# International Transfer of Technologies and Possibilities of Economic Development for Small-Size Open Economies

Irakli Zarkua

# INTRODUCTION

- Research is dedicated to exploring forms of international transfer of technologies and possibilities of integration of small-size open economies in this process. Advanced forms of the transfer of technologies and opportunities for the involvement in global technological flows and economic development are discussed on the example of a small-size open economy such as Georgia.

# Forms of international trade in technologies:

## Commercial

scientific-technical Publications;

Exhibitions, conferences;

Scientists and engineers delegations meetings;

Migration of specialists;

Teaching students and young scientists

## Noncommercial

**trade in licenses** ,technological innovations including transactions on now-how, patents on inventions and others.

Machinery and other industrial equipment supply;

Export of engineering equipment;;

Complex equipment exports;

Training and internships of Specialists;

Managerial Contract and others

# Modern forms of trade in Technologies

## Subcontracts

a contract between a party to an original contract and a third party; especially **:** one to provide all or a specified part of the work or materials required in the original contract

## product-sharing

Placed on the government and the mining of natural resources companies.

## management contracts

A management contract is an arrangement under which operational control of an enterprise is vested by contract in a separate enterprise that performs the necessary managerial functions in return for a fee.

# Modern forms of trade in Technologies

## Marketing contract

Under a **marketing contract**, prices (or pricing mechanisms) are established for a commodity before harvest or before the commodity is ready for marketing. Most management decisions remain with the grower, who retains ownership of both production inputs and output until delivery. The farmer assumes the risks of production but shares price risks with the contractor.

### Technical assistance contracts

Local firms hand over responsibility to foreign firms to sell their products or part of them. Shall be paid certain percentage from the sale

# Modern forms of trade in Technologies

## Franchising

A continuing relationship in which a franchisor provides a licensed privilege to the franchisee to do business and offers assistance in organizing, training, merchandising, marketing and managing in return for a monetary consideration. Franchising is a form of business by which the owner (franchisor) of a product, service or method obtains distribution through affiliated dealers (franchisees).

## Engineering

The application of mathematics, empirical evidence and scientific, economic, social, and practical knowledge in order to invent, design, build, maintain, research, and improve, structures, machines, tools, systems, components, materials, and processes.

# International regulations of trade in technologies

The protection of the right on industrial designs and trademarks is a sphere of active international regulation.
The key international agreement in this sphere is the **Paris Convention** for the Protection of Industrial Property.
Provisions on **the national treatment**, the so-called **Right of Priority** and other general norms of the Convention are discussed in this section.


T**he Patent Cooperation Treaty (PCT)** and **the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).** The latter totally rests on the principles of Paris and Bern conventions and poses new requirements to the states primarily in regards to those issues which concern the measures for preventing violation of the rights.

# Socio-Economic Development Strategy of Georgia 2020

Economic policy of the Government of Georgia is based on three main principles:

**The first principle** implies ensuring fast and efficient economic growth driven by development of real (production) sector of the economy, which will resolve economic problems that exist in the country, create jobs and reduce poverty

**The second principle** implies implementation of economic policies that facilitate inclusive economic growth – it envisages universal involvement of the population in the economic development process prosperity for each member of society through economic growth, their social equality and improvement of the living standards of population

**The third main principle** is based on rational use of natural resources, ensuring environmental safety and sustainability and avoiding natural disasters during the process of economic development.

**“Georgia 2020” strives to achieve the following forecast results by 2020:**

| Indicator | Current rate | Forecast rate |
|---|---|---|
| GDP per capita (GEL, nominal) | 5811.7 | 13,000 |
| GDP per capita (GEL, in constant prices) | 5811.7 | 9200 |
| Gini coefficient | 0.41 | 0.35 |
| Inflation (%) | 2.4 | 3.0 |
| Unemployment (%) | 15.0 | <12 |
| Taxes (% of GDP) | 24 | 25 |
| Exports (goods and services, % of GDP) | 45 | 65 |
| Current account deficit (% of GDP) | >10 | 6 |
| Public debt to GDP ratio (%) | 34 | <40 |

## Georgia 2020”

### Innovation and technologies

Some of the most important results of state policy implemented by Government in innovations and technologies area will be improvement of knowledge transfer and technological absorption by Georgian firms, establishment of connections between scientific and business circles, existence of satisfactory level of innovations, which results in improved competitiveness of local production and orienting Georgian exports towards more high-tech products.

### Targets for the development of innovation and technologies

| Target | Baseline | 2017 | 2020 |
|---|---|---|---|
| Knowledge Economy Index ranking | 68 | 55 | 45 |
| Global Innovation Index | 73 | 65 | 60 |
| TFP (annual, %) | 2.70 | 3.00 | 3.20 |
| Innovation Capacity Index | 44 | 40 | 36 |
| Global IT Index | 65 | 58 | 50 |

# Expenses of Education and Science (thousand GEL)

| Years | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| | | | | | |
| **GDP** | 20,743 | 24,344 | 26,167 | 26,847 | 29,187 |
| **BUDGET** | 5,421,474 | 6,471,545 | 7,115,329 | 7,422,500 | 7,434,637 |
| **Expenses of Education and Science** | 46,978 | 61,991 | 63,183 | 59,426 | 48,554 |
| **% GDP** | 0.23% | 0.25% | 0.24% | 0.22% | 0.17% |
| **% BUDGET** | 0.87% | 0.96% | 0.89% | 0.80% | 0.65% |

http://geostat.ge/?action=page&p_id=118&lang=geo

## Facilitating the development of tertiary education sector

Development of a strong tertiary education system and science is one of the priorities for the Government of Georgia. Higher educational institutions form knowledge-based society and facilitate individual and public welfare.

The steps that should be take include: ensuring autonomy and academic freedom; creation of transparent mechanisms for improving the efficiency of higher educational institutions' leadership and attracting qualified academic and supporting staff; creation of programs for developing academic personnel and facilitating their educational and scientific activities; equipping higher educational institutions with modern educational and scientific infrastructure and technologies;

### Targets for developing workforce that meets the labor market requirements

| Target | Baseline | 2017 | 2020 |
|---|---|---|---|
| Unemployment rate (%) | 15 | 13 | <12 |
| Enrollment in pre-school education (%) | 46 | 60 | 80 |
| Enrollment in vocational education courses (%) | 2.5 | 5 | 10 |

# Recommendations:

Powerful tools for the commercialization of innovation in the country's innovation and technology development priorities.

Venture capital, as well as an increase in the participation of private companies in the research and commercialization of innovations.

Formation of effective mechanisms to improve the competitiveness of distance learning mechanisms

Thank YOU