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Success factors of fast-growing Gazelle companies in the context of the challenges of the Russian economy and large cities



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Overview

1. The motivation of the research studies
2. Challenges of the Russian economy and its large cities
3. Gazelles - the fast-growing companies (FGC)
4. FGC in Russia
5. Modeling growth factors for the FGC in Russia
6. Conclusion and the next steps

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1. Motivation

- Large cities are drivers of the economic growth in terms of synergy (value creation) and actors' connectivity
- Fast-growing companies (FGC) are drivers of the economic growth in terms of jobs creation and synergy (value creation)
- The idea is to reveal whether FGC could be the basis for an innovative ecosystems of agglomerations in the large cities under the modern challenges in Russian economy
- The first step: reveal growth factors of FCG in large cities and regions of Russia

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2. Large cities challenges for the economy and society in Russia (may high-tech, sustainable and dynamic FGC be the answer?)

- **Inclusiveness and sustainability:** the shortage of resources, environment pollution and rise of social inequality in large cities facilitate the need for greener technologies, higher productivity and enough space for new jobs
- **Benefits from the “Triumph of the city”:** glocalization takes place through specialization and cooperation. Clusters as meta-organizations and agglomerations as ecosystems could have great impact on economic growth and productivity if their actors are dynamic enough
- **Agility, innovativeness and connectedness:** the performance of regional innovative systems are driven mainly by middle-sized companies that could become leaders of growth and innovativeness through specialization and participation in joint initiatives and projects
- **Governance:** the cooperation in agglomerations is not only a natural consensus but also a result of the policies promoting cooperation strategies



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3. Fast-growing companies (FGC, Gazelles)

The fast-growing companies (FGC) are companies with stable high growth rates (term by Dr. David Birch)

- Small and medium-sized enterprises
- Middle position between “mice” (SE) and “elephants” (corporations)
- Revenue from USD 2-30M (*Birch, 1979*)
- Annual revenue growth rates are about 20% for several (at least 5) years (*Birch, 1979*)
- Create up to 50-80% of new jobs in developed economies (*Bos, Stam, 2013*)
- Make a predominant contribution to GDP growth – up to 40% (*Bottazzi, 2008*)
- Connectivity in agglomerations contribute to performance of middle-sized FGC (invert. U-curve, *Knoben & Bakker, 2019*)



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3. Success Factors of the Fast-Growing Companies (Literature)

- ✓ Implementation of innovative technological solutions, high R&D costs
- ✓ Implementation of marketing and organizational innovation
- ✓ Investments in personnel and human capital
- ✓ Labor productivity
- ✓ Entrepreneurial orientation - focus on innovation, inclination to take risks and activity when entering the market
- ✓ Management capacities and implementation of a successful market strategies
- ✓ Age and size of the company
- ✓ Location: innovative and investment background of the region, distance from the centers of business activity

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4. The FGC state in Russia in recent years (2012-2019) *

Number and industrial focus of FGC *

Increase in FGC revenue	2013–2017 (580)	2014–2018 (788)	2015–2019 (827)
• more than 20% per year	201	246	258
• 15-20% per year	120	168	253
• 10-15% per year	259	374	316

10 FGC specializations with highest net profit margin

Industry	2012-2016	2013-2017	2014-2018	2015-2019	Variation (%)
Mechanical engineering and trade in engineering products	11%	11%	14%	14%	0,1
Food production and trade	29%	19%	14%	14%	-0,5
Construction and development	8%	11%	13%	11%	-2,3
Transportation and transportation services	6%	10%	7%	8%	1,4
Vehicle manufacturing and trade	4%	5%	4%	7%	3,0
Production of metals, metal products and trade	6%	8%	8%	6%	-2,2
Production and trade of fuel and energy goods	5%	6%	7%	5%	-1,6
Timber and paper industry and trade	5%	6%	3%	4%	1,4
Retail	4%	5%	5%	4%	-0,8
Pharmaceutical production and trade	6%	6%	4%	4%	0,0
Chemical production and trade	11%	8%	8%	4%	-4,3
ICT	3%	2%	3%	3%	0,0

Industry	2013-2017	2014-2018	2015-2019
Fishing	51,6%	59,7%	60,8%
Agriculture	35,1%	19,4%	18,7%
Health care	3,4%	15,6%	17,5%
Extraction and processing of energy raw materials	6,4%	6,1%	10,7%
Automotive	4,6%	2,6%	8,6%
Metallurgy and production of finished metal products	4,2%	4,1%	8,5%
Mechanical engineering	6,1%	10,2%	7,8%
Chemical industry and product manufacturing	6,0%	5,0%	7,5%
Production and distribution of energy and heat	8,9%	6,1%	7,5%
Building materials production	3,8%	4,2%	6,8%

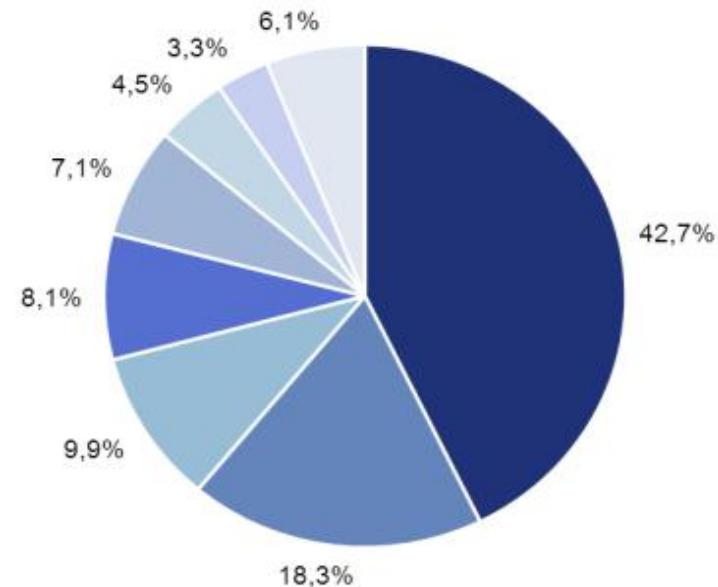
* Source: SPARK-Intertax, 2020

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4. The state of SME sector in Russia for the period studied (2012-2016) *

- Share in GDP - 19.9%
- Employ 25% of the workforce
- Structure: 95% - micro-enterprises
- 45% of companies are located in 10 regions
- 40% of investments in SMEs are located in 10 regions



- Trade
- Real estate and provision of services
- Transport and communication
- Construction
- Manufacturing industries
- Provision of communal and social services
- Agriculture, hunting and forestry
- Other

* Russia. National report. Global Entrepreneurship Monitor, 2016.

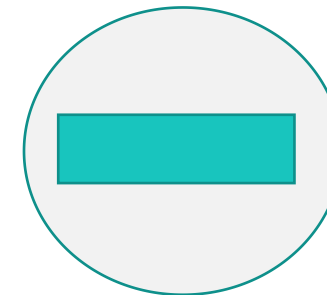
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4. Business climate in Russia (Literature)



- Good level of commercial and physical infrastructure development
- Growth in the number of entrepreneurship support programs
- Unmet demand in consumer markets, allowing companies to fill market niches
- Overall positive image of entrepreneurship among the population

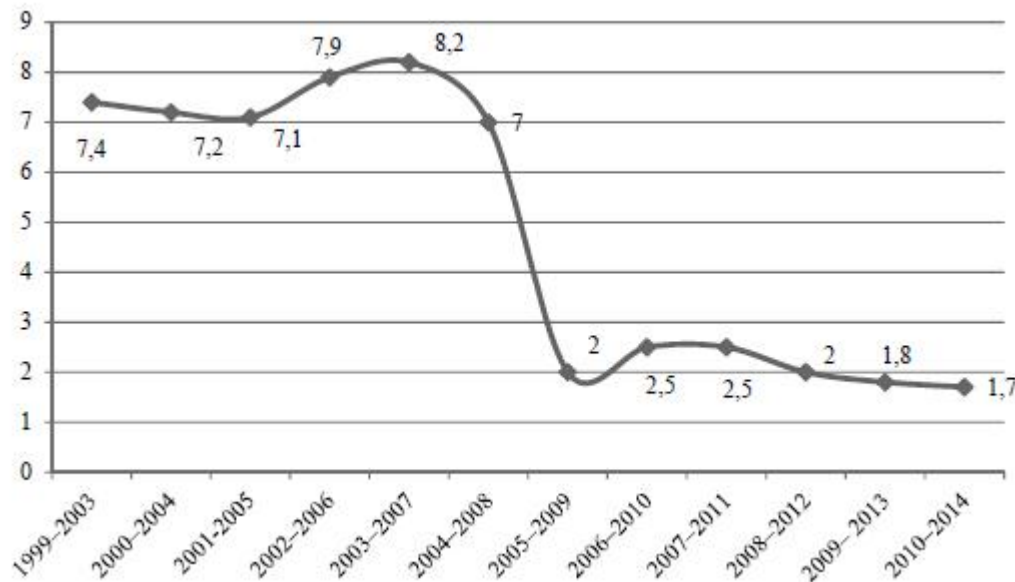


- Inconsistency of state policy in the field of regulation of SME, including frequently changing tax legislation
- Administrative hurdles for some industries
- The inaccessibility of the implementation of research and technical developments for SMEs due to their high cost
- Lack of access to finance

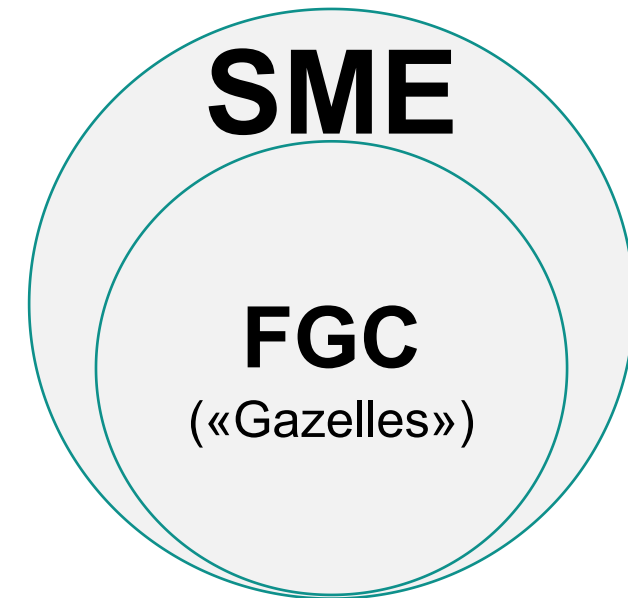
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4. Gazelle companies in Russia up to the period studied (2012-2016)



The share of “Gazelles” among Russian companies with revenues over 300 million rubles, % *



*Yudanov, A.Y., Polunin, Y.A.: Russian fast-growing companies: a test of depression. World of the new economy 2, 103–112 (2016).

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4. FCG features in Russia (Literature)

- Ubiquitous (develop across all industries)
- Most often, FGCs are specific state of pre-existing organizations
- Russian “Gazelles” are not flexible enough and find it difficult to adapt to changing market conditions
- Short life cycle. After a period of accelerated growth, the firm does not become "stable", but has negative performance indicators
- They occupy a narrow market niche
- Many gazelles have a "boost" of growth from outside push (e.g. administrative forces)

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5. Modelling growth factors of FGC in Russia

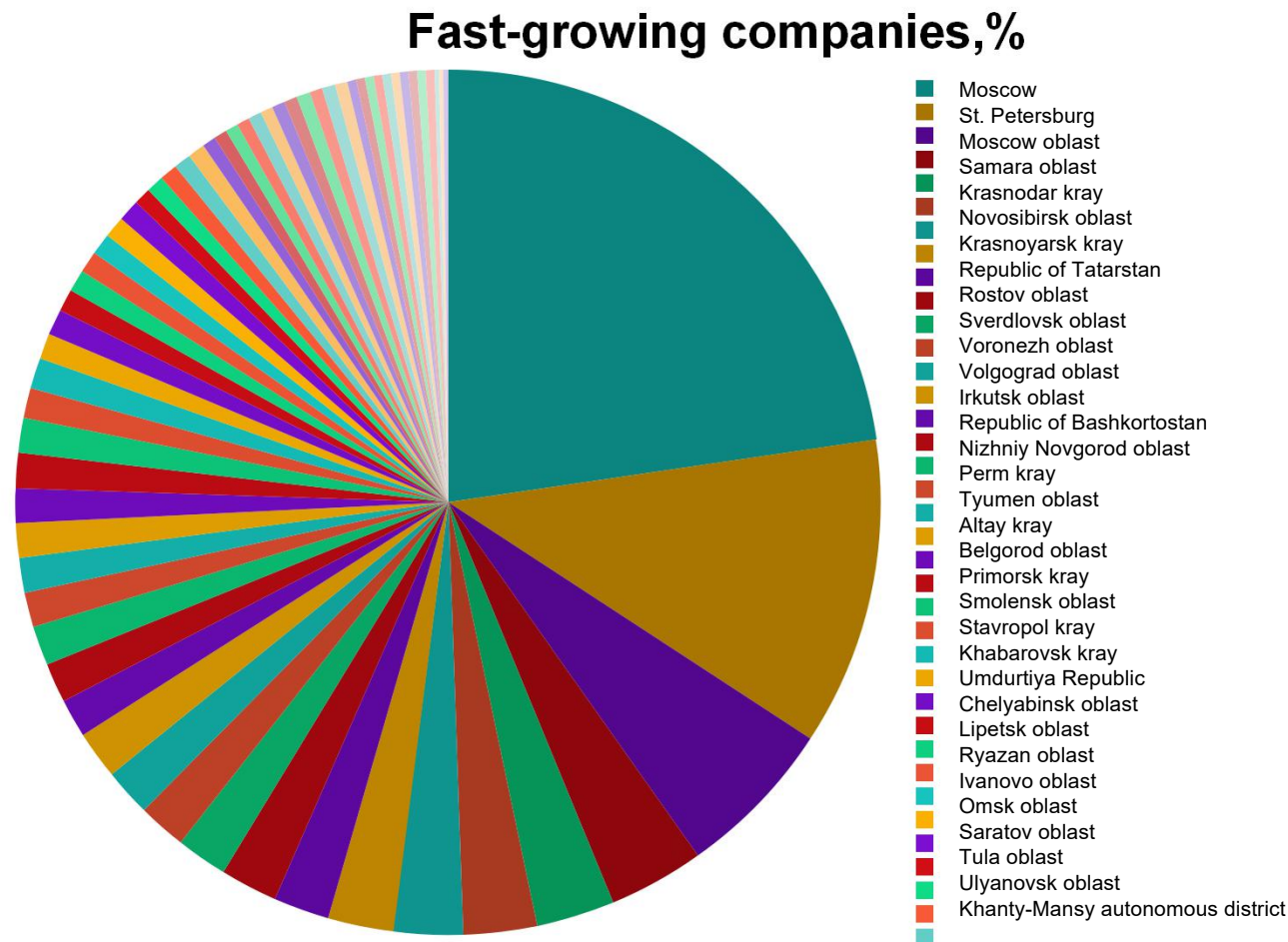
- Database used: RUSLANA (Bureau van Dijk)
- Sample features:
 - ✓ Annual growth of companies' revenue - at least 20% for 5 consecutive years
 - ✓ The volume of company's revenue from dataset - from USD 2 to 30 million per year
- Study period: 5 consecutive years of data available for Russia (2012-2016)
- Number of FGC in the sample dataset: 417 companies

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5. Features of FGC sample (Russia) in studied period (2012-2016)

65% of “Gazelles” are located in the 14 largest cities and regions in Russia (67% of GDP), 50% in 6 regions



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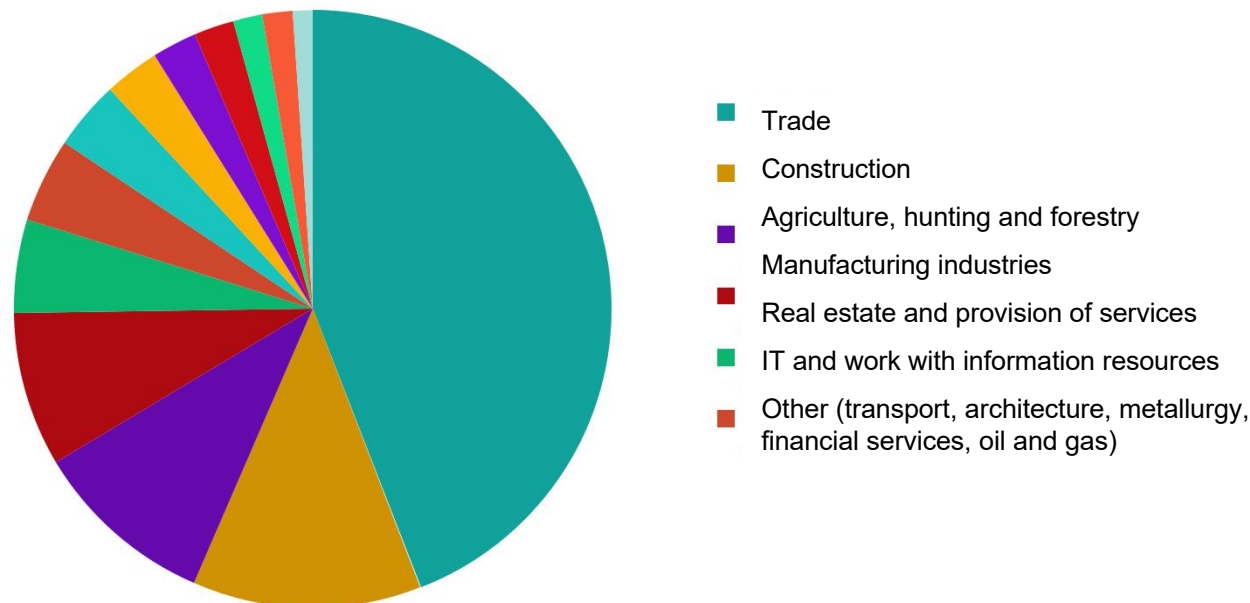


5. Features of FGC sample (Russia) in observed period (2012-2016)

Gazelles appear in all areas, specifically:

- 42% trade (typical for SME)
- 20% construction and related industry

Industry affiliation of FGC,%



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5. Regression models of FGC growth factors in Russia (panel data, years: 2012-2016, Revenue: USD 2-30M, AGR>20%)

1. The model of the company's revenue dependence on growth factors ($R^2=85\%$):

$$\ln y_1 = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_6 x_6 \quad (1)$$

y_1 – the company's revenue (the dependent variable),

x_1 – profit margin, x_2 – profit per employee, x_3 – revenue per employee,

x_4 – cash per employee, x_5 – company age, x_6 – return on assets

Coefficient	Explanatory variable	Coefficient	St. error	t - statistics	P-value
β_0	Constant	6,1005	0,0465	131,2	0,0000
β_1	Profit Margin	0,0039	0,0005	7,360	0,0000
β_2	Profit per employee	-0,0058	0,0011	4,918	0,0000
β_3	Revenue per employee	0,0083	0,0005	16,09	0,0000
β_4	Cash per employee	0,0002	0,0000	4,027	0,0000
β_5	Company age	0,2301	0,0677	3,398	0,0007
β_6	Return on assets	0,0015	0,0006	2,310	0,0210

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5. Regression models of FGC growth factors in Russia (panel data, years: 2012-2016, Revenue: USD 2-30M, AGR>20%)

2. The model of revenue growth dependence on growth factors ($R^2=93\%$):

$$\text{Lny}_2 = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 \quad (2)$$

y_2 – the growth rate of the company’s revenue as (the dependent variable),

x_1 – profit margin, x_2 – profit per employee, x_3 – cash per employee,

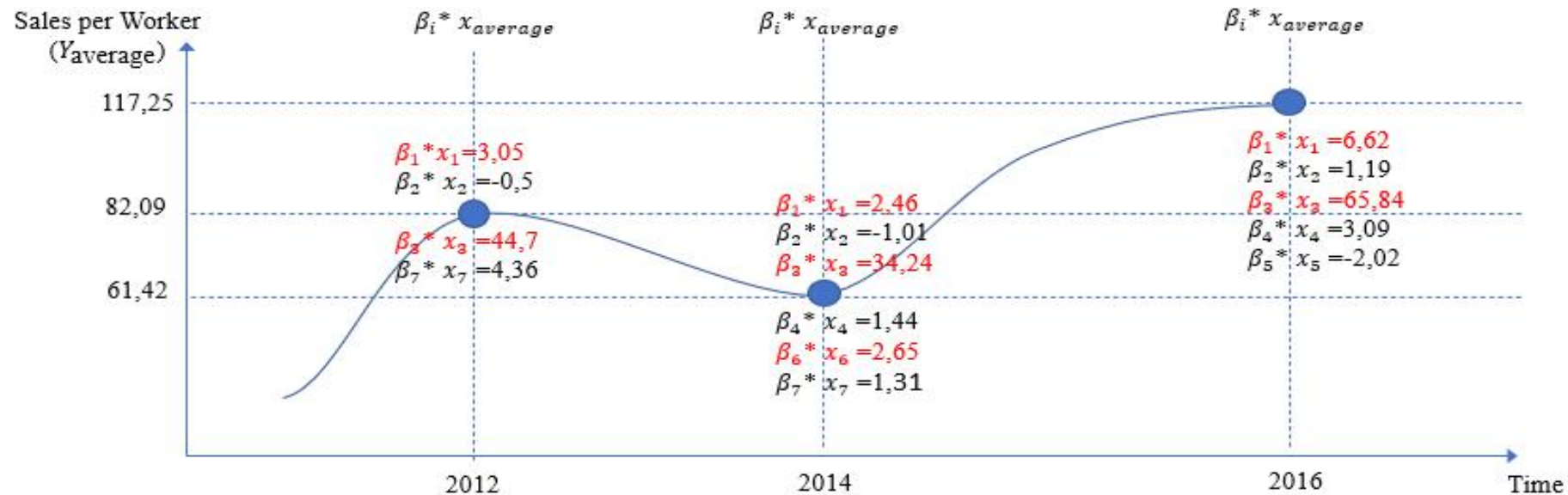
x_4 – production costs

Coefficient	Explanatory variable	Coefficient	St. error	t - statistics	P-value
β_0	Constant	0,86826	0,01918	45,25	0,0000
β_1	Profit Margin	-0,00094	0,00029	3,182	0,0015
β_2	Profit per employee	0,00115	0,00058	1,975	0,0485
β_3	Cash per employee	-0,00048	0,000024	1,931	0,0537
β_4	Costs of production	-0,000019	0,000054	-4,209	0,000027

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5. Life Cycle Model of a FGC in Russia (spatial data, years: 2012-2016, Revenue: USD 2-30M, AGR>20%)



$$\bullet Y_{2012} = 0,291 * x_1 - 0,006 * x_2 + 0,95 * x_3 + 0,2 * x_7, R^2 = 91\% \quad (3)$$

$$\bullet Y_{2014} = 0,999 * x_1 - 0,034 * x_2 + 0,845 * x_3 - 0,87 * x_4 + 0,059 * x_6 + 0,13 * x_7, R^2 = 86\% \quad (4)$$

$$\bullet Y_{2016} = 1,024 * x_1 + 0,035 * x_2 + 0,836 * x_3 - 1,54 * x_4 - 2,22 * x_5, R^2 = 85\% \quad (5)$$

Y - the revenue per employee, x_1 – profit per employee, x_2 – receivables per employee, x_3 – costs per employee, x_4 – financial gains/losses per employee, x_5 – taxes per employee, x_6 – payables per employee, x_7 – cash per employee.

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6. Conclusions and the next steps

- “Gazelles” appear in a variety of sectors: 22% – in the services sector, 44% – in trade, 33% – In production (typical for the Russian SME sector)
- "Small" and "medium" “Gazelles” show better performance
- Dependence on labour: 50% of the largest FGCs have an average of 60 employees over 5 years, small and medium FGCs have an average of 33 employees (Birch figure for the USA is 65)
- Young “Gazelles” grow faster, however size does not affect growth rate
- Many “Gazelles” have an "initial impetus" for growth from outside forces (40%)
- As the “Gazelle” grows, its financial dependence increases
- A high proportion of “Gazelles” firms have short production cycle
- Successful “Gazelles” operate in capital-intensive industries and build capital on the fly (especially due to access to administrative resources)

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6. Conclusions and the next steps: possible FGC policies

- Support for young small businesses, including the development of business infrastructure and physical infrastructure also in large cities (support institutions, roads, energy networks, land plots, etc.)
- Stimulating the willingness of the credit and banking sector to cooperate with small and medium-sized businesses (more positive decisions on loans provision)
- Favorable tax climate (stability of the "rules of the game", tax "holidays" for FGC, reduced tax rates)

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6. Conclusions and the next steps

- Modifying and testing the models of FGC growth factors under revised pre-assumptions and more data (test threshold of 5-years growth rate, narrow sample size down to residents of large cities agglomerations, add more primary data like surveys etc.)
- Studying interrelation between FGC inputs, FGC outputs and FGC connectivity, relatedness and complexity in agglomerations of large cities of Russia. (also proving inverted U-curve for high-tech FGC)
- Compare FGC inputs and outputs in large cities for various countries. The impact of innovations and sustainability.
- More detailed policy studies for FGC support in Russia with more focus on innovations and sustainable development. Special focus: STI policies impact



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