How innovative is Georgian economy?

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INTRODUCTION

We all are witnesses of the terrific speed with which the world economy and society as a whole are being changed. Correspondingly grows an interest in statistics, which is designed to reflect these changes, their progress and outcomes. The purpose of this article is to investigate on the basis of international statistical data the state of affairs and key tendencies that are observable in the sphere of research and innovation in Georgia. The sad reality is such that the Georgia's statistics system fails to ensure permanent studies of these and other tendencies. However, thanks to the efforts of international organizations, the domain of information that contributes to statistical studies of economic activity of a specific sphere and their international comparison is being more and more widened.

Many papers have since attampted to assess the issues regarding R&D and innovations in Georgia [1,3, 4-9, 13]. However, because of statistical data gaps no detail quantitive analysis of the innovative activity have been conducted in Georgia up to now.

The World Economic Forum is one of the international organizations, which make accessible to society the information necessary for international comparison. For more than three decades, the World Economic Forum's annual *Global Competitiveness Report*s have studied and benchmarked the many factors underpinning national competitiveness[1]. From the onset, the goal has been to provide insight and stimulate the discussion among all stakeholders on the best strategies and policies to help countries to overcome the obstacles to improving competitiveness. In the course of time, the objective of said activity was and still is a critical reminder of structural fundamentals of national economies for sustained growth.

Since 2005, the World Economic Forum has based its competitiveness analysis on the Global Competitiveness Index (GCI), a comprehensive tool that measures the microeconomic and macroeconomic foundations of national competitiveness. In the 2012-2013 ratings compiled on the basis of these indicators, Georgia was ranked 77th among 144 countries, which is a stand improved by 11 positions, as compared with the 2011-2012 ratings.

The present article is organized as follows: the first part deals with the essence of global competitiveness and its indicators; the second part is dedicated to innovative activity indicators and the positions held by Georgia in world ratings determined on their basis; the third part considers the essence of access to finance and its existing degree in Georgia and the rest of the world; the fourth part discusses the scale of innovative technologies in the modern world; the issues considered in the fifth part relate to the innovation-driving macroeconomic environment in Georgia and its related problems. In the end, the principal findings and proposals are given.

So far as the obtaining of statistical information relating to the subject-matter discussed in the article is practically impossible (with rare exceptions) due the absence of a corresponding observing

[1] http://www.weforum.org/

system, we have used the data of studies carried out by the World Economic Forum, World Bank, the International Monetary Fund (IMF) and an International Financial Corporation.

1. GLOBAL COMPETITIVENESS AS SUCH

„Statistics: The only science that enables different experts using the same figures to draw different conclusions. "
Evan Ezar, American humorist (1899-1995)

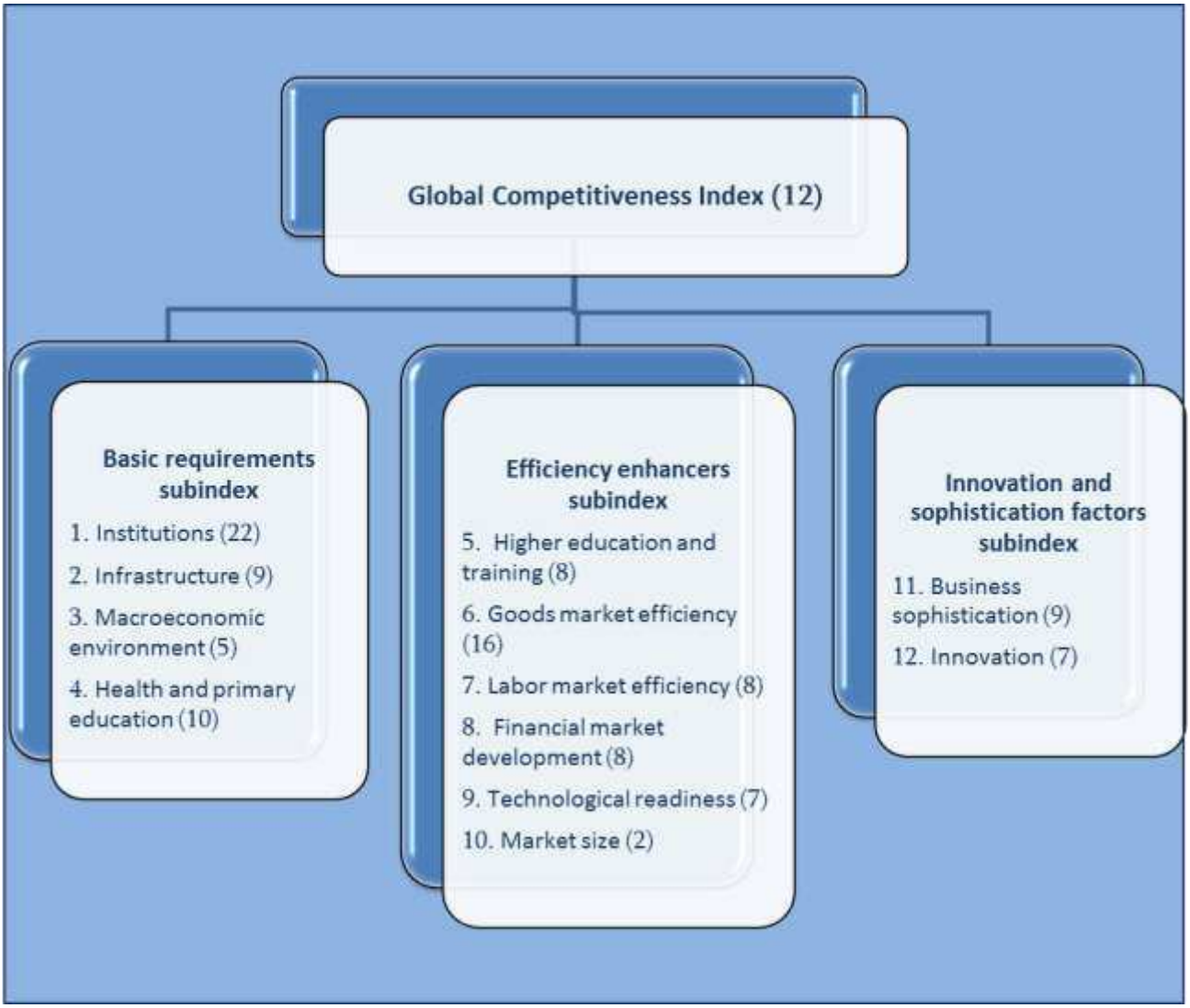
Competitiveness is defined as the set of institutions, policies, and factors that determine the level of productivity of a country. The level of competitiveness is determined by the degree of a country's driving towards a sustained growth.

On what instruments are the corresponding assessments based?

To assess the level of competitiveness, the competitiveness index is used. Its calculation is based on 12 basic pillars, each of them being calculated on the basis of a number of indicators[2].

The said 12 pillars are organized into 3 subindexes (see Chart; the figures in brackets indicate on how many indicators the given index/subindex is calculated):

[2] The Global Competitiveness Report 2012-2013. World Economic Forum – Geneva Switzerland 2012. P.8. http://reports.weforum.org/global-competitiveness-report-2012-2013/#=



A great number of indicators given in the Chart evidence how a complex phenomenon competitiveness of a specific country is. Although, our current purpose is to analyze the innovative capacity and the availability of its indicators in Georgia.

Meanwhile, in order to establish the problem's urgency, let us consider the quantitative indicators of innovative capacity in Georgia in relation to the same in other countries.

2. INNOVATIVE ACTIVITY INDICATORS

"We need statistics not only for explaining things but also in order to know precisely what there is to explain".
J. Schumpeter, economist and political scientist (1883-1950)

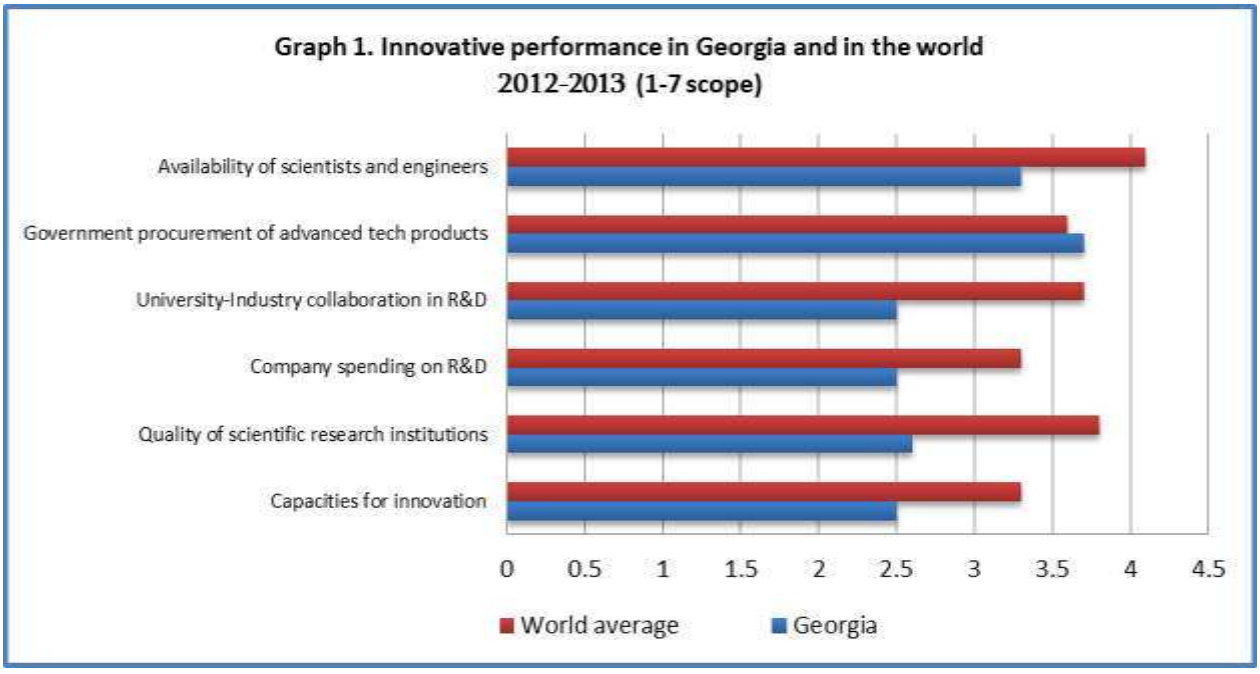
The base line traceable in the course of an empirical analysis of the Global Competitiveness Index (GCI) and its components consists in the fact that the competitiveness index dynamics of Georgia

reveals a manifest inconsistency with the dynamics of the same Index's components, such as macroeconomic environment, effectiveness of anti-monopoly policy, capacity for innovation, tertiary education enrollment of the labor force, extent of staff training, production process sophistication, etc. In the world ratings compiled on the basis of these indicators, Georgia fails to rank among the first hundred of countries; According to most indicators, the rating of Georgia is lower than the mean value of a group of lower-middle income economies and Georgia's rankings are inferior to those of most post-Soviet countries. Georgia especially lags behind the Baltic States, out of which Estonia demonstrates better positions by almost all the ratings.

By estimates of the World Economic Forum for 2012-2013, the innovative capacity index for Georgia scored 2.6, according to which Georgia ranks 127th among 144 countries.

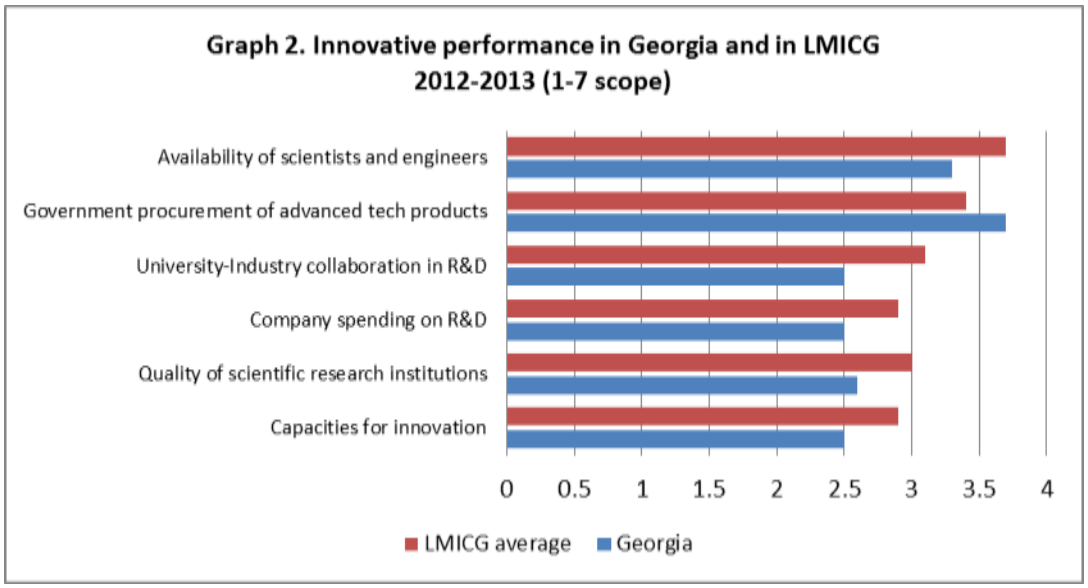
The level of innovative capacity is measured by a combination of 7 indicators, which in turn are based on the observation of corresponding indicators. These indicators are: (1) Capacity for innovation); (2) Quality of scientific research institutions); (3) Company spending on R&D); (4) University-Industry collaboration in R&D; (5) Government procurement of advanced tech products); (6) Availability of scientists and engineers); (7) (PCT patents, applications/million population).

It is to be mentioned that by almost all the above-mentioned indicators Georgia essentially lags behind the similar mean value calculated according to 144 countries. An exception is the Government procurement of advanced tech products according to which (coefficient 3.7, mean value 3.6) Georgia ranks 61st (see Graph). Given the circumstance that all these indicators are represented by a 7-score system, Georgia's attitude toward innovation seems rather inert according to all the indicators.



As regards the number of patent applications per million population, this indicator for Georgia makes 1.5 (60th position in the rankings). For the sake of comparison, this indicator amounts to 311.0 in Sweden, which is top-ranked by this indicator; in Estonia, it makes 34.6 (26th); in Latvia - 12.5 (30th); in Lithuania - 6.2 (39th); in Russia - 5.5 (44th); in Ukraine - 2.1 (51st).

A similar situation is observed in Georgia in terms of innovative performance by the lower-middle income countries' group (LMICG) as compared with the mean value (in which Georgia is incorporated by the WB's classification):



What do these rankings indicate and what problems we have to deal with?

As mentioned above, the WEF's *Global Competitiveness Index* has been recognized today as a comprehensive tool that measures the micro- and macroeconomic foundations of national competitiveness. A system of indicators, which serves to calculate the Index (see Chart 1), represents a logical whole of related and correlated components of the competitiveness determinants. Therefore, the subindexes of the GCI well explain the existing level of innovative capacity and its conditioning factors.

What factors do condition the existing in our country attitude to innovation activities? To answer this question, we have used the system of competitiveness measures/indicators and singled out from the latter the following indicators:

- Tertiary education enrollment
- Intellectual property protection
- Quality of the educational system
- Quality of math and science education
- Quality of management schools
- Internet access in schools
- Availability of research and training services
- Extent of staff training
- Intensity of local competition

- Effectiveness of anti-monopoly policy
- Degree of customer orientation
- Reliance on professional management
- Brain drain
- Availability of financial services
- Affordability of financial services
- Ease of access to loans
- Venture capital availability.

These very indicators do determine to a great extent, directly and/or indirectly, attitudes of economic entities towards innovation. Correspondingly, the positions of Georgia in the rankings set according to these indicators are noteworthy and significant.

The basis of research and innovation is a science-based economy. Under a survey carried out by the World Economic Forum, by 2012-2013, Georgia was ranked the 77th (28.2) among 144 countries for tertiary education enrollment share in adult population. It is worth to note that according to this indicator, Georgia lags behind 9 post-Soviet countries: Moldova - 38.1 (66th), Kazakhstan - 40.8 (60th), Kyrgyzstan - 48.3 (53rd), Armenia - 51.5 (50th), Lithuania - 60.1 (34th), Estonia - 62.7 (27th), Latvia - 74.0 (16th), Russia - 75.9 (12th), Ukraine - 79.5 (10th). Moreover, according to the 2006-2007 survey, Georgia's said indicator scored 41.0 (or by 12.8 percentage points more) and the country occupied the 40th position in the world rankings.

For reference: these data for the European Union, in particular for EU15 and EU27 countries, score on average 64.83 and 63.26, respectively.

The so low level of this indicator in Georgia, together with other factors, is the result of brain drain. According to the answer to the question *Does your country retain and attract talented people?* [1 = no, the best and brightest normally leave to pursue opportunities in other countries; 7 = yes, there are many opportunities for talented people within the country], Georgia (3.0) is ranked the 104th. The weighted average by this indicator in the world makes 3.5; the top-ranked is Switzerland (6.3), Algeria being bottom-ranked (1.5). The position similar to that of Georgia (3.0) in the rankings is held by Nicaragua, Honduras, Guinea, Mali, Zimbabwe, Jamaica, Paraguay, and Guyana. The table below (like the tables to follow) indicates which post-Soviet countries have better than Georgia standing in the said rankings:

Table 1

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***3.0***	***104***	Estonia	3.4	78
LMICG	3.1	-	Kazakhstan	3.4	72
Latvia	3.1	95	Azerbaijan	3.4	70
Armenia	3.2	88	Tajikistan	3.5	61

Intellectual property protection - *How would you rate intellectual property protection, including anti-counterfeiting measures, in your country*? [1 = very weak; 7 = very strong] – so put was the question ranked by a 7-score system).

According to this indicator, Georgia (2012-2013) is ranked the 126th (2.6) and falls behind by 1.2 points the world average (3.8). The rankings are topped by Finland (6.3) and bottomed by Haiti (1.6). The same score as Georgia (2.6) have: Guatemala, Côte d'Ivoire, Vietnam, Lebanon, Russia, Peru, and Mozambique. The table also gives the average score by these indicators for the lower-middle income countries' group (LMICG).

Table 2

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***2.6***	***126***	Armenia	3.4	80
LMICG[3]	3.0	-	Tajikistan	3.5	74
Russia	2.6	125	Lithuania	3.7	65
Ukraine	2.7	120	Latvia	3.8	57
Moldova	2.8	117	Azerbaijan	3.9	53
Kazakhstan	3.2	92	Estonia	4.7	34

It is noteworthy that the intellectual property protection indicator for Georgia in 2011-2012 made 2.8, ranking it 105th.

Human capital and its intellectual capacities are among the most important determinants of innovation activities, which significantly depend on the quality of educational system of a country. The GCI's Efficiency enhancement subindex, together with other factors, includes the indicators related to the quality of higher education and training.

Quality of the educational system - *How well does the educational system in your country meet the needs of a competitive economy?* [1 = not well at all; 7 = very well]. By this indicator in the relevant rankings Georgia occupies the 114th place with 3.0 score (average score - 3.7); Switzerland tops in the rankings (6.0), Yemen being the lowest-ranked economy (1.8). Likewise Georgia, the same score of 3.0 have such countries as: Panama. Chad, Greece, Brazil, and Madagascar.

Table 3

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***3.0***	***114***	Latvia	3.6	74
LMICG	3.3	-	Armenia	3.5	79
Azerbaijan	3.1	109	Ukraine	3.6	70
Moldova	3.2	103	Tajikistan	3.7	67
Kazakhstan	3.2	101	Lithuania	4.0	54
Russia	3.4	86	Estonia	4.1	49

[3]Lower-middle income economies *(July 2012)* include a group of 54 countries: Albania; Armenia; Belize; Bhutan; Bolivia; Cameroon; Cape Verde; Congo, Rep.; Côte d'Ivoire; Djibouti; Egypt. Arab Rep.; El Salvador; Fiji; Georgia; Ghana; Guatemala; Guyana; Honduras; India; Indonesia; Iraq; Kiribati; Kosovo; Lao PDR; Lesotho; Marshall Islands; Moldova; Morocco; Nicaragua; Nigeria; Pakistan; Papua New Guinea; Paraguay; Philippines; Samoa; São Tomé and Principe; Senegal; Solomon Islands; South Sudan; Sri Lanka; Sudan; Swaziland; Syrian Arab Republic; Timor-Leste; Tonga; Ukraine; Uzbekistan; Vanuatu; Vietnam; West Bank and Gaza; Yemen, Rep.; Zambia

Quality of math and science education - *How would you assess the quality of math and science education in your country's schools?* [1 = poor; 7 = excellent – among the best in the world]

The world average score by this indicator makes 3.9; the top-ranked country in this category is Singapore (6.3), the lowest-ranked - Yemen (1.9). Georgia, together with Azerbaijan, Turkey, Ecuador, and Bolivia, is at the 101st place (3.5).

Table 4

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***3.5***	***101***	Moldova	4.1	64
LMICG	3.5	-	Russia	4.3	52
Azerbaijan	3.5	99	Latvia	4.3	48
Tajikistan	3.7	91	Ukraine	4.6	34
Kazakhstan	3.8	81	Estonia	5.0	19
Armenia	4.0	71	Lithuania	5.2	16

Quality of management schools - *How would you assess the quality of management or business schools in your country?* [1 = poor; 7 = excellent – among the best in the world]

The world average score by this indicator makes 4.2; the United Kingdom occupies the top position in the ratings (6.1), and the lowest-ranked is Libya (2.3). Georgia, like Oman, Ethiopia, Honduras, and Slovakia, occupies the 110th position (3.6).

Table 5

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***3.6***	***110***	Latvia	4.2	67
LMICG	3.8	-	Lithuania	4.3	57
Kazakhstan	3.7	103	Estonia	4.5	48

Internet access in schools - *How would you rate the level of access to the Internet in schools in your country?* [1 = very limited; 7 = extensive]

The world average score by this indicator makes 4.1; the top-ranked country in this category is Island (6.5), the lowest-ranked - Chad (1.5). Georgia, like Thailand, Romania, Rwanda, Kazakhstan, and Turkey, occupies the 65th position (4.3). In the given rankings, together with advanced economies and above Georgia, the following post-Soviet countries occupy the respective positions:

Table 6

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***4.3***	***65***	Latvia	5.4	32
LMICG	3.4	-	Lithuania	5.8	23
Ukraine	4.4	62	Estonia	6.4	2
Moldova	4.4	61			

Local availability of specialized research and training services - *In your country, to what extent are high-quality, specialized training services available?* [1 = not available; 7 = widely available]

The world average score by this indicator makes 4.1; the top-ranked country in this category is Switzerland (6.4), the lowest-ranked - Burundi (2.2). Georgia, like Chad, Albania, Cape Verde, Paraguay, and Mauritania, occupies the 119th position (3.3).

Table 7

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***3.3***	***119***	Russia	4.0	80
LMICG	3.7	-	Kazakhstan	4.1	72
Moldova	3.4	119	Latvia	4.1	69
Armenia	3.5	106	Azerbaijan	4.4	49
Ukraine	3.7	98	Lithuania	4.4	48
Tajikistan	3.8	88	Estonia	4.6	39

Extent of staff training - *To what extent do companies in your country invest in training and employee development?* [1 = hardly at all; 7 = to a great extent]

Georgia occupies the 101st position with the score of 3.6 in these rankings. The world average score equals 3.9; Switzerland tops in the rankings (5.6), the lowest-ranked country being Haiti (2.3). Georgia, like Nicaragua, Columbia, Uganda, Lebanon, Bolivia, Venezuela, Spain, Armenia, and Ukraine, has the score of 3.6.

Table 8

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***3.6***	***101***	Kazakhstan	3.9	72
LMICG	3.7	-	Lithuania	4.0	66
Armenia	3.6	98	Azerbaijan	4.1	56
Russia	3.7	89	Latvia	4.1	53
Tajikistan	3.8	79	Estonia	4.2	46

Innovative activity is determined to a great extent by the competitive environment and degree of customer orientation. The WEF's survey results evidence that the situation in Georgia in this respect is also far from being desirable: market dominance by several business groups and disregard of anti-monopoly policy seriously interfere with research and innovation.

Intensity of local competition - *How would you assess the intensity of competition in the local markets in your country?* [1 = limited in most industries; 7 = intense in most industries]

The world average score by this indicator makes 4.8; the Netherlands is the top-ranked country in this category (6.1), the lowest-ranked – Algeria (3.1). Georgia with the score of 3.9 is at the 127th place; the same rankings have Mauritania, Malawi, Albania, and Nicaragua.

Table 9

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***3.9***	***127***	Tajikistan	4.2	107
LMICG	4.5	-	Ukraine	4.3	104
Russia	4.0	124	Latvia	4.9	69
Kyrgyzstan	4.0	123	Lithuania	5.1	48
Kazakhstan	4.1	113	Estonia	5.5	25
Moldova	4.2	108			

Extent of market dominance - *How would you characterize corporate activity in your country?* [1 = dominated by a few business groups; 7 = spread among many firms]

The world average score by this indicator makes 3.8; the top-ranked country in this category is Switzerland (5.8), the lowest-ranked - Haiti (2.4). Georgia, like Ukraine, Portugal, Croatia, and some developing countries from Latin America and Africa, occupies the 121st position (3.2).

Table 10

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***3.2***	***121***	Armenia	3.4	90
LMICG		-	Azerbaijan	3.8	64
Ukraine	3.2	108	Tajikistan	3.9	54
Russia	3.3	107	Latvia	4.0	51
Lithuania	3.4	95	Estonia	4.0	45

Effectiveness of anti-monopoly policy - *To what extent does anti-monopoly policy promote competition in your country?* [1 = does not promote competition; 7 = effectively promotes competition]

The world average score by this indicator makes 4.0; the top-ranked country in this category is the Netherlands (5.7). Georgia occupies the 114th place (2.9) in these rankings, leaving behind only Croatia, Haiti and Venezuela - the lowest-ranked country. The same as Georgia rankings have Burundi, Yemen, Kyrgyzstan, and Algeria.

Table 11

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***2.9***	***141***	Azerbaijan	3.5	114
LMICG	3.7	-	Lithuania	3.7	97
Ukraine	3.2	132	Kazakhstan	3.7	95
Moldova	3.2	130	Tajikistan	3.8	85
Russia	3.4	124	Latvia	4.1	70
Armenia	3.5	116	Estonia	4.5	39

Degree of customer orientation - *How do companies in your country treat customers?* [1 = generally treat their customers badly; 7 = are highly responsive to customers and customer retention]

The world average score by this indicator makes 4.6; the top-ranked country in this category is Japan (6.4), the lowest-ranked - Algeria (3.0). Georgia, like Mongolia, Ethiopia, Sierra Leone, occupies the 120th position (3.9) in these rankings.

Table 12

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***3.9***	***120***	Ukraine	4.6	70
LMICG	4.4	-	Latvia	4.6	67
Kyrgyzstan	4.1	112	Azerbaijan	4.7	56
Kazakhstan	4.3	104	Estonia	5.1	34
Tajikistan	4.3	102	Lithuania	5.2	29
Armenia	4.4	98			

Reliance on professional management - *In your country, who holds senior management positions?* [1 = usually relatives or friends without regard to merit; 7 = mostly professional managers chosen for merit and qualifications]

The world average score by this indicator makes 4.3; the top-ranked country in this category is New Zealand (6.3), the lowest-ranked - Algeria (2.3). Georgia, like Armenia, Jordan, Hungary, Lebanon, Uganda, Senegal, Lesotho, Uruguay, and Morocco, occupies the 93rd position (3.9) in these rankings. By this indicator, Georgia lags behind the Baltic States as well as other developed countries of Europe and America.

Table 13

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***3.9***	***92***	Latvia	4.3	60
LMICG	3.9	-	Lithuania	4.4	55
Armenia	3.9	92	Estonia	5.2	26
Kazakhstan	4.0	87			

3. ACCESS TO FINANCE

What is the essence of access to finance?

Access to finance, in the broad sense of the word, means the possibility of receiving financial services of proper quality under reasonable terms and costs.

The widening of the extent of access to finance has been given much importance throughout the world lately. An initiative of conducting statistical studies of financial access for facilitating the process belongs to Her Royal Highness Princess Máxima of the Netherlands, who is concurrently the U.N. Secretary General's Special Advocate for Inclusive Finance for Development. The UN Advisors Group on Inclusive Financial Sectors (Group) was established by the United Nations (UN) in 2006 for a two-year term to advise the UN system and member states on global issues relating to inclusive finance. The issues were actively considered at the 2009 G-20 Pittsburgh Summit and the 2010 G-20 Seoul Summit.

In October 2009, Her Royal Highness Princess Máxima of the Netherlands, the U.N. Secretary General's Special Advocate for Inclusive Finance for Development, wrote to the IMF Managing Director (MD) asking for the IMF's involvement.

A project - the Financial Access Survey (FAS) - was officially launched jointly by Princess Máxima and the IMF at the World Bank-IMF Annual Meetings in Istanbul in October 2009. Initial funding for the project was provided by the government of the Netherlands. In June 2010, a special website (http://fas.imf.org) was created to make public the collected data on access to and usage of financial services from central banks and other financial regulators around the world on an annual basis.

How accessible are finances in Georgia?

Many studies mention a low level of availability of financial services (15-16%) as the main constraint to making business in Georgia. Actually, according to the WEF Survey's availability of financial services indicator, our country is ranked the 100th among 144 countries. And this happens when under the same survey, Georgia is ranked the 3rd in the world by the number of procedures required to start business (2 procedures) and the 2nd by the time required for the same purpose. Additionally, loans are hardly accessible and start-ups lack sufficient capital assets to cover such loans.

Availability of financial services - *Does the financial sector in your country provide a wide variety of financial products and services to businesses?* [1 = not at all; 7 = provides a wide variety]

The world average score by this indicator makes 4.5; the top-ranked country in this category is Switzerland (6.4), the lowest-ranked - Burundi (2.5). Georgia, like Cameroon, Nepal, Tanzania, and Tajikistan, occupies the 100th position (3.9) in these rankings.

Table 14

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***3.9***	***100***	Lithuania	4.5	74
LMICG	4.2	-	Latvia	4.7	65
Kazakhstan	4.5	79	Estonia	5.0	43
Armenia	4.5	76			

Affordability of financial services - *To what extent does competition among providers of financial services in your country ensure the provision of financial services at affordable prices?* [1 = not at all; 7 = extremely well]

The world average score by this indicator makes 4.2; the top-ranked country in this category is Hong-Kong (6.0), the lowest-ranked - Algeria (3.0). Georgia, like Senegal, Liberia, Colombia, Tajikistan, and Malawi, occupies the 85th position (3.9) in these rankings.

Table 15

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***3.9***	***85***	Azerbaijan	4.1	70
LMICG	3.9	-	Estonia	4.3	59
Kazakhstan	4.0	78	Latvia	4.4	58
Lithuania	4.1	73	Armenia	4.5	48

Ease of access to loans - *How easy is it to obtain a bank loan in your country with only a good business plan and no collateral?* [1 = very difficult; 7 = very easy]
The maximum world score by this indicator makes 4.9 and it belongs to Qatar, the average score being 2.9; the lowest-scored country is Burundi. Georgia, like Poland, Dominican Republic, Nepal, Venezuela, and Croatia, occupies the 93rd position with the score of 3.9 in these rankings.

Table 16

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***2.5***	***93***	Armenia	2.8	69
LMICG	2.6	-	Estonia	2.8	67
Russia	2.6	86	Azerbaijan	3.0	57
Latvia	2.8	72	Tajikistan	3.1	49

Venture capital availability – *In your country, how easy is it for entrepreneurs with innovative but risky projects to find venture capital?* [1 = very difficult; 7 = very easy]

As the indicator demon stares, to find venture capital is problematic throughout the world: the average score by this indicator made 2.7. Qatar is top-ranked (4.7), the lowest-ranked being Haiti

(1.5) in the ratings. Georgia, like Costa Rica, Benin, Timor-Leste, Kazakhstan, Ukraine, Sri Lanka, Cameroon, Venezuela, Korea, and Dominican Republic, occupies the 104th place in these rankings.

Table 17

Country	Score (1-7)	Rank	Country	Score (1-7)	Rank
Georgia	***2.2***	***104***	Azerbaijan	2.8	59
LMICG	2.4	-	Tajikistan	2.9	50
Armenia	2.4	89	Latvia	2.9	43
Lithuania	2.4	86	Estonia	3.2	33
Russia	2.4	85			

According to the Financial Access Survey (2011), by the loans/GDP ratio Georgia outperforms the South Caucasus countries, although seriously lags behind Lithuania and Latvia, also Russia, Belarus, Moldova, and Kazakhstan. Georgia's bank infrastructure is also rather modest:

Table 18

Bank Infrastructure and Loans as a Whole and per Product[4]					
	Banks & branches/ 1,000 sq. km	Banks & branches/ 100,000 adults	ATMs/ 1,000 sq. km	ATMs/ 100,000 adults	Loans/ GDP,%
Georgia	10.46	19.57	22.56	42.21	37.48
Azerbaijan	8.59	9.91	25.80	29.77	23.33
Armenia	16.26	18.76	35.43	40.88	35.69
Latvia	9.31	30.02	19.41	62.57	92.22
Lithuania	…	…	20.82	46.64	54.78
Estonia	4.98	18.6	23.28	86.99	6.52
Russia	2.73	37.09	11.25	152.94	63.86
Belarus	0.83	2.10	16.35	41.12	90.74
Ukraine	1.08	1.60	56.96	83.84	70.97
Moldova	10.19	11.29	271.45	300.79	41.49
Kazakhstan	0.15	3.38	3.00	65.8	47.78
Kyrgyzstan	1.44	7.27	2.40	12.07	14.71
Tajikistan	2.06	6.67	2.38	7.68	14.93
Uzbekistan	22.37	47.72	2.13	4.54	25.31

[4] http://fas.imf.org

4. EXTENT OF INNOVATIVE TECHNOLOGIES: EXISTING REALITY AND POSSIBILITIES

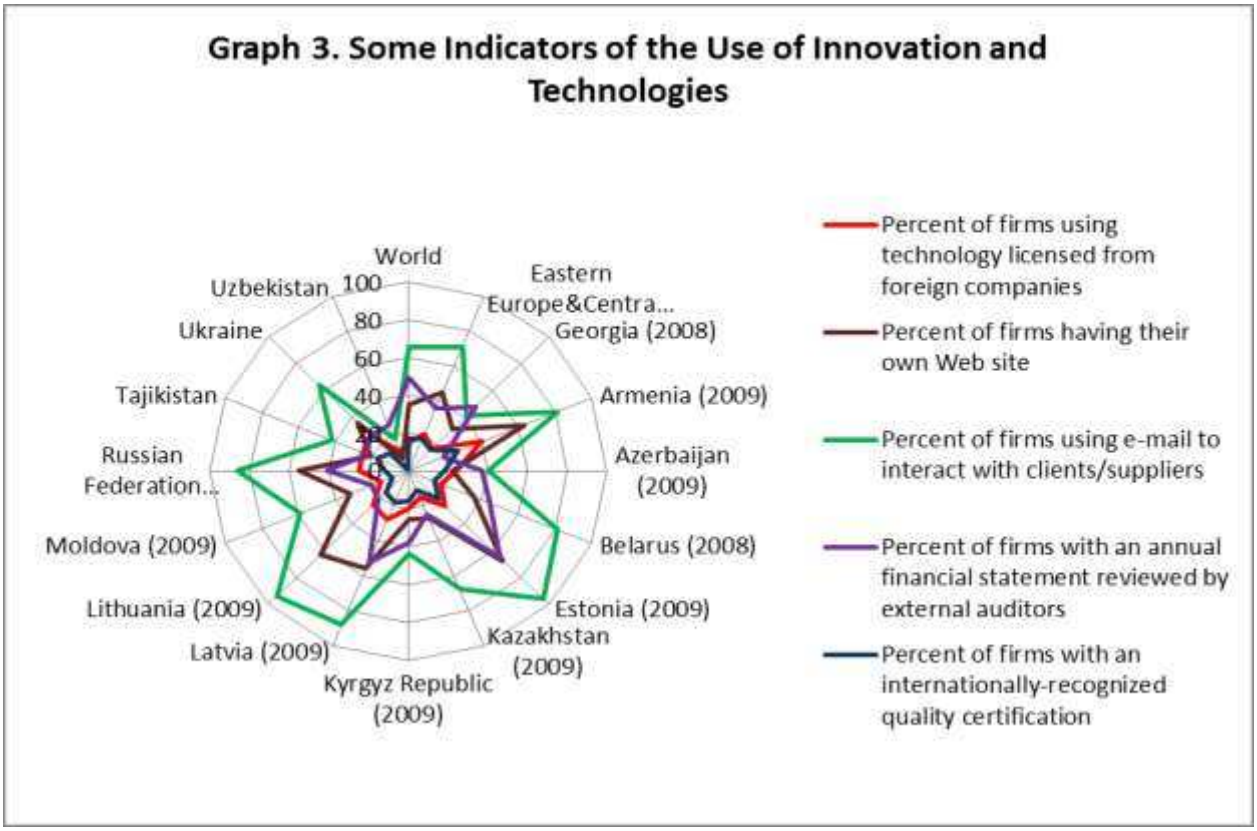
Co-existence in the business environment without using innovative technologies is inconceivable. However, the symptomatic character of such factors as the scantiness of financial resources, poor management, and inadequacy of the level of education, on which the aforesaid data testify, will certainly tell upon the benchmark indicators, in which the innovative progress of a country becomes apparent.

Manifest conformation of the above are the outcomes of the Enterprises Survey conducted in 2008 by the International Financial Corporation (IFC) in 135 world countries which, together with other questions, included the questions of the use of innovation and technologies. 373 Georgian companies in Tbilisi and 5 regions (Kakheti, Shida Kartli, Imereti, Kvemo Kartli, Mtskheta-Mtianeti).

The chart given below[5] demonstrates the state of Georgia in terms of the use of innovative technologies in relation to both the whole world and a group of the countries of the Eastern Europe and Central Asia region (to which Georgia also belongs). Out of five indicators, only by one – *Percentage of Firms with Annual Financial Statement Reviewed by External Auditor* – the country has better position as compared with the average indicator of the region (36.5%), constituting 47.5 percent, while significantly falls behind Estonia (65.3%) and Latvia (51.5%). As seen from the chart, the Baltic States essentially outperform by all the indicators, as compared with the average world and regional indicator.

It is noteworthy that no less important positions is occupied by Armenia according to such indicators as *Percent of Firms with Internationally-Recognized Quality Certification* (26.9%) and *Percent of Firms Using Technology Licensed from Foreign Companies* (40.4%).

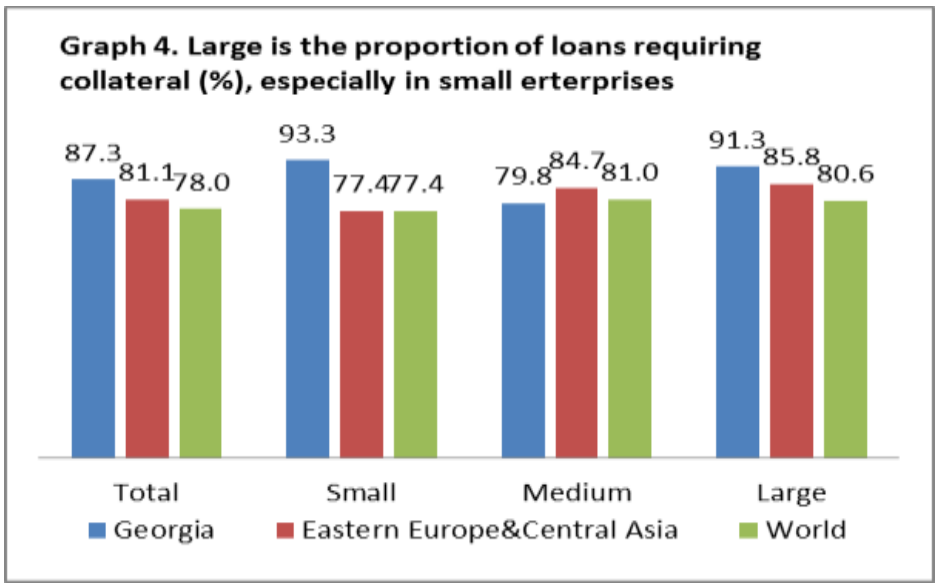
[5] http://www.enterprisesurveys.org/Data/ExploreTopics/innovation-and-technology

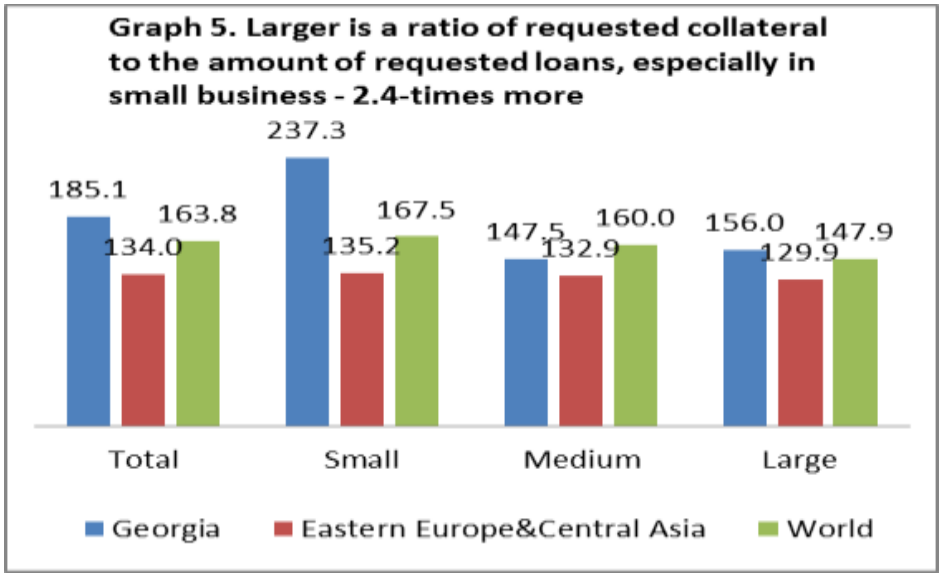


Experience of many countries confirms that high-tech innovations are mostly conceived within small business. Small and medium-sized enterprises (SMEs) account for 99 percent of the total number of enterprise at the EU scale, which ensure 67 percent of jobs and make 60 percent of GNP within the territory[6]

The International Financial Corporation's said Survey (which encompassed 183 small, 139 medium and 51 large enterprises) and its results show that both large and small and medium enterprises in Georgia make use of bank services: 90.8 percent of them have credit and saving accounts. However, loans are less affordable for SMEs, high is the number of loans that require collateral and the percent of the latter in relation to the amount of requested loans is significantly higher than in large enterprises.

[6]Tax Incentives for Research and Development: Trends and Issues. Science Technology Industry. OECD. 2002. http://www.oecd.org/dataoecd/12/27/2498389.pdf





The available experience of many countries corroborates that the financial requirements of small business in the inception and early stages are small. For example, in 2000, the studies of fast-growing small business in the USA demonstrated that 16 percent of the studied companies started their business with $1,000, 42 percent – with no more than $10,000, and 58 percent – with up to $20,000[7]. However, due to the lack of sufficient assets for collateral, access to finance for small business is associated with great problems.

[7]Financing Innovative Development: Comparative Review of the Experiences of UNECE Countries in Early-Stage Financing.UNECE.UN. 2007.

5. SMALL AND MEDIUM BUSINESS: INFORMATION SUPPORT PRIORITIES

The complexity of problems is an essential feature of modern development of the world economy. In such a situation, of great importance is the right resolution of priorities for the ways of their handling. It may be said literally that the policies targeted at promotion and encouragement of innovation in SMEs has no alternative today. However, in order to make it practicable we, by interpreting the aforesaid quotation of the well-know economist and political scientist of the 20th century J. Schumpeter, should know what there is to be supported and why, or we should quantitatively study SMEs and their innovative capacities and use them as a basis for developing a right policy. Moreover, information about small business and its innovative capacities will enable investors to quickly assess the possible risks and take decisions on the support and development of this sphere.

Before the 90s of the 20th century, the research and innovation statistics possessed quite detailed information on the actual state of affairs and development trends in this sphere. Today, this branch of statistics is actually inexistent. Moreover, the establishment of definitions and categories proper in the sphere also faces an array of problems.

When compiling a program of statistical survey, the observation object-related classifications and their proper use acquire a decisive importance. There are ambiguous attitudes to the definition of SMEs in our country. In particular, GeoStat and Tax Code have different approaches to the classification of enterprises by their size (see Table 19 below).

Table 19. Enterprise classification by their size by GeoStat[8] and Tax Code[9]

Enterprise classification	GeoStat		Tax Code	
	Average annual number of employees	Average annual turnover, GEL	Average annual number of employees	Gross income during a calendar year, GEL
Large	>100	> 1 500 000	X	X
Medium	10 – 20	500 000–1 500 000	X	X
Small	<20	<500 000	The status of a small business can be assigned to an individual entrepreneur; the Code does not determine the number of employees.	< 100 000
Micro	X	X	The status of a micro business can be assigned to an individual who conducts economic activities independently without hiring employees	< 30 000

[8] Methodology for estimation of main indicators of business statisrics. In Georgian. http://www.geostat.ge/index.php?action=page&p_id=61&lang=geo

[9] Tax Code. In Georgian. http://rs.ge/4713

In the existence of such a different classification of enterprises by their size the conduct of a statistical survey of them is just impossible. Enterprises and organizations are in legal relations with the state and correspondingly operate and are reportable in accordance with the regulations stipulated by the Tax Code, whereas the relations between the statistics service and enterprises are not based on any regulatory norms. The currently effective Law on Statistics does not bind enterprises and organizations to report to the statistics service.

In spite of these problems, the National Bank of Georgia within statistical reports of commercial banks works on information receipt chart which will, in the near future, become available to the user of statistics.

FINAL FINDINGS AND PROPOSALS

In the present-day reality, research and innovation undoubtedly deserve promotion and encouragement, without which the advance and development of any national economy is unimaginable.

The present survey unambiguously gives grounds to consider the state of research and innovation in Georgia to be catastrophic and inconsistent with the modern development of global economy processes. In addition, the problem's complexity is obvious and the ways of its overcoming are to be sought in the sphere of education, business, and legislation. But not only that: such a challenge as research and innovation and their placement at the service of business require timely "diagnostics" and the role of statistics herein is immense. Regrettably, the Georgian statistics system has failed to make the quantitative assessment of the aforesaid problems one of the priorities in its activities.

The real democratic values and the market and social welfare-oriented society are the solid driving force, without which the development of statistics is impossible. The undemocratic environment interferes with the development of statistics. Given that present-day global economic processes are being developed at a rapid pace, hampering of the advance of statistics is undoubtedly much risk-bearing in the view of development and deepening of the possibilities of any national economy to take part in the global integration processes. Even the separately taken Global Competitiveness Index and the necessity of international comparison of this indicator unambiguously indicate that the spheres covered by a system of indicators of the Index are manifestly of priority for achieving competitiveness and taking a worthy position in the modern world.

Many scientific and practical studies prove the fact that small business is the backbone and driving force of any national economy. At the same time, the sphere of small business is the necessary environment and catalyst for generating research and innovation. Hence, care for the enabling environment for small business in terms of both legislation and resources, is of utmost importance. Unfortunately, as the above data indicate, small business in Georgia is under much worse conditions in terms of financial support, while the legislative environment in the spheres of property protection, including intellectual property, tax or investment activities is far from being comfortable; less developed is the innovation infrastructure (technoparks, intellectual property exchanges, business incubators, small innovative enterprises, etc.). The segment, which in terms of qualitative study is to facilitate the development of a proper policy in this sphere, is also disregarded by the state.

Of special importance is activation of financial institutions for introducing financial instruments and offering small business affordable and easy loan products. Hence, much attention should be given to the creation of a real competitive environment in the financial sector in order to introduce into it innovation tendencies.

The resolution of the above problems will not, however, become a priority task without a clear-cut and purposeful positive attitude towards them on the part of the state, which will, in turn, require a consistent and program approach.

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