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**Impact of Financial Industrial Group membership on export
competitiveness of Russian firms.**

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This paper deals with the export competitiveness for members of Russian Financial Industrial Groups (FIGs). Enterprise-level data based on Goscomstat database are used to empirically compare export shares and their change for members of FIGs with those of non-members. Both officially registered and informal FIGs are studied. This research includes the whole sample of exporting firms from all industries. It was found that members of FIGs, both registered and unregistered, seem to be more competitive when exporting, if compared with non-members in the framework of used econometric model. Further, registered FIGs seem to have similar advantages as unofficial if compared with non-members implying that registering a FIG is not a negative signal from the point of view of export competitiveness.

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В этой работе исследуется влияние членства в ФПГ на экспортную активность фирм. Для статистического исследования использовались данные уровня отдельного предприятия и сравнивались доля экспорта в общем выпуске и ее изменения для членов официальных и неофициальных ФПГ в сравнении с независимыми предприятиями. Исследование включает полную выборку российских экспортеров, базирующуюся на базе данных Госкомстата. Было обнаружено, что члены ФПГ, и зарегистрированных, и неофициальных, лучше конкурируют на мировых рынках в рамках используемой для оценки эконометрической модели. Далее, зарегистрированные ФПГ имеют те же преимущества в экспорте, что и незарегистрированные, откуда следует, что с точки зрения экспортной конкурентоспособности регистрация ФПГ является положительным сигналом.

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1. INTRODUCTION

Recent years have witnessed the expansion of groupings of Russian companies involving a bank and several industrial enterprises. Such relationships, known as financial-industrial groups (FIGs), are often based on equity ownership, cross-ownership arrangements with participants seeking to combine their financial and industrial capital, managerial know-how and influence on the market or the authorities to achieve some mutual advantage. The influence of Russian Financial Industrial Groups on the economy is ambiguous. Together with theoretical point of view on FIGs helping to overcome institutional and market underdevelopment in Russia by cost of capital reduction, economies of scale and contract enforcement, there are other reasons pointing on the possibility of asset stripping in FIGs led by large banks, market foreclosure and monopolization or just seeking government concessions.

Today there are about 90 formal groups and many informal ones. Recent actions of FIGs suggest that their influence on government policy is large. They have acquired important media outlets, which can be used to influence public opinion; they are the primary source of campaign finance for the major reformers and pro-government parties; and, influential bankers often assume important government positions (and vice versa).

Since 1993 there have been three decrees concerning FIGs issued by the Russian government. Besides providing some tax advantages and government investment guarantees these decrees also included restrictions on the ownership structure of the groups. In particular, these restrictions limit the number of shares of one firm that can be owned by other members the group. Due to these limitations most of the FIGs in Russia are unofficial. Thus, an important question arises: is there any considerable structural difference between official and unofficial FIGs

and if there is any then to what extent is the official registration of a FIG an important signal. Is there any statistical evidence that efficient above average conglomerates register themselves.

It is necessary to stress that most FIGs in Russia are led by banks and statistics show that the most attractive branches of industry for bank investment today in Russia are in export-oriented raw materials, chemicals, metallurgy and the food industry. The first three industries from this list are the industries that dominate Russian exports. This tendency of FIGs to concentrate in export-oriented branches of industry is also observed in other countries in which analogous groups are important economic phenomena, such as in Japan, Korea and Germany.

The purpose of the paper is to empirically study export activities of Russian enterprises and try to answer the question if FIG membership, official or unofficial, promote exports and increases firms' competitiveness on the world markets if compared with independent enterprises, that are not members of any known FIGs.

This paper is organized in the following way. Section 2 presents some of the theoretical studies that have dealt with FIG structures and their export activity. Section 3 describes data set used and presents variables used in regressions. The next two sections contain the main contribution of the paper: the Fourth analyses descriptively the sample of Russian firms and the Fifth explains the results of the econometric estimation. Finally, section 6 contains the concluding remarks.

2. Survey of the Related Literature

The question about the motives for groups creation i.e. about the purposes for firms and banks to integrate instead of exploiting market relations was thoroughly studied in theory? Several answers have been proposed some of them focusing on market failures. They suggest that

- FIGs are an attempt to correct inefficient firm boundaries inherited from the Soviet planning economy.

- FIGs help firms to overcome problems of institutional underdevelopment, particularly in the legal, financial and fiscal areas.

Another group of hypotheses relates to market-restriction activities. They suggest that FIGs might restrict competition on both domestic and international markets. From this standpoint FIGs are considered to be large organizations controlling a significant share of domestic financial resources and being in a position to reduce the costs of production for group enterprises. Potential entrants may lack the financial resources or contractual advantages that FIG-membership implies.

Firstly, interdependence of firm profits could increase their total efficiency and thus in turn increase international competitiveness. Why does interrelation of firms by integration instead of using market relations could increase their total profits and therefore, give incentives for integration into groups? The existing literature on vertical integration gives some hints as to why structures like FIGs could be profitable. Tirole (Tirole, 1988) shows that any kind of vertical integration when the profits of members of integrated structure are mutually dependent, could raise efficiency. The main reason for this increase in efficiency is the internalization account of the external effects produced by one firm on another in technological sequence.

Other researchers show that the interdependence of profits could increase efficiency not only of vertically integrated structures but also indirectly connected firms. Moreover, the interdependence of firms in one market could induce their stable and profitable connection in other markets. The integration of financial and industrial firms into FIGs obviously provides an opportunity to take into account such interdependence of firm profits. Depending on the nature of this interdependence it is possible to consider different models of groups.

The essential difference of a FIG from a vertically integrated firm is the presence of a bank within the structure of a FIG. One model of a FIG taking into account the influence of a bank on the behavior of the firms is proposed by Dementiev (Dementiev, 1996). He shows that if the bank has already owned the shares of one enterprise it would be profitable for all participants if the bank buys shares of another enterprise from the same technological sequence. Therefore, the author suggests the reasons for group expansion and also analyzes the influence of groups on economic development.

The author concludes that the emergence of FIGs in Russia could lead, first, to an increase in investment activity, and, second, to a decline in the interest rate. While the first consequence positively affects the production side of developing economy, the second one could help promote financial stabilization, and potentially to reduce inflationary pressure.

The model of oligopolistic international market suggests that forming a domestic cartel can increase profits of integrating firms. A bank can participate in this cartel by providing capital at less than world interest rate in exchange for the share of profits of exporting firm. This integration can be mutually beneficial under loose conditions as was shown in Voltchkova (1997).

An overall review of different aspects of Russian FIGs is provided in Popova (1998). It highlights actual reasons for creating FIGs and legal basis, and gives an assessment of various elements of the state's policy to promote them. In Guriev,Pospelov,Petrov,Shananin(1998) payment arrears were shown to be a possible source of uncertainty that makes it profitable for enterprises to group. Accurate description of the process of FIG formation in Russia can be found in Johnson(1997).

A few empirical studies concerning Russian FIGs have been conducted so far. Perotty,Gelfer (1997) studied investment capital accessibility in FIGs. They concluded that members of groups had more efficient productive investment. However, dataset used was relatively small and included only tradable firms, i.e. those having their assets traded on the market.

3. DATA AND VARIABLES

3.1. The data

First, Goscomstat database on over 125000 Russian enterprises was taken as a major data source for this research. Nearly 6000 firms from this database exported something in 1996 or 1997. These enterprises were included in the data set finally driving it to 5821 firms with 256 of them in registered FIGs and 85 in unregistered.

This statistical source presents several advantages for the study of the question posed in the paper, for example the fact that the sample covers the whole manufacturing industry with statistical representativeness, and that a panel of time series (though short and often incomplete) and cross-section data is available.

Secondly, registered FIG enterprises were taken from official list. This list contains 81 registered FIGs in 1998 with about 600 enterprises. 256 of them were in the list of exporters.

Thirdly, approximate unregistered FIGs list was composed. Several criteria were used in order to identify unregistered groups' firms. First, we relied on information about the firms' ownership structure that was available from analytical and informational agency Skate Kapital Press for 237 largest Russian firms. Firstly, firms, where the largest Russian banks (*Menatep, Oneximbank, Inkombank* etc.), large oil companies (*Yukos, Sidanko*), large trade companies (*Roscontract*) or foreign investors were major shareholders (had more than 20% of shares) were classified as the unregistered groups' firms. Secondly, the companies in which firms, identified at the first stage as unregistered groups' firms, had more than 50% of shares were also treated as unregistered groups' companies. The description of 8 largest bank-led groups (*Gasprom, Lukoyl, Uneximbank, Menatep, SBS-Agro, Rossiysky Kredit, Inkombank, Alfa-bank*) allowed to enlarge the set of firms classified as unregistered groups' firms. Firms related to groups such as *Unified*

Energy Systems of Russia, Svyazinvest and similar ones were also treated as the unregistered groups' firms. Several industry-led groups (*Permskie motory, Energomashcorporaciya* etc.) were also included in the unregistered groups. At the end the number of firms regarded as registered groups' firms was 353, out of them 85 enterprises were in the list of exporters.

3.2 The Variables

Estimation of firm's export competitiveness is conducted using export history in 1997-96,94-93 and looking on dependence of share of output exported in 1997 from previous shares of exports: **es97, es96, es94, es93**. Our conjecture is that FIG members did better on the world markets than independent firms, that is, their change in export share is greater. Data analysis, presented below, supports widely accepted point that FIGs include stronger than average exporters. Looking on change in export share it might be possible overcome possible biases created by adverse selection of strong export-oriented enterprises in FIGs.

Amount of annual sales in current prices normalized on inflation was taken as a proxy for firms' size: **SALES**.

Two dummies were used, one for registered FIGs and the other for unregistered, appearing separately and in product with other independent variables: **REG, UN**.

Small number of FIG members in the sample made it inevitable to try to look on the sample as a whole without further division into different industries that could led to not statistically representative samples. However, it is well known that particular Russian industries are quite different on the international markets since they are mostly export-oriented. To capture this industry peculiarities, we introduce

industry dummies to be used not only separately but also in product with other independent variables: **IN1, ... , IN8**.

Industries are:

Dummy	Industry	Label on diagrams
IN1	Energy, fuel extraction and refining	ENERGY
IN2	Metallurgy	METAL
IN3	Chemicals	CHEM
IN4	Machine building	MACH
IN5	Wood cutting and processing	WOOD
IN6	Construction	OTHER
IN7	Light industry	
IN8	Food processing	
	Other manufacturing	

The question of the impact of firm size on its export activity was considered in numerous empirical studies and results are ambiguous. To check if this impact is present in our case we include in the analysis size the number of employees of an enterprise **N96** (later in regression analysis this proxy for size appears to be significant while SALES96 is not) and proportional change in size: **DS=(SALES97-SALES96)/SALES97**.

To control for other firm characteristics there were included other variables: average productivity: **PROD=SALES / N**, average profitability: **PROF=PROFIT / N** (balance profit was taken since it seems to be more reliable than clear profit.),

ownership type dummy indicating whether it is state or private enterprise:
PRIVATE.

It is also important to take into account possible external effects that might influence export activities of enterprises. To aid this we include two variables that were derived from export data set. The first is the average export price change for each enterprise: **DPRICE**. It is a sum of price changes for each kind of a good exported in two years weighted by the share of amount of this good in the total export of this enterprise. The second is the share of export that went to not former Soviet Union countries: **FOREX**. Indeed, exports in CIS are to be considered as something between normal export and domestic production due to special status of CIS countries when dealing with each other as well as the possibility of Soviet ties still connecting enterprises. Export to CIS might be less desirable for firms since problems with contract enforcement and arrears are common in all countries of former Soviet Union so greater foreign export share should indicate strong enterprise positions on the normal world market.

Some descriptive data

First it should be noted once again that all data description further is concerned with the list of enterprises that exported something in 1996 or 1997.

Number distribution of enterprises by industries.

	ENERGY	METAL	CHEM	MACH	WOOD	OTHER
REGISTERED FIGS	17	33	40	88	12	66
UNREGISTERED	20	15	10	20	7	13
INDEPENDENT	145	211	300	1954	751	2119

Output and export shares of FIGs in different industries:

	OUTPUT SHARES %				EXPORT SHARES %			
	REG		UNREG		REG		UNREG	
	1996	1997	1996	1997	1996	1997	1996	1997
ENERGY	14	10	38	35	24	10	30	23
METAL	51	51	20	20	60	64	24	21
CHEM	28	28	13	14	32	34	18	18
MACH	19	20	8	8	17	12	11	11
WOOD	7	8	20	18	9	12	39	34
OTHER	6	6	6	6	6	5	7	8

As can be seen, there is indeed evidence of strong exporters being selected first for FIG membership since export share of FIGs is almost all greater than their

output share. Further, output of FIG members, be it registered or unregistered FIGs, has an approximately stable share in the total output of industries except Energy (oil, fuel, etc) where FIG members (both registered and unregistered) perform relatively poor in terms of their share in the total industry output.

The other interesting point is that FIG workers in metallurgy, chemical and wood industries are on average more productive than in independent firms, and ENERGY industry once again proved to be bad for FIGs in 1996-1997.

Positive values on this diagram indicate that export share of FIGs (registered or unregistered) in industry total export grow faster than their output share in the total output of this industry. This can serve as an average draft indicator of export competitiveness of registered and unregistered FIGs. It can be added that ENERGY and MACH were the worst industries for FIGs.

5. Regression analysis

Table 1 reports the results of RREG estimation of the whole sample. Table 2 reports results of OLS estimation. The results indicate positive impact of both registered and unregistered FIG membership on export activity. It is interesting to note that the effect is nearly the same for both types of FIGs which means that registering a group is positively related to its international competitiveness.

It is worth noting that size proxied by the number of employees has on average a positive impact on export share of an independent enterprise. However, this effect is perfectly offset for group members, both registered and unregistered. This means that group enterprises are less constraint by their size when competing on the world market. On the other hand the effect of proportional change in size is negative for independent firm which means that a firm grows first by means of domestic sales and gaining additional share of sales on the world market proportionally to the firm growth is more complex. However, FIG members seem to have fewer problems when increasing their exports proportionally to the increase in their total sales. They even seem to expand faster to the world markets than to the domestic. But this result should not be misinterpreted as a FIG advantage because this also means that if FIG firm's sales diminish, it is firstly due to export decrease.

It is also worth noting that the difference among industries obtained from the regression, correlates with descriptive data analysis showing that metallurgy, chemical and wood industries were the most successful in exporting since they have large and significant coefficients of INi^*es96 terms.

6. Concluding Remarks

In this paper, we have dealt with the export activities of Russian manufacturers. Using a representative sample of Russian enterprises, the main results indicate that FIG membership does promote exports (when the effect of other variables is isolated). The effect of either registered membership or unregistered both seem to have positive impact on export competitiveness. Further the size of the firm proxied by the number of employees has a positive effect for independent firms but is offset for members of both registered and unregistered FIGs. On the other hand, proportional change in size has negative impact on future export share for independent firms and none of this for FIGs. This means that FIG members are less dependent on their size when exporting and experience fewer problems when expanding to the world markets proportionally to their total sales increase. It is also worth noting that energy and fuel extraction and processing was the most unsuccessful industry for the members of FIGs.

A few empirical studies concerning Russian firms have been conducted so far, but most of them used relatively small samples that made them subject to possible bias in selection. This paper dealt with large representative sample of Russian firms from all manufacturing industries. Both registered and unregistered FIGs were taken into account, and regression results were similar for these two types

OLS Regression with
robust standard errors

Number of obs = 3816
F(25, 3790) = 77.05
Prob > F = 0.0000
R-squared = 0.5661
Root MSE = .09838

es97	Coef.	Std. Err.	t	P> t
REG*DS	-.0076474	.0105217	-0.727	0.467
UN*DS	.0781703 **	.0472571	1.654	0.098
DS	-.0084491 ***	.0024724	-3.417	0.001
UN	-.0295535	.0183042	-1.615	0.106
REG	-.0008967	.0103538	-0.087	0.931
REG*N96	-2.02e-06	1.39e-06	-1.460	0.144
UN*N96	-9.05e-07	2.28e-06	-0.397	0.692
N96	2.15e-06 **	1.01e-06	2.134	0.033
REG*es96	.0690655	.0825230	0.837	0.403
UN*es96	.1498429 **	.0588077	2.548	0.011
es96	.4172045 ***	.1061472	3.930	0.000
es94	.1636094 ***	.0272195	6.011	0.000
IN1*es96	.3363090 **	.1432851	2.347	0.019
IN2*es96	.3401198 ***	.1192740	2.852	0.004
IN3*es96	.2074626 **	.1170613	1.772	0.076
IN4*es96	.0370261	.1092713	0.339	0.735
IN5*es96	.2735898 **	.1089052	2.512	0.012
IN6*es96	.1295946	.1310286	0.989	0.323
IN7*es96	.0812330	.1332891	0.609	0.542
IN8*es96	-.1526501	.1153675	-1.323	0.186
PROD96	3.12e-08	4.81e-08	0.648	0.517
PROF96	.0101474	.0069819	1.453	0.146
FOREX96	.0162424 ***	.0042708	3.803	0.000
DPRICE	.0001269	.0032082	0.040	0.968
PRIVATE	.0027711	.0033326	0.832	0.406
C	.0036624	.0060260	0.608	0.543

Correlation of main regressors

	DS	N96	es96	es94	PROD96	PROF96	FOREX96	DPRICE
DS								
N96	-0.017							
es96	0.079	0.081						
es94	-0.019	0.128	0.458					
PROD96	-0.043	-0.002	-0.071	0.006				
PROF96	-0.011	-0.011	-0.105	-0.104	0.136			
FOREX96	-0.041	0.119	0.368	0.302	0.010	-0.070		
DPRICE	0.044	-0.025	-0.089	-0.046	-0.059	-0.002	-0.103	
PRIVATE	0.004	-0.012	0.003	0.017	0.001	-0.028	0.013	-0.025

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