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The Possibility of Identifying Alpha-Companies by Statistical Methods on the Example of the Express-Logistics Market In Russia

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ABSTRACT

The article attempts to evaluate the use of the conventional statistical apparatus to identify alpha companies in the Russian express logistics market. According to the theory of economic dominance, Alpha-companies occupy dominant positions in industry markets due to access to the cheapest resources and institutional advantages that allow them to build barriers to other players. Identification of such companies has traditionally been carried out by an expert method, including based on insider information, not available to external market players. The author describes the traditional tools used to identify the dominant market players [concentration indices (CR), Lind (L) and Herfindahl-Hirschman (HHI)], made calculations based on official statistics, data from open ratings and other available benchmarks for the express delivery industry in Russia, as well as a comparison with the results of determining alpha companies by an expert method. The author formulated hypotheses to explain the reasons for situations when companies with dominant capabilities are not interested in realizing their potential in a small market. Additionally, the author used some assumptions about the role of institutions regulating the market in case of sharp changes in market conditions.

Keywords: theory of economic dominance; Linda index; Herfindahl-Hirschman index; oligopoly; monopolistic competition; Express delivery; SER; antitrust regulation

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INTRODUCTION

According to the theory of economic dominance [1] in each market it is possible to divide companies into three types: alpha (dominant firms with priority access to cheaper resources, the most advanced technologies and institutional advantages, capable of influencing the existing market «rules of the game», including entry barriers, but also invest the most in market development for the benefit of all participants, setting quality standards in this market and leading communication with regulators), beta (typically niche leaders with significantly more expensive resources) and gamma (all other companies). Since the boundaries of each market in the real world are conditional, for competition with each other alpha companies can establish or acquire dependent beta and gamma companies. These associations are called Alpha Empires, as alpha provide their satellites with institutional support and access to their resource base, which strengthens the position of the corresponding beta and gamma in their markets. [2]

The identification of alpha companies in a particular market, generally, based on expertise on the market any unique methodology reflecting the specifics of the market. [3–7] For example, author identifies the following five alpha companies in article [8], which analyses the logistics industry in the Russian express delivery market:

- “Post of Russia” JSC — Russian company, owned by the state with the largest network of branches, performing a significant social function in our country;
- DPD — Russian “DPD Rus” JSC is part of the network of DPDgroup, owned by the international holding GeoPost. The company considers itself a “acknowledged leader of the Russian market of express delivery of parcels and cargoes”;
- DHL — second after Amazon the largest logistics operator in the world, in Russia

more working with corporate customers. Historically, DHL is a German mail subsidiary;

- UPS and FEDEX — Russian units of transnational logistics companies.

According to the author, who is an expert in this market, all five above-mentioned companies compared to the other players in the market of express delivery have the following advantages: “low-cost financing, technological strength, organizational process asset, legal preferences, privileged relationship with the State, substantial access to foreign markets”. [8] Assessment of such characteristics of companies can be done only by expert method, but it is logical to assume that in the presence of such advantages should be objective results, which can be seen through open sources: official reporting, ratings and rankings and other benchmarking. We test this hypothesis considered several open sources of information and applied commonly accept market concentration measures to them:

1. **Concentration indices (CR_n)** — sum of market shares n the largest players. The index does not have a single universally accepted economic meaning [9] and is traditionally used in combination with other indices.
2. **Herfindahl-Hirschman Index (HHI)** — evaluates the state of concentration/monopolization of the market and calculated as the sum of squares of the shares of each firm’s sales. [10] At a value within the range 1 800 and 10 000 HHI is considered highly concentrated, 1 000–1 800 — medium (moderately) concentrated, less than 1 000 — weakly concentrated. [11]
3. **Lind Index (L)** used to identify oligopoly or dominant “core of the market”, as Remo Lind himself called it. [12] It is calculated sequentially for the two largest companies in terms of revenue, then 3, then 4, etc., when the downward continuity is disrupted and L_n is less L_{n+1} , it is considered that n companies make up the oligopoly in the market. The calculation formula is as follows:

Table 1

**Calculation of Lind's indices and concentrations for the 10 largest companies
in the industry 53 "Post and Courier Activities" for 2020**

No.	Organization	Revenue, mln rubles	Region	Market share, %	L	CRn, %
1	"Post of Russia" JSC	211 067	Moscow	71.66	N/a	71.66
2	"SDEK-Global" LLC	15 701	Novosibirsk region	5.33	6.72	76.99
3	"Courier Communication Central Board" FSUE	9 947	Moscow	3.38	4.64	80.37
4	"Packages" LLC	4 643	Moscow	1.58	4.45	81.95
5	"Major Express" LLC	4 628	Moscow	1.57	3.60	83.52
6	"SUBMARINER" LLC	4 502	Moscow	1.53	2.91	85.05
7	"Courier-Region Capital" LLC	3 740	Moscow	1.27	2.50	86.32
8	"Arvato Rus" LLC	2 929	Yaroslavl region	0.99	2.27	87.31
9	"Crimean post office" FSUE	2 405	Republic of Crimea	0.82	2.11	88.13
10	"Distance trading service" CJSC	2 364	Moscow region	0.80	1.92	88.93

Source: author's calculations based on data from the TestFirm.ru portal.

$$L_K = \frac{1}{K(K-1)} \sum_{i=1}^{K-1} Q_i,$$

$$\text{where } Q_i = \frac{\frac{CR_i}{i}}{\frac{CR_K - CR_i}{K-i}},$$

$$\text{or } L_K = \frac{1}{K(K-1)} \sum_{i=1}^{K-1} \frac{\frac{CR_i}{i}}{\frac{CR_K - CR_i}{K-i}},$$

where:

K — number of large retailers;

i — number of leading retailers among K large retailers;

CR_i — market share of the i leading retailers;

CR_K — market share for K large retailers.

We assume that the presence of alpha companies in the market should show the presence of high concentration ($HHI > 1800$) or the presence of an appropriate oligopoly size on the Lind index. [13] An important

feature of the Lind index is the inability to distinguish one dominant company in the market (as the calculation begins with two companies at once), so you should to monitor such cases manually, and the HHI index in these situations shows very high rates.

Check on official accounts at TestFirm.

As the first source of information let us take data from the official reporting from the portal Testfirm.Ru on the industry 53 on Russian classification of economic activities "Postal and courier activities",¹ the closest to the courier delivery industry, by revenue for 2020 (table 1).

The Lind coefficient does not determine oligopoly, as the largest market player occupies almost 72%, and the share of all other players is significantly lower. The HHI index for ten companies² shows a value of 5 186,

¹ URL: <https://www.testfirm.ru/rating/53/>

² If more companies are counted, the HHI index will continue to grow.

- ▣ 53 Postal and courier activities
 - 53.1 Activities of the general postal service
 - ▣ 53.10 Activities of the general postal service
 - ▣ 53.20 Other general postal service and courier activities
 - 53.20.1 Activities of the ad hoc postal service
 - 53.20.3 Courier activities
 - 53.20.31 Activities of the courier delivery the different modes of transport
 - 53.20.32 Activities of the delivery of food at home
 - 53.20.39 Other courier activities

Fig. The structure of sub-sectors of industry 53 according to OKVED

Source: Testfirm.ru. portal.

which indicates the highest concentration of the market.

Of the five alpha express delivery market, we see here only one — “Post of Russia” JSC, in second position — SDEK, which the expert considers a beta company, and in the third — another state-owned company “Courier Communication Central Board” FSUE, which in the original classification referred to gamma. The absence of four more alphas in the list primarily indicates that official statistics do not notice them in the part of express delivery, as companies do not classify their services to the industry 53.

We could also take a subsector of the industry 53, which represents exclusively courier activities, but in the subsector 53.20 (and in all the sub-sectors invested) we will not see “Post of Russia”, as it has all the revenue belongs to the industry 53.10 “Activities of the general postal service” (see *figure*).

In general, it is expected that calculations based on official reporting data, structured according to the Russian classification of economic activities (RCEA), may not confirm the opinion of the market expert. Therefore, firstly, four of the five alpha are international companies, possibly, with their own accounting rules, and secondly, companies

have no obligation to reflect their services in the fast delivery industry we are researching.

For example, in the “neighboring” sector 52.24 “Cargo handling” can be found DHL (“DHL INTERNATIONAL” JSC, revenue in 2020–15 443 mln rubles) and DPD (“DPD RUS” JSC, revenue in 2020–18 005 mln rubles). In the sector 52.29 “Supporting activities other related to transport” is found UPS (“UNITED PARCEL SERVICE (RUS) LLC” 3 298 mln rubles), and in the sector for express delivery 53.20.3 “Courier activities” found Fedex (“FEDEX CORPORATION RUS” LLC) with the revenue 8.56 mln rubles in 2020, ranked 616th in revenue in its industry. Probably, FedEx provides services in Russia not only through its legal entity, but also through its partner — Major Express.

If we look at the sector 52.24³ separately, that the first 50 *HHI* companies will be equal 316 and Lind index will not reveal the presence of a dominant group (*table 2*).

On the other hand, you can see that both alpha express deliveries, who transferred their proceeds to the sector 52.24, in this sample “diluted” by companies from other subsectors (sea terminals, oil transportation, etc.), and in the case of a “cleaned” sample, they would

³ URL: https://www.testfirm.ru/rating/52_24/



Table 2

Calculations of the Lind's and CR indices for industry 52.24 "Cargo handling" for 2020

Rank	Organization	Revenue, mln rubles	L	Market share, %	CRn, %
1	"Ust-Luga Oil" JSC	27 612	N/a	7.33	7.33
2	"Taman Seaport" LLC	24 190	0.571	6.42%	13.75
3	"Novorossiysk Commercial Sea Port" PJSC	22 465	0.389	5.96	19.71
4	"DPD RUS" JSC	18 005	0.328	4.78	24.49
5	"VOSTOCHNY PORT" JSC	16 258	0.280	4.32	28.81
6	"DHL INTERNATIONAL" JSC	15 443	0.241	4.10	32.91
7	"Taman Neftegas" CJSC	14 561	0.212	3.87	36.77
8	"Vostochnaya Stevedoring Company" LLC	13 023	0.193	3.46	40.23
9	"OTEKO-Portservice" LLC	10 961	0.183	2.91	43.14
10	"Nakhodka Commercial Sea Port" JSC	10 641	0.171	2.82	45.97

Source: Testfirm.ru. portal.

Table 3

Companies with the main activity "Express delivery" from the MainMine public rating

Rank	Company	Main activity	Revenue, rubles
2	SDEK	Express-delivery	9 500 000 000
4	DHL	Express-delivery	15 000 000 000
13	Boxberry	Express-delivery	1 900 000 000

Source: URL: <https://mainmine.ru/transportnye-kompanii/2020>

most likely become visible for both statistical indicators.

ALTERNATIVE SOURCES OF INFORMATION

As alternative sources of information is consider public ratings. They are usually compiled on the basis of information voluntarily presented by the rating participants, so may not contain data for all companies, or — the consolidated data of the official accounts, whose shortcomings we mentioned earlier.

MAINMINE PUBLIC RATING OF TRANSPORT AND LOGISTICS COMPANIES

The MainMine rating⁴ for 2020 allows you to select companies for which the express delivery market is the main, but that builds on those who posted information about themselves on the portal MainMine, where state-owned companies, first of all "Post of Russia" are excluded by the decision of the rating compilers.

⁴ URL: <https://mainmine.ru/transportnye-kompanii/2020>

Table 4

Rating of delivery services in Moscow (2020)

Rank	Name	Rating number	Scale	Reliability	Recognition
1	"Dellin"	94.0	4.9	4.4	5.0
2	PONY EXPRESS	93.4	5.0	4.8	4.6
3	SDEK	84.8	4.5	4.8	4.0
4	DPD	84.0	4.9	4.8	3.4
5	DHL	71.6	2.8	4.9	4.0
6	КурьерСервисЭкспресс	71.1	2.6	5.0	4.0
7	Dostavista	68.9	2.3	4.4	4.3
8	UPS	64.7	3.3	4.9	2.5
9	Major Express	61.6	3.7	4.8	1.7
10	SPSR	61.5	4.3	4.7	1.2

Source: data of RAEKS-Analytics LLC (RAEKS rating agency).

Also in the rating on the 5th place is DPD with the revenue of 14 bln rubles, but its main type of activity is indicated by "groupage cargo". Based on such statistics it is difficult to talk about the dominance of five alpha companies in terms of revenue in the market, although this does not exclude that they may be the most profitable or operate on the most marginal parts of the express delivery market.

RATING "RAEX" – COMPREHENSIVE ASSESSMENT OF COURIER COMPANIES IN MOSCOW

The well-known rating agency "PAEX" has offered its method of ranking of express-delivery companies,⁵ where revenue takes only 20% of the three groups:

1. Scale (total 40%):
 - a. Company age – 5%;
 - b. Revenue for 2018 (without 2017 year) – 20%;
 - c. Number of personnel by SPARK Interfax – 15%.

⁵ URL: <https://raex-rr.com/methods/94>

2. Reliability (total 20%):
 - a. Data on litigation – 15%;
 - b. Prudence index (SPARK) – 2,5%;
 - c. Financial risk index (SPARK) – 2,5%.
3. Recognition (total 40%):
 - a. Site quality index – 15%;
 - b. Average rating of the company in Google and "Yandex" – 7,5%;
 - c. Number of evaluations in Google and "Yandex" – 12,5%;
 - d. Number of references in the media for 2019–5%.

The method was applied to courier services operating in Moscow, the results were published in May 2020,⁶ one month into the pandemic. With this method of counting "Post of Russia" at all did not get into the final rating, but the other four alphas got in the top ten, sharing the championship with the beta and gamma companies (table 4).

If you do not have expert information about each of the companies in this table,

⁶ URL: https://raex-rr.com/business/rating_of_delivery_services#table



it is difficult to identify the known alpha companies by any criteria.

ALTERNATIVE SCAN-INTERFAX EXPRESS DELIVERY MARKET RANKING

Edition “Information resource SCAN”, owned by “News Agency Interfax” JSC, makes a rating of companies on the express delivery market by the number of references in the media, visibility and reach of the audience. All five alpha companies are almost always in the top-15 in each category, often leading them. For example, in the first half of 2021, the global postal company FedEx topped the rating in terms of the number of references and the visibility index,⁷ and by 2020, DHL was the audience leader.⁸

But, again, nothing can be said about their dominance or substantial permanent separation from other companies in the industry by any characteristics.

CONCLUSION

The conducted analysis of available sources of information showed that it is difficult to identify in the Russian market alpha-companies based on publicly available information without the involvement of a sector expert, since:

- for microindustries, official statistics are of little use, because companies make decisions to classify their own revenue as part of an RCEA code on which official statistics are based, that may not coincide with the real situation;
- distinguishing revenue from companies belonging to one of the markets in which the company operates, is impossible without the company’s willingness to provide this information, which does not always correspond to its business interests. Perhaps one of the alpha mentioned in the article has fairly modest figures on revenue in

the Russian market and does not want its customers to be aware of this;

- by proxy indicators of the company’s activity in the market (popularity, media references, etc. alpha-companies also do not necessarily occupy a leading position, because, having institutional advantages, they may not be interested in additional wide publicity.

It is important to note that even if we have open information on revenue across the required microindustry, we can face the situation, when the revenue of the alpha company in this micro market loses to both beta and gamma companies. This can be for various reasons and should not surprise: for example, the alpha company does not see any prospects in the development of this market, but it is necessary to attend it, as it is important for key customers of the company. In this case, the alpha will still have to maintain its level of quality, setting its upper limits for other players, bringing modern technology and participating in the definition of market rules (i.e. actually bear the costs of developing this micro market), but not dominating part of the market share. It appears that this situation in 2021 is developing on the micro vertical of delivery of goods from online-stores (where the biggest players — their own online shopping services Ozon and Yandex) and delivery service, where many new players — Yandex. Lavka, Samokat (affiliated with the Sberbank Group), a five-alpha express delivery not yet visible.

And, perhaps, the most interesting question for future research — these are the speed and methods of the alpha companies’ response to the changes in market conditions, which is especially rapid in the crisis. On the express delivery market, where previously “Post of Russia” dominated the mass segment and international players served the most secure corporate customers, B 2C-delivery market is now actively growing (largely due to the pandemic), not only in our country, but all over the world. New active players — the same

⁷ URL: <https://scan-interfax.ru/ratings/rejtingi-operatorov-ekspress-dostavki-1-polugodie-2021/>

⁸ URL: <https://scan-interfax.ru/ratings/rejtingi-operatorov-ekspress-dostavki-2020-god/>

Wildberries and Ozon — in many regions are ready to deliver orders the next day. How stable will the position of alpha remain if new players pay attention to classic express

delivery markets? And would a market regulator, such as the Federal Antimonopoly Service, protect historically dominant players from such expansions?

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