control, group size and within-group intermediaries (so components of financial architecture marked above) tend to facilitate the efficient resource allocation [6].

But often authors describe the internal financial market in the context of the global financial architecture, not corporate one.

T. Khanna and K. Palepu consider that the presence of multiple business groups in developing countries is the result of missing institutions [7]. The internal capital market of the business group allocate capital among group’s members more efficiently than the undeveloped external capital market does.

H. Almeida and D. Wolfenzon believe that the presence of business groups in developing countries inhibits the growth of new independent firms due to lack of finance [8]. The role of banks as financial intermediaries is dual: from one side they facilitate reallocation across firms, from the other – decrease the efficiency of overall reallocation because of the different banking relationships with certain group’s members.

Some authors even made a research of the activity of internal capital markets in Russia.

C. Hainz describes the internal capital market in Russian business groups as an objective reality [9]. In addition, the author considers that banks are often members of a business group where funds are allocated through an internal capital market. Capital is allocated internally due to better information inside the group.

E. Perotti and S. Gelfer in their research compare firms which are members of official Financial-Industrial Groups and/or are owned by a large Russian bank with a control set of large firms categorized by dispersed ownership or/and management and employee control [10]. They find that investment is sensitive to internal finance for the second set of firms but not for the first what is consistent with extensive reallocation of resources within the groups to overcome capital constraints. Generally, this is the consequence that group firms have an internal capital market which facilitate access to finance. Group firm, especially in bank-led groups, allocate capital better than independent firms.

Russian economists who examined Russian business groups rarely turned attention to internal capital market.

A. Shumilov and N. Volchkova tested the hypothesis of the presence and the efficiency of internal capital markets in Russian business groups of a period of 1999-2002 [11]. The authors suggest that internal capital markets, if they exist at all in Russian business groups, aren’t the substitute for underdeveloped financial institutions.

U. Petrenko notes that the appearance of business groups usually leads to formation if the internal capital market [12]. Among sources of financing of the holding’s investments bank loans and group’s funds take the second place after equity (15-20%).

I. Shitkina considers that financing or redistribution between members of a business group processes due to concrete commercial purposes: realization of investment project, support of production process with cash resources, equipment and other, in the end – to largest profit earning [13]. Parent company controls a movement of cash flows and allocates them among members of a group.

Sh. Ismagilov develops the model of allocation of centralized investment resources among companies of an industrial business group [14]. On the basis of the model lay down these principles: choice of the most priority investment projects, growth of business group's efficiency, objective appraisal of possibility to finance a project, fullness of utilization of business group's financial resources. On the assumption of these principles the redistribution of investment resources in a group represents an optimization problem, which the criterion is the prognostic value of integrated rate of business group's effectiveness and the limit – the amount of accumulated and invested financial resources.

In our opinion the internal capital market of Russian business groups isn't a temporary form to substitute the missing institutions; it's a sort of externality of business group's activity, an inalienable part of its financial architecture.

So, the second objective of our research is to find special features of internal capital markets and its linkage with specific characteristics of financial architecture listed above. This fact will be certainly considered if the effective system of financial management is needed.

With this purpose we use a sort of "internal" and "external" approaches in order to overcome the information constraints of each other.

The "external" one is to study a sample of 68 different organizations inside 20 business groups among 100 business groups we studied searching a typical financial architecture of Russian business groups. We have chosen groups with characteristics the most close to this architecture.

For all selected businesses we analyze the balance sheet for several periods since 2002, making attention if company is parent or not.

The vertical analysis of balance sheets has shown the significant part of financial investments in the assets and the loans and credits – in the liabilities (50% and more, even up to 99%), for companies operating inside the group such types of activities: financial and other agency, leasing and hire, management and consulting regardless if this company is parent or not. All groups in these cases are diversified and have a significant degree of concentration of ownership.

The financial analysis of the activity of such members of the group gives strange results. The ratio of financial independence (equity to total liabilities), which normally should be more than 50%, for this case shows even negative values. The ratios of liquidity (current assets to short-term liabilities), on the contrary, show higher values than recommended. However, these companies continue to exist, although such results obviously give an idea that they are on the verge of bankruptcy. The "secret" of their long-lasting life and easy access to bank and other loans with this structure of capital is probably in their specific role in the business group's life.

Despite the harmonization of Russian rules of accounting with international ones, the balance sheet can't give definite response that these companies survive because of the reallocation of the capital inside the group[1]. This fact was also marked by N. Dewaelheyns and C. Van Hulle: in their research they find that typical bankruptcy predictors (liquidity, leverage, performance, size and efficiency) are not the same for group member companies compared to stand-alone firms because of the presence of internal capital market [15].

We will tend to understand this hypothesis by the "internal" approach further. For the purposes of subsequent analysis we used these ratios:

$$\text{General cross} - \text{financing ratio} = \frac{\text{Investments}}{\text{Loans}}$$

In our opinion the closer all this ratios to 100%, the reallocation of internal cash flows for this member of the group is intensive.

The "internal" approach is to explore the redistribution of financial resources and its mechanisms inside one diversified business group effecting its payments through the bank under its control.

This group has a financial architecture similar to the typical one described above. The members of the business group perform different activities: food industry, construction, financial services, so the group in general belongs to diversified type. These companies take a significant part of their markets but the group seems to be a medium-sized because of concentration only in one region of Russia. The business group has one main shareholder who possesses more than 50% of shares in most of group's companies. In the head of the group is managing company which exercises a total control on its activity.

First, we compared the amount of resources on operational and deposit accounts[2] of 4 subgroups of considered business group with sum of their credits in the bank under control of this group in a period of last 2 years. The ratio "accounts/credits" is derivative ratio of general cross-financing ratio referred above. All data is the arithmetical mean of intra-day rests on the relevant balance accounts what is more reliable that "on-the-date" balance sheets used in the "external" approach.

The correlation ratio "accounts/credits" varies from 0.02 to 0.32. The reasons of this fact can be different:

- for many group's members, even if there is a within-group intermediary, bank loan isn't the main source of financing;
- the presence of brokerage service gives an idea that the funds on these accounts also should be counted in further research;
- commercial papers, guaranties, granted to group's members also should be included;
- the each subgroup has different degree of dependence from decisions made by managing company, subgroups only with high degree should be analyzed.

[1] This fact was mentioned only for one group. In its reports the sources and the directions of the financial investments and of the loans were clearly divided to: affiliated, dependent and other companies.

[2] We don't name exact balance accounts because of specificity of Russian bank accounting. Under "operational" accounts we understand all on-demand funds, "deposit" – time funds.

Due to the difficulty to extract new data quickly because of the lack of automatization in the bank system, we added only last correction from the list: the correlation ratio in this case has grown to 0.51.

Second, in order to understand how the internal capital market should be considered in budgeting model, we examined the methodology of annual planning in the business group. The annual plan contains 5 parts: cash flow plan, plan of income and expenses, sales plan, credits and loans plan, aggregated balance sheet. As the part of financial cash flow, the each member of the group (except bank and other financial intermediaries) should plan the receipt and the return of these types of loans: internal, commercial, bonded loan and loans of the staff. In credits and loans plan the member indicates to/from what other member of the group gives/receives the internal loan. Thus, the internal loan is the important part of companies' resources so the hypothesis above about impact of the reallocation on the structure of group's members seems to be realistic.

However in this context the method of the planning seems to be not perfect. There is no plan of reallocation of bank credits received by group's members with guaranties or on the bail of property of other members. There is no plan of financial investments in commercial papers, bonds and other securities. And finally, there is no indication in the aggregated balance sheet of the part of internal financial investments and credits and loans. This, in sum, doesn't provide reliable information of the financial performance of the member of the group and of the whole group as well. In our opinion it is the consequence that group's financial architecture and, thus, internal capital market are not integrated in the methodology of annual planning.

The possible solution is to include in the planning/budgeting system of the business group the cross-financing plan according to the place of member in the group and specific characteristics of its financial architecture, especially: form of corporate governance, sources of financing and interaction with financial institutions. The optimization problem consists in the equilibration of amounts of financial investments and credits and loans in compliance with the target cross-financing ratio for this group member in the special plan. The target ratio, in our opinion, depends on several characteristics of financial architecture adopted for this group's member:

- form of corporate governance and degree of concentration of ownership define the form of access to the internal capital market (more they are, the easier it is);
- incentives and size: the reallocation is usually more intensive for diversified medium and big business groups, as we have seen by the "external" approach:
- interaction with financial institutions and sources of financing: we studied it in the "internal" approach.

So, the more intensive reallocation needs this member of the group, the more is the target ratio to plan. In the aggregated plan for the whole group this ratio aspires to 100% if the maximum of internal capital market efficiency is needed.

$$\textbf{Target ratio} = \left(\begin{array}{c} \text{Cash assets} + \text{Stocks of groups's members} + \\ \text{Accounts and deposits in the financial intemediary} + \\ \text{Loans provided to group's members} \end{array} \middle/ \begin{array}{c} \text{Equity} + \text{Stocks issued by group's members} + \\ \text{Credits and loans from financial intermediary} + \\ \text{Loans from group's members} \end{array} \right)$$

The probable form of plan for group member to use is presented in Table 2.

Table 2

The probable form of plan for group member to use

Cross-financing plan for company ____	Contractor	Period 1	…	Period N
Financial investments		**F_1**	**…**	**C_n**
– long-term				
– short-term				
Credits and loans		**C_1**	**…**	**C_n**
– long-term				
– short-term				
General cross-financing ratio		**F_1/C_1**	**…**	**F_n/C_n**

As the conclusion we should consider that the notion of the financial architecture, so little examined, even in theory, is very important to understand the main business processes of business groups forming up the wide part of worldwide economy. The internal capital market, on opposite side examined in detail, didn't found application in practice.

In our research we search for reasons and consequences of the reallocation of funds inside the group. But the limited information gives more hypothesis to study in further research than integral conclusions. We propose a practical concept to develop in the budgeting process in the business group in order to maximize the effectiveness of the activity of the internal capital market and consequently – of all the financial architecture in general. This activity directly depends on the efficient planning of cross-financing inside business group.

The efficient planning of the redistribution of financial resources is possible by integration in the budgeting process (if the last one exists) of in-house budget of internal capital movement. The possible criterion to plan the amount of resources reallocating to each member is the cross-financing ratio which the value depends on the impact of each member in group development and defines the amount of financial resources possible to receive.

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