

GLOBALIZATION AND NATIONAL COMPETITIVENESS OF GEORGIA

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Abstract

Despite the fact that a national competitiveness is substantially linked to globalization, only a few studies have linked these two subjects from the perspective of developing countries, which presents complex challenges to policy makers and researchers. I argue that Porter's Diamond Model is basically relevant for economically strong industrialized countries and is less applicable for developing economies. The contention is that driving forces of globalization (FDI, transnational companies and Bretton Woods Institutes) have different implications on national competitiveness according to internal capacities and external opportunities. The paper makes a critical analysis of existing theoretical aspects of national competitiveness. It also clarifies the framework of National Innovation System, which has been successfully used in OECD countries and more recently is becoming the focus of increased attention from developing nations. Attention is concentrated on defining the aspects of Georgia's competitiveness, evaluating the country's economic performance, and suggesting practical recommendations for reforms and development.

Keywords: *Globalization, Competitiveness, National Innovation System, European Neighbourhood Policy, Georgia, Caucasus, Economic Development*

Introduction

A national competitive strategy requires sound government policies, technology transfer and innovations in national business activities, strong capacity of higher education and research institutions, which must be based on networking and synergetic partnerships. For this purpose it is crucial to illuminate the major aspects of national innovation system (NIS) and scientific methodologies, analyze Georgia's capacity through environmental scanning and suggest practical recommendations for realizing NIS in the country.

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My attention is also focused on benchmarking analysis and best practices, in which I examine the various instruments and institutional arrangements that successful, newly industrializing countries have adopted to encourage local technology development and attract cross-border innovation investments. The main goal is to capture, from amongst the existing methodologies and best practices on the innovation systems concept, the ideas that can enrich our discussion about the instrumental role of NIS in competitiveness-oriented economic development policies in Georgia.

Globalization and National Competitiveness: Theoretical Background

The search for an answer to the question ‘How is globalization affecting national competitiveness?’ requires rethinking past paradigms of political economy. This has become urgent due to the global economic downturn, which has highlighted the economic interdependence in today’s world and reinforced the need for a concerted global economic effort. Whereas the impact of globalization is being debated, there is a broad-based recognition that the role of the State has to be redefined to take account of the emerging political, economic, social and cultural challenges.¹

The rapid progress of globalization has emphasized the need for nation states worldwide to maintain stable macroeconomic policies aimed at enhancing the competitiveness of domestic markets, while ensuring sufficient domestic spending for social protection. The State has an important role to play in this process. This also means greater efforts to reform education and science, to promote advanced technologies and to strengthen the private sector. A vibrant debate on these issues has developed in which it is possible to distinguish three broad schools of thought, which D. Held refers to as the *hyperglobalizers*, the *sceptics*, and the *transformationalists*.²

For the hyperglobalizers, such as Ohmae, contemporary globalization defines a new era in which peoples everywhere are increasingly subject to the disciplines of the global marketplace. By contrast the sceptics, such as Hirst and Thompson, argue that globalization is essentially a myth which conceals the reality of an international economy increasingly segmented into three major regional blocs in which national governments remain very powerful. Finally, for the transformationalists, chief among them being Rosenau and Giddens, contemporary patterns of globalization are conceived of as historically unprecedented, such that states and societies across the globe are experiencing a process of profound change as they try to adapt to a more interconnected but highly uncertain world.³ From an ontological point of view, globalization is a contradictory historical phenomenon. It implies a high increase in competition between nation-states which becomes a zero sum game and results in polarization of the world economic system. In this respect, we need to

¹ Held D, McGrew A., “Governing globalization” (Cambridge: Polity Press, 2003), pp. 6-14

² Held, D., McGrew, A., “The Great Globalization Debate: An Introduction”, In D. Held and A. McGrew, (eds.), *The Global Transformations Reader: An Introduction to the Globalization Debate* (Cambridge: Polity Press, 2000), pp. 1-45

³ Giddens, 1990, 1996; Rosenau, 1997. (pp. 23-24).

know how countries compete, how they define their own national development strategies, and how this competition affects and modifies the world economic system itself. At the ideological level we are witnessing the dominance of neoliberalism based on *laissez-faire* theory, which serves the interests of developed countries and leads to marginalization of developing ones.

Although neoclassical economics has become dominant in the era of globalization, industrialized countries continue to sustain national competitiveness and become dominant in global marketplace at the expense of developing nations. Elites in developing countries, while seeking personal benefits and trying to survive, are becoming culturally and ideologically dependent, instead of developing sound economic policies and institutional reforms compatible with the country's national interest.

In this respect, governments' knowledge, leadership and ability to formulate and implement the country's national competition strategy, gains more importance. According to Claros, "competitiveness" can be defined as a collection of factors, policies, and institutions which determine the level of productivity of a country.⁴ Productivity consequentially influences a country's ability to grow over time and sustain economic growth. The task of assessing a country's level of competitiveness is challenging since it requires the measurement and assessment of a multitude of factors. The World Economic Forum with Porter, McArthur and Sachs first created the Growth Competitiveness Index (GCI). The index captures the overall ability of a country to sustain economic growth. In this paper, the 2008-2009 GCI developed by the WEF for 134 countries is used as a proxy to measure a country's competitiveness.⁵ The GCI emphasizes the importance of 12 pillars fundamental to a country's competitiveness:

- Institutions
- Infrastructure
- Macroeconomic stability
- Health and primary education
- Higher education and training
- Goods market efficiency
- Labor market efficiency
- Financial market sophistication
- Technological readiness
- Market size
- Business sophistication
- Innovation

Although Porter's model has been accepted by the international community, it has also stimulated debate among scholars. Dunning argues that Porter does not sufficiently take the

⁴ WEF, 2005. (p. 5).

⁵ WEF, 2008. (p. 8).

"globalisation of economic activity" into account.⁶ Foreign direct investment (FDI) has important effects on national competitiveness which are not adequately covered by the facet "firm strategy, structure, and rivalry." A firm engages in cross-border activities to exploit its specific ownership advantages. These advantages may initially have been based on the diamond of the home base, but their competitive assets are now largely multinationalised. Inward FDI is likely to bring new resources and technologies into a nation. Indeed, a foreign investor might import advantages from his or her home base, and some of its assets could contain ownership-specific advantages.⁷ For Dunning, each facet of the diamond is linked to multinational activity, as FDI can influence factor conditions, related and supporting industries and demand conditions, as well as strategy, structure and rivalry.

According to this concept, a more creative and innovative society sparks competitiveness. It is generally believed that a more diverse society harbors a more creative workforce. Therefore, it can be contended that a diverse society would foster country competitiveness. Alternatively, it has been claimed that heterogeneous societies result in polarized political systems where leaders show little concern for the competitiveness of a nation and focus their attention on the well-being of smaller sectors of the economy.⁸ However, no prior study has empirically explored the implications of globalization on national competitiveness of transition economies.

Analyzing National Innovation System

One of the most important pillars of competitiveness is technological innovation. The first written contribution that used the concept 'national system of innovation' is an unpublished paper by Christopher Freeman from 1982 that he worked out for the OECD expert group on Science, Technology and Competitiveness.⁹ The paper, titled 'Technological infrastructure and international competitiveness', pointed out the importance of an active role for government in promoting a technological infrastructure.

Freeman was the first to bring the modern version of the full concept 'national innovation system' into the literature in his book on innovation in Japan, where the analysis was quite inclusive, taking into account the intra- and inter-organizational characteristics of firms, corporate governance, the education system and the role of government.

The roots of the innovation systems concepts are based on Neo-Schumpeterian economics, emphasizing innovation and entrepreneurship. The OECD-paper by Freeman from the beginning of the eighties actually raises this issue with a reference to Schumpeter.¹⁰

⁶ Dunning, J. H. "Internationalizing Porter's diamond", in: *Management International Review*, 33, 1993, (special issue), pp. 7-15

⁷ Dunning, J. H. "The globalisation of business", (London: Routledge, 1993), p. 22

⁸ Rodrik, D., "Has Globalization Gone Too Far?", (Washington: Institute of International Economics, 1997), pp. 41-48

⁹ Freeman, C., "Technology Policy and Economic Performance: Lessons from Japan", (London: Pinter, 1987), p.12.

¹⁰ Freeman, C. 1982, p. 15

According to Schumpeter innovation can be seen as ‘new combinations’ and be separated from invention. The invention becomes an innovation only when the entrepreneur brings it to the market.

According to innovation system theory, innovation and technology development are results of a complex set of relationships among actors in the system, which includes enterprises, universities and government research institutes. These dimensions, individually and as an ecological system, make up the context in which the nation’s enterprises innovate. The framework goes beyond knowledge creation (invention) and emphasizes the factors that drive the transformation of knowledge into useful products and services. The framework is balanced and recognizes the importance of both technology push (input factors) and demand pull (output factors).

For policy-makers, an understanding of the national innovation system can help identify leverage points for enhancing innovative performance and overall competitiveness. It can assist in pinpointing mismatches within the system, both among institutions and in relation to government policies, which can thwart technological development and innovation. Policies which seek to improve networking among the actors and institutions in the system, and which aim at enhancing the innovative capacity of firms, particularly their ability to identify and absorb technologies, are most valuable in this context.

According to OECD, NIS institutions, defined in the narrow context, can be divided into five main categories:

- **Governments** (local, regional, national and international, with different weights by country) that play the key role in setting broad policy directions;
- **Bridging institutions**, such as research councils and research associations, which act as intermediaries between governments and the performers of research;
- **Private enterprises** and the research institutes they finance;
- **Universities and related institutions** that provide key knowledge and skills;
- **Other public and private organizations** that play a role in the national innovation system (public laboratories, technology transfer organizations, joint research institutes, patent offices, training organizations and so on).

The nation’s innovation infrastructure helps to supply inputs to private enterprises. This infrastructure includes:

- ***Scientific and research institutions*** that serve as a major source of knowledge and include universities and research institutes, laboratories, non-profit think-tanks, R&D consortia, technology transfer centers and technological centers of excellence.
- ***Capital providers and markets*** that finance innovation and the acquisition of new products and services. Venture capital and government research programs play a particularly important role in supporting technology-based entrepreneurs, start-ups and small business firms. Equity/stock markets provide an important incentive for innovation, reward innovators and determine the value of enterprises.

- **Education institutions** comprising secondary schools, colleges and universities, along with private sector training organizations, should provide the pool of leading-edge scientists, engineers, managers and the technical workforce. The skills, mobility and flexibility of the workforce are an important innovation input to both producers and customers of innovation.
- **Information infrastructure** provides enterprises with the important tools and communication platforms necessary for innovation. Global collaboration and open innovation systems rely on advances in computing, software applications and information networks.
- **Regional innovation clusters** are geographic concentrations of interconnected businesses, suppliers, and associated institutions in a particular field that share a common knowledge base, labor pools, markets or distribution channels.¹¹

What possibilities do developing countries have to affect their learning processes in order to develop an adequate NIS? This question arises, as the connection between learning and innovation is obvious, and advancing the learning processes and interactions between individuals and groups will lead to implementing innovation system. These characteristics lead to the conclusion that the institutional set-up of an economy will affect innovation processes. "If innovation reflects learning, and if learning is interactive, it follows that learning is rooted in the institutional set-up of the economy."¹² Therefore, developing countries have to specify their institutions, because these play a dominant role in innovative activities.

Nelson argues that differences between innovation systems of a group of nations are at least partly the result of differences between the economic and political circumstances and priorities of these nations.¹³ To specify these national distinctions within the scope of an approach of NIS, those factors have to be identified that have an impact on the economic structure of a nation.

The industrial development of a country defines the status and quality of technology and the key sectors of the economy. This factor gives direction to the national economic structure. Depending on the profession and direction of the technological development, the knowledge base between countries differs and, therefore, different institutional set-ups and learning processes are required.

The factor endowment of a country involves all relevant natural, human and infrastructure resources. Depending on the quantity and quality of the nation's factor endowment a different structure of production is needed. For example, without a sufficient amount of natural resources an economy is reliant on the import of these, and has to develop an export-oriented manufacturing economy if it wants to be internationally competitive. Because of

¹¹ This term industry cluster, also known as a business cluster or competitive cluster, was introduced and the term cluster popularized by Michael Porter in "The Competitive Advantage of Nations" (1990), pp. 69-75

¹² Johnson (1992): (p. 34).

¹³ Nelson Richard R., (eds), "Technology, Learning, and Innovation: Experience of Newly Industrializing Economies", (Cambridge: Cambridge University Press), pp. 1-14

differing economic emphases that result from differing factor endowments, each nation develops its specific system of innovation.

The historical endowment is the third factor influencing the economic structure. Depending on historical experiences, like wars, changing political situations or geo-strategic location, each country develops its specific social norms and habits or governmental regime.

Because of the resulting geographical and political structures, different structures of production are developed. From this follows that the learning process and innovation system are built upon different bases and are individual forms of expression of the national history.

These factors lead to innovation success, which is the degree to which value is created for customers through enterprises that transform new knowledge and technologies into profitable products and services for national and global markets. A high rate of innovation in turn contributes to more market creation, economic growth, job creation, wealth and a higher standard of living. This definition updates our perspective on innovation by incorporating more than ideas, R&D, technology development and transfer. The nation must not only generate fresh ideas and intellectual property, but must also apply them and make them commercially successful.

Governments have pursued science and technology policies to improve the innovative performances of agents of production.¹⁴ They have also created a network of institutions to promote interactions between agents of production and enhance their competitiveness in the international market. The competitive edge of the US industries has mainly resulted from the strategic support extended by the federal government. In the words of Ruttan:¹⁵

“Government has played an important role in technology development in almost every US industry that has become competitive on a global scale. The government has supported agricultural technology through research, the automobile industry through design and construction of the highway infrastructure, the development of the computer through military procurement, and the growth of the biotechnology industries through support for basic biological research.”

Significantly, business-funded R&D expenditure has emerged as the most important and widely accepted indicator of innovation in recent years. Countries vary in terms of experience with respect to private sector expenditure on R&D; but in most countries, business-funded R&D has received substantial government support through incentives and tax concessions.¹⁶ The nature of state intervention has, however, undergone a substantial transformation from direct participation to indirect participation via supporting commercially-oriented research through public-private participation, and also through the provision of subsidies and tax incentives.

¹⁴ Mowery, D. and Rosenberg, N., ‘The US National Innovation System’, in R.R. Nelson (ed.), ‘National Systems of Innovation: A Comparative Study’, (Oxford: Oxford University Press, 1993), pp. 18-26

¹⁵ Ruttan, V.W. ‘Technology, Growth, and Development: An Induced Innovation Perspective’, (New York: Oxford University Press, 2001), pp. 1-5

¹⁶ Ruttan 2001. (p. 40).

The prime minister of Finland was the first highly placed politician using the concept, in referring to the need to strengthen the Finnish innovation system, already at the very beginning of the nineties. Early followers were Canada and South Africa. Some ten years later the president of China in a speech to the Engineering Academy made a similar remark referring to the Chinese innovation system. These examples emphasize the importance of government's vision and its leadership to carry out innovative reforms.

National Innovation System in Developing Countries

It is often argued, that the most essential aspect of a successful catch-up process is the rate at which a follower is able to imitate foreign technology. By means of imitations a country learns to industrialize. Technological imitation involves more than just pursuing the same path of development as more industrialized countries. It rather involves a critical stage in the process of learning to industrialize and therefore should be seen in this context.¹⁷ It can be argued that acquiring foreign technology cheaply and effectively and then adapting it to local conditions is a key element for the technology strategy of developing countries. Imports of foreign technologies are not substitutes for economic development, but complements. The rate of imitation is influenced by technological capabilities, policies and institutional arrangements, by the nature of technological systems, market structure for technology and international trading rules.

The term “technological capabilities” covers knowledge and skills needed to acquire, assimilate, utilize, adapt, and create technology. The more a following country disposes of technological capabilities and the better it is able to accumulate these, the more successful the intended catch-up process will be.¹⁸ This view focuses on the cumulative aspect of technological change, because prior capabilities are important for future rates and directions. Private firms are the main location in accumulating technological capabilities. They are more suitable for the acquisition of foreign technology than public firms, as they are interested in providing training necessary to absorb the available technology in order to maintain their competitiveness. Thus, private firms are crucial for the competitive advantage of a nation. The accumulation of technological capability of a firm is influenced by its relationships with other actors, as they operate in a complex industrial network characterized by competition and co-operation. Consequently, innovation and technological change is not only a technological, but also a social process resulting from informal and formal communication networks.

A key aspect of technological development is the creation of institutions and institutional arrangements that facilitate this process. Therefore, government-industry relations are of great interest to advance the existing conditions for technological progress. This follows from

¹⁷ Nelson Richard R., (eds), “Technology, Learning, and Innovation: Experience of Newly Industrializing Economies”, (Cambridge: Cambridge University Press), pp. 52-63

¹⁸ Dahlman and Nelson (1995). (pp. 25-37).

the idea of “*technological congruence*” defined by Abramovitz.¹⁹ It can be argued that for successfully imitating advanced technology, the imitating country should not differ much from the imitated one in terms of economic, political and social factors. Therefore, if possible, the government has to provide appropriate surroundings in the range of political and economic incentive systems. On the other hand, careful attention has to be paid to the role of human resource development, as education is central to the process of technological development. The educational needs of countries differ according to their level of development. In industrialized countries, normally the main focus lies on reforming the higher education in order to advance technical subjects. Poor countries are focusing on primary education as an important aspect of human development. The catch-up process depends on how countries balance between primary education for all and higher education with emphasis on key subjects. Educational policies have to be designed in such a way that they are able to facilitate the implementation of merit-based principles and knowledge capitalization.

This has important implications for countries:

- Every nation has a “de facto” system of innovation, which may be more or less effective;
- The actions taken by each nation to strengthen its system of innovation should be given the resources available and the current condition of NIS;
- Every country will therefore have different and distinctive policy framework that serves its interest.

This “Global Innovation Scoreboard” report (GIS) compares the innovation performance of the EU25 to that of the other major R&D performing countries in the world: Argentina, Australia, Brazil, Canada, China, Hong Kong, India, Israel, Japan, New Zealand, Republic of Korea, Mexico, Russian Federation, Singapore, South Africa and the US.

Table 1. Global R&D spending 2002 R&D expenditures (thousand 2000 US \$)					
United States	26655154	36.69%	Ukraine	41536	0.06%
EU25	16595544	22.85%	Luxembourg	33527	0.05%
Japan	14829645	20.41%	Thailand	32167	0.04%
Germany	4777706	6.58%	Slovenia	31001	0.04%
France	3056595	4.21%	Iceland	26618	0.04%
United Kingdom	2802347	3.86%	Croatia	22647	0.03%
China	1540417	2.12%	Egypt, Arab Rep.	19216	0.03%
Korea, Rep.	1439710	1.98%	Pakistan	17138	0.02%
Canada	1433170	1.97%	Romania	15456	0.02%
Italy	1218205	1.68%	Tunisia	13056	0.02%
Sweden	1032620	1.42%	Slovak Republic	12654	0.02%
Netherlands	707220	0.97%	Colombia	8638	0.01%
Switzerland	632105	0.87%	Lithuania	8628	0.01%
Brazil	625919	0.86%	Belarus	7793	0.01%
Spain	609127	0.84%	Kuwait	7123	0.01%

¹⁹ Abramovitz, M. “Catching up, forging ahead, and falling behind”, in: *The Journal of Economic History*, Vol. 46:2, 1986, pp. 3-4.

Australia	599692	0.83%	Bulgaria	6741	0.01%
Israel	580228	0.80%	Costa Rica	6176	0.01%
Belgium	517285	0.71%	Peru	5741	0.01%
Finland	428217	0.59%	Uganda	5067	0.01%
Austria	426419	0.59%	Uruguay	4776	0.01%
Denmark	409286	0.56%	Estonia	4646	0.01%
India	386570	0.53%	Panama	4464	0.01%
Russian Federation	356553	0.49%	Nepal	3830	0.01%
Norway	290499	0.40%	Latvia	3770	0.01%
Mexico	228914	0.32%	Cyprus	2967	0.00%
Singapore	198692	0.27%	Bolivia	2414	0.00%
Turkey	132131	0.18%	Madagascar	2322	0.00%
Ireland	114103	0.16%	Azerbaijan	1932	0.00%
Hong Kong, China	102365	0.14%	Georgia	969	0.00%
Portugal	100925	0.14%	Macedonia, FYR	895	0.00%
Poland	100102	0.14%	Trinidad and Tobago	851	0.00%
Argentina	94134	0.13%	Paraguay	746	0.00%
South Africa	90872	0.13%	Armenia	599	0.00%
Greece	75783	0.10%	Honduras	316	0.00%
Czech Republic	71020	0.10%	Kyrgyz Republic	286	0.00%
Malaysia	65253	0.09%	Mongolia	282	0.00%
New Zealand	62661	0.09%	Seychelles	65	0.00%
Venezuela, RB	54457	0.07%	St. Vincent and the Grenadines	52	0.00%
Hungary	51392	0.07%	Cape Verde	26	0.00%
Chile	42090	0.06%	Serbia and Montenegro	11	0.00%

Source: 2006 “Global Innovation Scoreboard” (GIS) Report

The choice of which countries to include was made based on their global R&D expenditure share in 2002. A non-EIS country’s share had to be at least 0.1% in order to be included. The following countries are included in the 2006 Global Innovation Scoreboard (GIS), with their share of global R&D in parentheses: China (2.12%) Republic of Korea (1.98%), Canada (1.97%), Brazil (0.86%), Australia (0.83%), Israel (0.80%), India (0.53%), Russian Federation (0.49%), Mexico (0.32%), Singapore (0.27%), Hong Kong (0.14%), Argentina (0.13%), South Africa (0.13%) and New Zealand (0.09%).

Most innovation policy attention is focused on the *capacity to innovate* and on *input factors* such as R&D investment, scientific institutions, human resources and capital. Such inputs frequently serve as proxies for innovativeness and are correlated with intermediate outputs such as patent counts and outcomes such as GDP per capita.

In pursuit of economic and workforce development goals, every region has its own unique set of assets—both tangible and intangible—to call upon. These resources provide the foundation for actions that a region can take in realistic hopes of improving its overall competitive position. We confront the task of elaborating an asset-mapping “roadmap” to provide guidance to regions in Georgia to strengthen their competitive position in the regional and global economy. Asset mapping is an important first step in understanding the

resources that a community can leverage to support integrated workforce and economic development initiatives.

Analyzing the National Competitiveness of Georgia

The principles of national competitiveness have not been yet translated into concrete policy and legislative changes in Georgia, which is required to tackle the specific aspects of this model in a more effective way. Numerous reports provided by international organizations indicate an alarming inefficiency of institutional infrastructure, public policy, higher education and research institutions, which results in political crisis, economic instability, poverty, social disparity and brain-drain in Georgia.

It was March 2003 when the first thoughts about the European Neighborhood Policy (ENP) were outlined by the European Commission in the ‘Communication on Wider Europe’ document. It demonstrated the high priority that the Union accorded to shaping its future relations with its neighbors.

ENP is an outcome of the Lisbon Strategy, which includes a variety of policy measures to enhance research, innovation and business development. These factors are important not only for those countries that have moved very close to the technology frontier, but also for those that are implementing the principles of free market economy. As a country of economic transition, Georgia must create the necessary framework to promote education and research activities and encourage innovation in products and processes. This requires sufficient investment in research and development, high quality scientific research institutions, collaboration in research between universities and industry, protection of intellectual property and innovation stimulation through government procurement.

On the basis of Lisbon Strategy analysis we can conclude that that up to 40% of labour productivity growth in Europe is generated by research and development spending and that there are powerful spillover effects into other areas of the economy, depending on the way in which the money is spent. Future economic development of Georgia will critically depend on its ability to create and grow high value, innovative and research-based sectors.

The new EU Strategy Paper, published in 2006, elaborated on these thoughts and laid foundation for the new policy. It set out in concrete terms how the Union could work more closely with its neighbors and extend to them some of the benefits of enlargement. Today, the Commission provides an assessment of bilateral relations between the EU and Georgia, reflecting progress under the existing Partnership and Co-operation Agreement and describing the current situation in different areas including economic and social reforms that will create new opportunities for development and competitiveness.

The European Neighbourhood and Partnership Instrument (ENPI), the funding instrument of the ENP, which was launched on November 14 2006, plays a crucial role in the development of a new innovation policy in Georgia. ENPI priorities reflect the role of innovation systems

in a country's development. Among other priorities, for instance, ENPI aims at facilitating the development of sound research and innovation policies in Georgia, which would help the country achieve and maintain sustainable economic growth. Besides, some other ENPI priorities are indirectly relevant to the development of a national innovation system and strategy. Namely, they aim to improve the business environment, systematically review the reform strategy, reform the management system of education and science, and improve the quality of statistical data.

Among the priorities included in the EU-Georgia Neighbourhood Policy Action Plan is the development of sound education, research and innovation policies in Georgia, which should help the country achieve and maintain sustainable economic growth. In particular:

- Develop a Research and Innovation policy directly relevant to the sustainable and equitable economic development policy objectives of Georgia;
- Further reform efforts in the field of education to promote human resources development;
- Foster co-operation with the aim of reforming higher education sector in the context of the Bologna Process;
- Reinforce participation of Georgian scientists/students/academics in international and exchange programmes;
- Encourage life-long and life-wide learning opportunities as well as further the reform efforts in the field of education, science and training to promote sustainable development of human resources and human capital;
- Reform the science management system through appropriate regulatory framework financing model and governance based on scientific excellence.

The road from the past to the future should lead Georgia through the development and implementation of a strategy to improve the country's competitiveness. Georgia needs a strong strategic goal – a strategy of change and innovation – to be able to rise to the challenges of global competitiveness. A comprehensive multi-component plan of Georgia's strategic development should ultimately aim to bring the country's economic, political and social standards into line with Euro-Atlantic and EU norms.²⁰

The EU has created the model of how to cultivate innovation through quality education connected with research. If Georgia is to develop its capacity for innovation and competitiveness in an information-based economy, the country must be prepared to renew its national commitment to innovations and to reinforce the values of life-long learning. Special importance should be paid to ensuring economic growth, competitiveness, establishing stable social protection systems, reforming the higher education system and encouraging research and innovation. Georgian universities need to acquire increasing importance as an instrument of economic, social, and cultural development and also as a means of bringing about change

²⁰ Ivaniashvili, G., "Analyzing EU-Georgia Neighborhood Policy Action Plan: Modern Benchmarking Approaches to Knowledge Management and Innovations in Georgia", (Norwegian Institute of International Affairs, 2007), pp. 8-10

in the community in which relationship between education, science and business is receiving increased attention.

Knowledge Economy Index, and such indicators as economic incentives, institutional regime, innovation and information/communication technological development, show that Georgia is lagging behind its neighbours. It is important to note that some neighbour countries, namely Armenia, Russia and Kazakhstan, have already developed and put to use long-term cluster and innovation development strategies based on a knowledge economy. Ukraine and Turkey are developing their strategies at the moment.

Table 2. Comparative Analysis of KAM Indexes

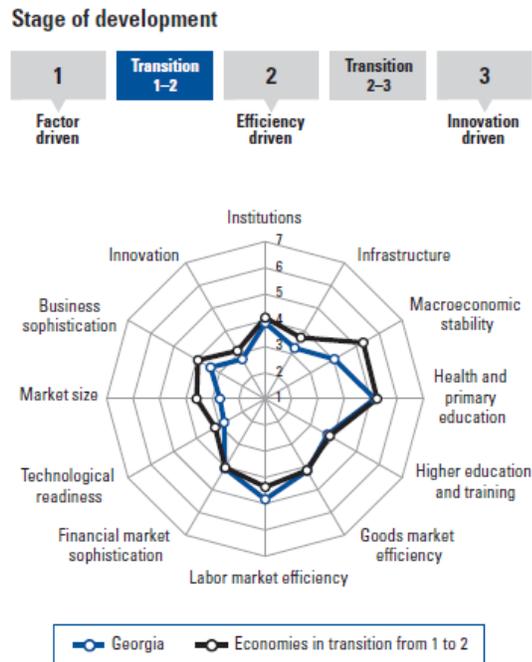
Country	KEI		Economic Incentive and Institutional Regime		Innovation		Education		ICT	
	recent	1995	Recent	1995	recent	1995	recent	1995	recent	1995
Germany	8.54	8.75	8.38	8.41	8.93	9.08	8.08	8.74	8.79	8.75
Estonia	8.07	7.76	8.07	8.2	7.42	6.59	8.29	8.07	8.49	8.18
Armenia	5.36	4.61	5.71	2.25	6.06	5.63	6.03	5.98	3.64	4.58
Georgia	4.4	4.5	2.46	1.25	5.27	5.38	6.4	7.17	3.45	4.19
Azerbaijan	3.56	3.46	3.03	0.89	2.65	4.84	5.04	5.75	3.53	2.36

On the other hand, Georgia was given the top ranking in the World Bank’s Doing Business 2007 report as the “best reformer” in the world, since the country jumped from the 112th to the 37th place (among the 175 countries reviewed) in just a year, making it easier for entrepreneurs to start and operate their business. As a result of a better business climate and more liberal taxation and customs policies, direct foreign investment has doubled in the country. The inflation rate of the Georgian Lari fluctuated around 10% in 2006-07. However, high inflation was offset by the rise in investment (which reached 30% of GDP in 2006), helping the country maintain its credibility in the international market. At the same time, unemployment remains quite high in Georgia, hovering at 12.6% according to official data (2006), while average incomes are much lower than in European countries. Although the nominal per capita GDP was 36% higher in 2005 than it was in 2003, it is still too low (\$1415.6).

Table 3. Georgia’s Ranking in Global Competitiveness Report 2008-2009

Global Competitiveness Index

	Rank (out of 134)	Score (1-7)
GCI 2008–2009	90	3.9
GCI 2007–2008 (out of 131).....	90	3.8
GCI 2006–2007 (out of 122).....	87	3.7
Basic requirements	91	4.1
1st pillar: Institutions.....	69	3.9
2nd pillar: Infrastructure.....	77	3.2
3rd pillar: Macroeconomic stability.....	118	4.0
4th pillar: Health and primary education.....	91	5.1
Efficiency enhancers	87	3.7
5th pillar: Higher education and training.....	84	3.7
6th pillar: Goods market efficiency.....	71	4.2
7th pillar: Labor market efficiency.....	22	4.8
8th pillar: Financial market sophistication.....	79	4.1
9th pillar: Technological readiness.....	97	2.8
10th pillar: Market size.....	102	2.7
Innovation and sophistication factors	109	3.1
11th pillar: Business sophistication.....	112	3.4
12th pillar: Innovation.....	107	2.7



Source: Global Competitiveness Report 2008-2009

Conclusion and Recommendations

The paper has provided an assessment of the impact that the process of globalization has on a country's level of competitiveness. On the basis of this analysis we have achieved the main goal—the main driving force of national competitiveness in the era of globalization is a synergetic partnership among government, the business sector and higher education/research institutions, based on knowledge economy and innovation policy. Therefore, it is crucial for the government to create the environment for knowledge commercialization and innovation technology, which facilitates the trans-nationalization of national business and brings national income.

Combining Porter's cluster approach with the theory of international business has provided important insights. Multi-national enterprises potentially have a beneficial impact on the host country, as they are a source of technology in a broad sense and can lead to an upgrading of human capital. The effective impact of FDI, however, depends on the type of activity undertaken and the absorptive capacity of the host state. There are good reasons to believe that these factors are both influenced by the existence and type of clusters in the region. The conceptual framework we have developed connects these elements and highlights their interconnections.

These findings have implications for policy-makers aiming to attract FDI and achieve maximum benefits. Governments play a crucial role in shaping the competitiveness of their nations. Policies, such as investment protection and liberalisation, are necessary but not sufficient. A national competitive strategy should aim at attracting activities with high added value and provide incentives to firms to locate more elements of their value chain in the country.

Thus the study has also investigated modern approaches to competitiveness and sustainable economic development in understanding the relationship between government, higher education institutions and business, in order to evaluate Georgia's capacity and capability to foster the development of National Innovation System.

The analysis we have made shows that all actors — public authorities, universities and businesses — must accept their share of the responsibility for raising the levels and efficiency of investment in human capital. Incentives are needed to boost investment in training within individual companies and across sectors in order to support employers in providing suitable access to learning.

Among the actions to be undertaken within the framework of this strategy we provide the following recommendations for the Government of Georgia:

- Set up a public management institution, involving all stakeholders (government, universities, think-tanks, research institutions, business associations etc), to work out recommendations for a national innovation system;
- Sharpen understanding of the innovation process, learn and apply best international experience to develop innovative infrastructure and promote innovations in Georgia.
- Develop a Research and Innovation policy directly relevant to the sustainable and equitable economic development policy objectives of Georgia;
- Prepare a governmental program to promote innovation and competitiveness;
- Draft, debate and adopt legislation on innovation policy and competitiveness of Georgia, which should promote the innovation infrastructure and realisation of the national innovation system, with clear definitions and unequivocal interpretation, innovation activities, taxation and other incentives;
- Amend the law on state procurement to encourage purchases of innovative products and services, and reduce corruption.
- Further reform efforts through amending the Law on Education to increase the role of universities to encourage research activities;
- Equip Georgia with the highly educated, creative and mobile workforce it needs, so that enough young people are graduating with the appropriate skills to obtain jobs in dynamic, high-value and niche sectors;
- Improve the country's attractiveness to researchers through urgently addressing the problem of funding for universities;
- Combat the “brain-drain” process, as too many young scientists continue to leave the country;

- Encourage life-long and life-wide learning opportunities as well as further the reform efforts in the field of education, science and training to promote sustainable development of human resources and human capital;
- Develop special programmes of education for public servants (primarily for civic integration)
- Reform science management system through appropriate regulatory framework, financing model and governance based on scientific excellence, capacity-building and joint initiatives;
- Foster the development of clusters through defining actionable strategies for increasing cluster competitiveness and accelerating growth;
- Strengthen administrative structures and procedures to ensure strategic planning of environment issues and coordination between relevant actors;
- Gather Georgia's top minds on innovation and catalyze Next Generation Innovators;
- Strengthen Georgia's manufacturing capacity and energize the entrepreneurial economy

It is obvious that good will, or even an initiative demonstrated by government, academia and business sector separately, is not enough to ensure the progress. What is more, if all actors do not use their potential, positive solutions are even less likely to happen. Thorough knowledge about the condition of the local economy, which can be obtained through analyzing each of its segments, must become a vital element of the national development policy.